

*Happy Birthday,
Jolly Jim . . .*

The California Tech

*Happy Birthday
to yooooou!*

Volume LXXX

Pasadena, California, Friday, April 27, 1979

Number 26

Ch-Ch-Changes Planned for Ph 1

by Ray Beausoleil

Twenty generations of Caltech students have become familiar with "Ph 1 abc: Kinematics, Particle Mechanics, and Electric Forces," the first year of physics in the Institute's required core courses. For the past ten years, the course has been offered in two tracks, called A and B. Track B supposedly assumes a greater amount of previous preparation in mathematics and physics, and initially proceeds more rapidly than track A. A total of four instructors and twelve teaching assistants (three of whom are undergraduates this year) keep this monolith moving.

But, as was decided at the Faculty Board meeting last Monday, future freshmen will know the tracks as history only.

Beginning with the 1979-80 school year, the following item will appear in the catalog as the first on the list of undergraduate physics courses:

Ph1 abc. Classical Mechanics and Electromagnetism. 9 units (40-5) first, second and third terms. The first year of a two year course in introductory classical and modern physics. Topics covered include the kinematics and dynamics of particles and rigid bodies,

harmonic motion, electricity and magnetism, and special relativity. Emphasis is placed upon the application of the fundamental principles through the solution of problems. Graded: Pass/Fail. Instructor: Goodstein."

That's right: one instructor, Dr. David Goodstein, and no tracks. Of course, these changes will require subsequent revisions in "Ph2 abc: Electromagnetism and Quantum Mechanics" for the academic year 1980-81. The physics department, under the determined and enthusiastic guidance of Division Chairman Dr. Robbie Vogt, hopes to involve as many faculty from as many divisions as possible in the review and revision process. They promise that under no circumstances will the sum-total scope of Ph1 and Ph2 be reduced from that of the present.

Dr. Goodstein plans to use the first two volumes of the Berkeley Physics Course as a basis for Ph1. Vector fields will be gradually introduced in mechanics; before electromagnetism begins, two or three weeks will be dedicated to the necessary vector calculus. That topic will not have been covered in Math 1 yet, so "we'll have to teach them everything about it". In general, Dr.



Dr. David Goodstein tells about the one that got away.

Goodstein feels that Ph1 and Ph2 will be somewhat more coordinated next year than in the past. "I will be aware of what has been taught in the freshman math courses," he said in an interview Wednesday.

In 1979-80, Ph1 students will be able to choose one of 11-12 recitation sections appropriate to their familiarity with and commitment to physics. As much as possible, faculty and highly qualified students will be actively recruited to TA the recitations

(about two sections per TA). Graduate students will grade homework so that the TA's can dedicate their time to preparation.

Dr. David Politzer is in charge of the teaching assistants, and will himself lead two sections for "specialists" (those planning to be physics majors). At this point in time, Dr. Robert Leighton and Dr. Jerry Pine are also slated to be section instructors. (Dr. Pine is presently on leave; he will return to Caltech in the fall to

continued on page seven

Hydrogen Hydroxide Bubble Still a Threat

Coolant System Accident Worst Ever

by Lucidyes

On the night of Tuesday, April 24, 1979, one of the worst cases of coolant accidents in its long history struck 25-Yard Pool at Caltech. The total damage has not yet been assessed but preliminary evidence indicates that many frequent bathers became overheated and the hard core of habitual swimmers became sufficiently hot to melt their fuel rods.

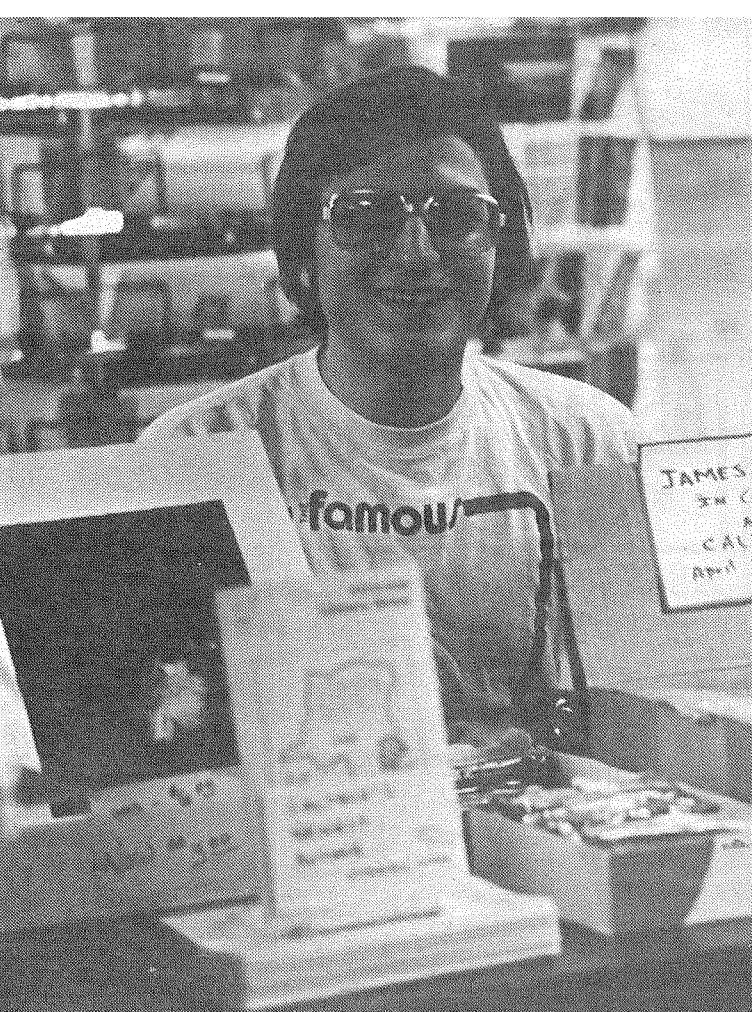
The first indication that there might be problems at the Twenty-Five Yard Pool came on Monday when chlorine levels were extremely high and people emerged from even short swims with hair turned green by copper in the water. The situation worsened during Monday and Tuesday, and then during Tuesday night the loss of coolant accident suddenly occurred, leaving Twenty-Five Yard Pool an empty and useless shell, a monument to the futility of man's attempts to conquer the greatest mystery and ultimate force in nature: water. It is believed that the coolant was lost due to the malfunctioning of a valve in the circulating system

used to control the water which filled the pool. The valve seemed to be functioning properly, but in the extremely fast-breaking sequence of events during the 78 hours in which the situation developed and in the catastrophic last 12 hours during which the loss of coolant suddenly occurred, it was impossible to tell what happened and how the valve was opened.

Since the accident rumors have circulated that the Twenty-Five Yard Pool had been experiencing trouble for some time, that the automatic water handling systems had never been properly tested and that operator error cannot be ruled out. But to some usually well-informed observers it looked like the work of saboteurs (perhaps the East Germans?). Based on this last suggestion, steps were quickly taken to recover the lost water (see announcement elsewhere in this issue).

Experts from the California Institute of Technology Athletic Department and Central Plant, battling to bring the situation under control, have assured the

public that the situation is stable and they are endeavoring to release as little water into the environment as possible. They emphasize that low-level copper exposure never hurt anyone. Senior AAU officials rushed to the scene to monitor the clean-up operations have complained of a lack of cooperation on the part of the Athletic Department and do not seem as confident that the situation is well in hand. Meanwhile California's Governor Brown recommended that all pools which are designed to hold water, as is the Twenty-Five Yard Pool at Caltech, be immediately drained until the official report detailing the causes of the Twenty-Five Yard Pool disaster is released. Meanwhile President Marvin Goldberger has issued an order advising pregnant women and school children not to swim in Twenty-Five Yard Pool or use the diving boards until it has been certified that water is again safely contained in Twenty-Five Yard Pool. No one can say, with confidence, when this will occur.



Stan Cobn, Caltech's latest living legend, poses in front of the notes that made him a legend to last a lunchtime.

Caltech Track Ahead of the Pack

by Vic Manzella

A smog-laden sky caused second thoughts last Saturday about quality performances on the Caltech track. However, several outstanding showings gave the Caltech track team a three-fold triumph in a quadrangular meet involving LaVerne, LAPD, and Redlands.

In the 400m relay, Morrisett, Quilliam, Hattick and Blaisdell recorded a win at 44.1, Caltech's best such performance since 1974. With improved handoffs this team could place well in the District Meet next week. The 1600m relay team of Murray, Collins, Bourret, and Quilliam beat out Redlands with a winning time of 3:30.5, which could give them a place in the District Meet also.

Individual performances were highlighted by a 49.5 in the 400m dash by Whitman transfer ace Jim Quilliam. This was Quilliam's best performance of the season, and he is still determined to achieve a clocking of 48.5, which would qualify him for the NCAA Division III Nationals. (Such a mark would also give "Q" possession of the school record in this event). Senior speedster Norm Murray, who has been troubled with

continued on page seven

Photo by Al Kellner

36 Corrects Misnomer

To the Editors:

Due to recent events and misconstrusions among elements of the Tech community, I find myself writing to correct a minor oversight of catastrophic proportions. I refer to the title of my article of two weeks ago in the *Tech* which illustrated John Avery's scheme for world conquest (and it's working—doubtless y'all have seen the missile silo being constructed outside Jim Mayer's office). I was inadvertently referred to as *Agent 36*. I am not, was not, and never will be an "agent". I am plain old "36", no "agent", "spy", or "6 times 6 is" appended. For purists, the correct pronunciation is with a rather stretched-out drawl, as in "...thir-ty-see-ix...". Picture Clint Walker as he steps off his trusty steed, spits a blob of tobacco and says "36". See? Nothing to it. Fully two people have referred to me as Agent 36, and I just say "you must want Don Adams". People who can fuss about putting a space between "Cal" and "tech" will understand my situation, I'm sure.

My apologies to both Saga and France for my foie pah with respect to the word "merde". To France, I apologize for confusing the gender. To Saga, I apologize for misspelling their name.

Sincerely,

36

[But wasn't Don Adams Agent 86? And do you really look like Don Adams with 50 missing?—eds.]

Letters

Anti-Nuke Rebuttal

To the Editor:

In his article, *The Apathy Syndrome*, Carl Lydick makes it seem that it's up to the technological elite to correctly inform politicians lead astray by "misinformed" anti-nuclear activists. Quite the contrary, Techers must first abandon their elitist posture and broaden their awareness of the social, political, and economic realities that control their lives.

For example, the problem with nuclear energy is just not technological. There are also very real economic and political considerations that really need to be investigated. Alternatives such as solar energy should be given serious attention.

Lydick's comments betray a rather naive understanding of the anti-nuclear movement. It's just not Jerry Brown and the *China Syndrome*. It's comprised of a coalition of people ranging from scientists who believe that the nuclear energy issue is a manifestation of some very fundamental flaws in society.

A good anti-nuclear article to read is in "The New Yorker" (April 23) by Dr. Barry Commoner. A more extensive treatment of the subject is given in his new book, *The Politics of Energy*, which will be released on May 9.

—Robert Tajima

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Commentary

Please Don't Beat the Daisies

To the Editors:

Some people have characterized Techers as callous, unfeeling Philistines who never think about truth, beauty, etc., but only about cold, drab equations. I would like to say for the record that I put no credence in this characterization. It's just that Techers do not let higher feelings interfere with logical thought processes.

As an example, and a prime one at that, I direct your attention to the Throop pond site. Some illogical landscaper, obviously engrossed in his concept of beauty and esthetics and what-not, designed and built the Throop site with curving paths. But any true Tech knows that we live in a very close approximation of Euclidean space; and in Euclidean space, the shortest distance between two points is a straight line.

So, naturally all the students on the way to class merrily cut across the curved paths, neatly

saving perhaps twenty steps in a trek of several hundred. Never mind the flowers and everything that get pounded into the dirt; never mind the hapless B&G gnomes who vainly replant in that area (you'd think, after we mashed down each new set of flowers, that they would realize the futility of it all); after all, efficiency is more important than beauty, and besides, if God had meant for us to walk in curved paths He'd have made us permanently drunk.

I suppose the sensible thing to do would be to pave over those beaten dirt paths, in acquiescence to logic (or to Techers; not quite the same thing). But no, they won't do that; they'll probably go on trying to grow pretty plants there, with no better reason than that they're pretty. Making the campus look nicer and all that. Well, good luck to them.

They'll need it.

—Bruce Miller

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The Caltech Y.....fly by

- Saturday, April 28, Trip to WOMEN'S PERSPECTIVES: History, Art, Drama, Ideas, a conference sponsored by the Humanities Faculty Development Program at Claremont Graduate School. Leaving from Winnett at 7:45 am. The program lasts until 4:30 pm. The \$2.50 cost covers transportation and registration.
- Monday, April 30, Spotlight Series featuring Mr. Albert Ravenholt speaking on THE PEOPLE'S REPUBLIC OF CHINA: FEEDING THE HUNGRY GIANT. Mr. Ravenholt is an American University Field Staff specialist in agriculture, public health, and nutrition. The program will be at 7:30pm in Winnett Lounge.
- Wednesday, May 2, UPDATE NOON DISCUSSION SERIES with Dr. Ricardo Gomez, Professor of Physics, speaking on "The use of Computers in Undergraduate Physics Courses" At noon in Clubroom 1. Bring your lunch.
- Wednesday, May 2, CAREER COUNSELING SEMINAR on Careers in Academia with Dr. Richard Dean '45, Professor of Math, and Dr James Mayer, Professor of Applied Physics and Electrical Engineering at 7:30 in the Y lounge. Co-sponsored by the Caltech Y and the Gnome Club.
- Friday, May 4, NOON CONCERT with NO MO SNO with Rock Howard, J.C. Collins, Bill Farr, Jeanne Richter, Steve Quesnel, and Romney Katti. Presenting rock on the Quad at noon. Bring your lunch. The concert will be in Winnett in case of rain.

The California Tech

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Next Week

Random Numbers

I can't believe it. The *Tech* has finally stooped so low as to send out little slips of paper with article assignments on them. They also included a letter to the effect that I should show up at a meeting to be assigned articles. Well, assigning this column to me is like telling a Helium balloon to rise, chances are that it's going to happen regardless of what you say. And the last straw was a little note telling me to make a fool out of myself and write something about the pre-frosh girls. Well, when I make a fool out of myself, it will either be at my own volition or through my own failings, not at someone else's behest. And as for the pre-frosh females, while that was going to be part of my column this week, this column is mainly a product of my experiences and attitudes and I don't like being told what I am supposed to create from my feelings and actions. I have also heard so much about the pre-frosh females lately that I am really starting to get tired of the topic.

The *Tech* is not my entire life either. I am involved fairly heavily in the productions that are being produced at Caltech by the drama department that is finally getting the recognition that it deserves. The result of this is that I have spent a lot of my time lately working on *Phaedra*, the Spectrum Productions play that opened last Friday night. Of course, this meant that I didn't spend a great deal of time with anybody, much less pre-frosh females. How am I supposed to write about them when I only got to talk to one for any significant time period (7 mins.) and when any one of the rest of them was generally surrounded by a dozen other tech guys, all talking at once.

Even though this is somewhat like beating on a dead horse, I suppose that I could rehash the

-Duncan G. Mahoney

value of their visit to the campus. Of course, they didn't get a very accurate view of "real life" at Caltech but at least they had a chance to talk to Techers and get some idea of what they are going to be faced with in terms of an overabundance of male company. I will say that it is a pity that we can't get all the pre-frosh here at some time or other. I think it might help people to decide whether or not they want to come here if they could spend some time in classes and in the houses. I did visit Tech before I decided to come here but I was only able to visit one class and while it probably wouldn't have made any difference in my case, it might have made a difference in someone else's decision if they had been able to come to the campus for a couple of days.

Well, I'm not going to worry about what the pre-frosh females thought of Caltech, but I am kind of curious about what Caltech thought about the pre-frosh females. And I am also going to be interested in the results that this experiment produces. I have a hunch that we may have turned off as many as we turned on. Of course I hope I'm wrong and that they'll all come here next year but we should view the situation realistically.

Hey you guys, the student attendance at *Phaedra* last weekend was truly pitiful. I think the only students there were the ushers. It really is a good show and it generally gets over by about ten so there is still time if you insist on going out afterwards. *Phaedra* can be seen this Friday and Saturday and next weekend as well at 8 pm. It is well worth seeing. It has sex, violence, and sophistication. What more could you want from family entertainment?

-Duncan G. Mahoney

Coffeehouse Answers Back

To the Editors:

We'd like to take this opportunity to get some free advertising by replying to last week's letter by Bruce Miller about the Coffeehouse. Simply, we changed the hours so we could get to bed earlier. With our new, earlier bedtimes, we're healthier, more alert, and ready

for our morning classes. (How many would *you* go to if you stayed up till 2:30am every night?)

As for catering to our Beavers, the earlier hours have not had much effect on volume; we're serving just as many customers per night as we did last term. Some OC students find that the earlier opening makes the Coffeehouse a convenient place for dinner.

Finally, we'd like to dispel the rumor that ASCIT subsidizes us. ASCIT can't afford to subsidize us significantly. (See the front page of last week's *Tech*.) If they gave us \$100 a term, we could lower prices by a whopping 1%. Oh, by the way, the library closes at 1am, too.

-The Managers

Investment Committee Gets Organized

by Sangtae Kim

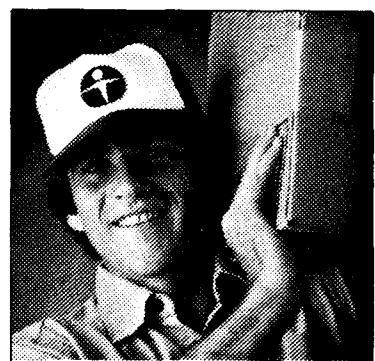
The Student Investment Committee has almost finished the organizational details, and will be in business within the next few weeks. The By-Laws have already been drafted, and will be available by the time this hits print.

None of the \$50,000 has been invested yet. The next meeting will be this Thursday, May 3, in the Board of Trustees' Room and students are encouraged to attend. Even though the final investment decisions are made by the committee, these decisions will reflect the kibitzing of others present at these meetings.

For more information, contact Chairman Wally Walter, Secretary Jim Angel, or any of the other committee members: Tony Conneally, Mark Fischer, Grace Mah, Les Niles, Arley Anderson, Jeff Eriksen, and Bernd Trebitz.

R.S.V.P.
And Quickly!

Tonight (April 27) the Caltech Hillel, together with the PCC Hillel, is sponsoring Shabbat Service and a pot-luck dairy (Kosher) dinner. It will be at 7:00 pm in the Y Lounge. R.S.V.P. to Dorraine at 447-5800 (359-3727 from 10-12am).



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WELCOME

The Sleeping Giant is Waking

by John Faughnan

Albert Ravenholt, a member of the American University Field Staff and a respected expert in Far Eastern studies, will be at Caltech on Monday, April 30, at 7:30 pm in Winnett Center.

Mr. Ravenholt is coming as a guest of the Caltech Y's *Spotlight* series; his presentation will be centered on China's agricultural problems and potentials. A journalist with an extensive background of studies in Far Eastern history and the Chinese language, Mr. Ravenholt has written for *Foreign Affairs*, *The Reporter*, the *Chicago Daily News* foreign service, and other magazines, in addition to his

regular 'AUFS Reports.'

China is a country of vast potential, with oil resources coveted by many nations, including the United States. Her record of feeding over 800 million people with often primitive agricultural technology is impressive, but any technological advances necessitate the creation of an industrial class at the expense of the agricultural sector. How China intends to survive her "Great Leap Forward" is a question Mr. Ravenholt will attempt to answer. If you're interested in a restless giant whose waking may shake the world, be in Winnett on Monday, April 30th!

4-count 'em, 4-Continents for the price o' one!

Ethnic music and dance will be performed by Ashanti, Uruna, the Korean Traditional Music and Dance Company, and Sotos Kappas in "An Evening of Four Continents" tonight, April 27, at 8 pm in Beckman Auditorium.

Ashanti is an African drum and dance troupe under the direction of Kwasi Badu, a master drummer from Ghana. Ashanti will perform popular nightclub music, ceremonial, and religious music. The most important drums used are the two Atumpan, or talking drums, so called because they can duplicate the pitches and

rhythms of the tonal language of the Ashanti tribe.

Uruna is from South America, and is actually the name of a tribe of Indians in the Andes. In Quechua, "runa" means "people". Uruna will play typical South American instruments: the charango, guitar, bombo, leguero, queno, maracas, cajon, and huairo.

The Korean Traditional Music and Dance Company, directed by Don Kim, will perform the Jango-go Dance, a solo on the tae kum, a drum dance called the Buk Chum, a folk song accompanied by the kayakum, and, finally, an elaborate and

colorful fan dance.

From Greece will be Sotos Kappas, playing guitar and bouzouki, with a group of musicians, singers, and dancers, performing modern popular music from their country. The songs are very rhythmic, their meters being derived from traditional Greek folk dances, such as the syrtaki seen in the movies *Zorba the Greek* and *Never on Sunday*.

Tickets for "An Evening of Four Continents" are available now at the Caltech Ticket Office. For more information, phone 793-7043.



Soprano Jessye Norman will perform on Wednesday, May 2, at 8pm in Caltech's Beckman Auditorium. Her program will include Haydn's Cantata for Soprano and Pianoforte, "Arianna a Naxos"; "Frauenliebe und Leben," Opus 42, by Schumann; "Tu Vois le Feu du Soir" and "La Fraicheur et le Feu" by Poulenc; and five songs by Brahms. Tickets for this recital are on sale now at all Mutual and Ticketron agencies, and at the Caltech Ticket Office. Phone (213)793-7043 for more information.

Tashi will perform contemporary chamber music on Saturday, April 28, at 8 pm in Beckman Auditorium.

The program will be the Piano Trio in G Major by Mozart; "Quartet for the End of Time" by Messiaen; and "Tashi Quartet" by Peter Lieberson, written for this ensemble during 1978 and the first months of this year.

Tashi is the collective name for pianist Peter Serkin; violinist Ida Kavafian, cellist Fred Sherry, and clarinetist Richard Stoltzman. "Tashi" means "good fortune" in Tibetan. Serkin has appeared with most of the world's major symphony orchestras, including those of Boston, New York, Philadelphia, Cleveland, Chicago, San Francisco, Toronto, and Amsterdam. Ida Kavafian, a student of Oscar Shumsky while

at the Juilliard School, won first prize in the 1973 Vianna da Motta International Violin Competition in Lisbon. She has been heard with the Lincoln Center Chamber Music Society in New York, Boston, and Washington, D.C. Fred Sherry studied at the Juilliard School with Leonard Rose and made his New York debut in 1969. He is a founding member of Speculum Musicae, one of the leading groups devoted to new music. Richard Stoltzman has appeared frequently as soloist with major orchestras and in recitals and has performed as guest artist with the Amadeus, Cleveland, Guarneri, Vermeer, and Tokyo Quartets, and the Beaux Arts Trio.

Tickets for this concert are on sale now at the Caltech Ticket Office. For information, phone 793-7043.



Sir Toby Belch reveals his natural state in a scene from "Twelfth Night." The New Shakespeare Company of San Francisco will perform "Macbeth" on Friday, May 4, and "Twelfth Night" on Saturday, May 5 in Caltech's Beckman Auditorium. Both performances will be at 8pm. Directed by Margrit Roma, this company offers contemporary productions of Shakespeare's plays. Tickets are on sale now at all Mutual and Ticketron agencies, and at the Caltech Ticket Office. For information about student and group discounts, phone (213)793-7043.



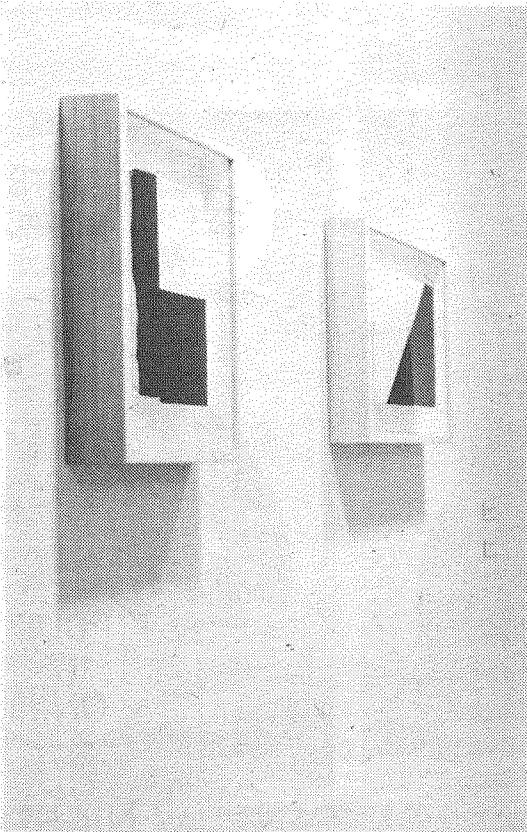
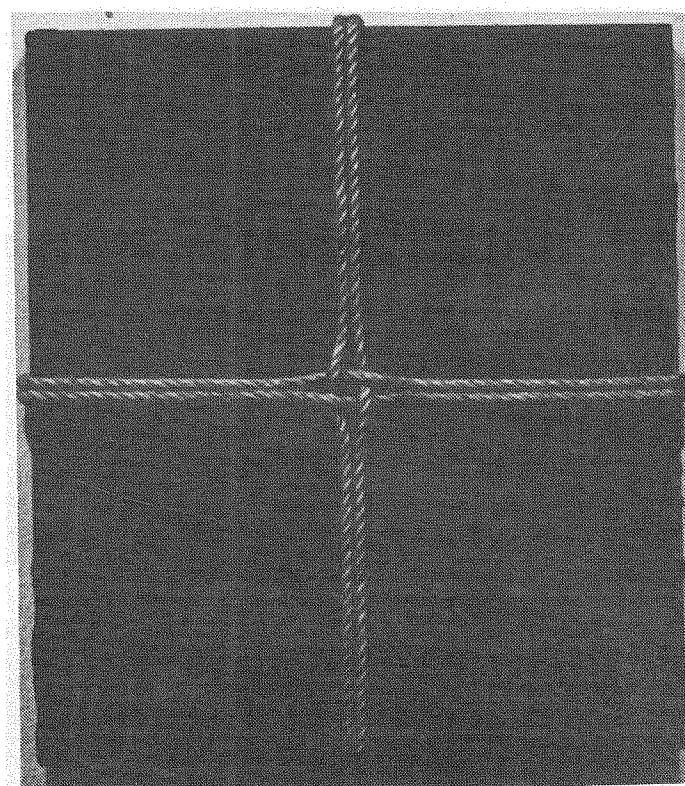
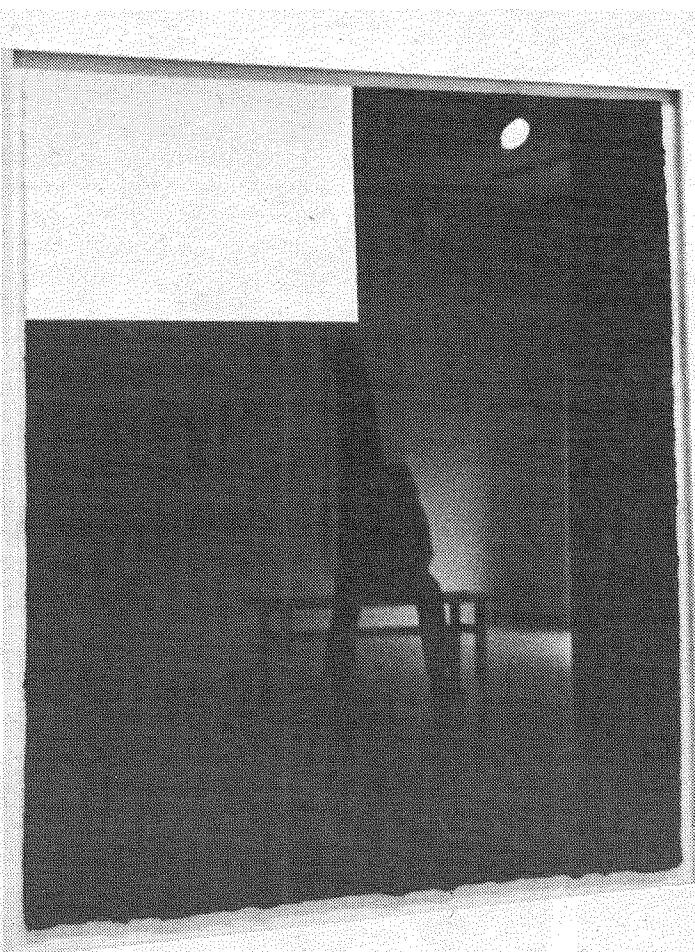
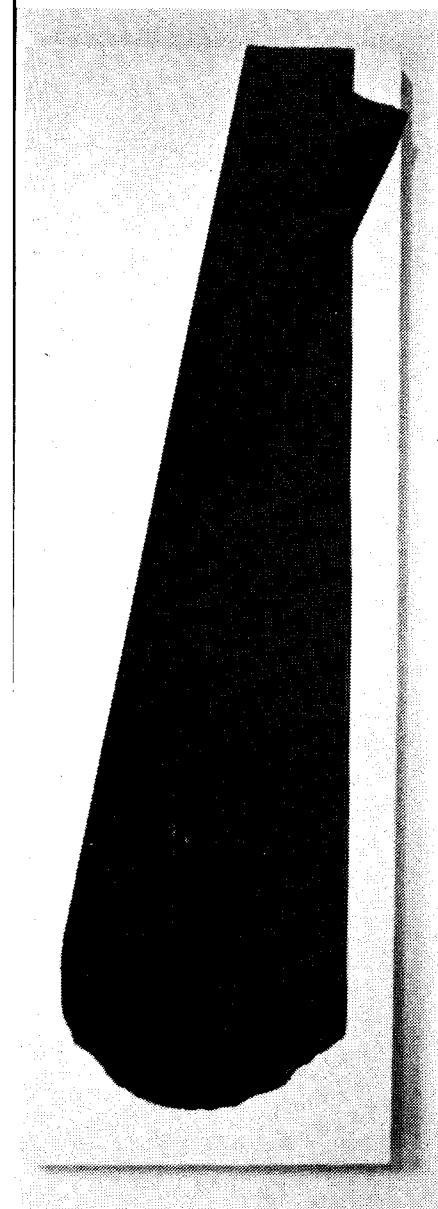
Baxter Showing New Exhibit

A new exhibition, "Bruce Richards: a Selection of Paintings and Watercolors," opens Thursday, April 26, in Caltech's Baxter Art Gallery. It is the first individual museum presentation of this young Californian's art work.

According to Michael Smith, director of the Caltech gallery, Richards' simple straightforward compositions about color, form, and texture at first glance seem to reject artists' traditional use of illusion by incorporating literal materials, such as rope and tar, that describe the paintings as objects, rather than pictures of objects." In some of the paintings among the Baxter selections, the artist has cut and torn the painted acrylic surface away from the canvas support so that it dangles dangerously below the rectangular format.

Included in the exhibit are illusionistic watercolors that often depict the paintings. Some of the works are studies for the paintings, and says Smith, "It is by looking at the relationship between the watercolors and the paintings that the provocative nature of the artist's work is revealed."

The exhibition continues through June 10. The Baxter Gallery is located in the Donald E. Baxter, M.D., Hall of the Humanities and Social Sciences at Caltech. The gallery is open from noon to 5 pm Tuesday through Sunday, and closed on Monday. There is no admission charge.



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Ever Play

Jubilee?

The Caltech Glee Clubs will present songs from "Paint Your Wagon" and a medley of songs from the '40s in their Spring Jubilee. This songfest will be in Beckman Auditorium on Saturday, May 12 at 8 pm. Admission: \$3.60 for CIT/JPL faculty and staff, and free for Caltech students. For information call x1652.

Baked Plants?

The Caltech Service League's annual Plant and Bake (sale) will be given at the Winnett Patio, Friday, April 27th from 8:30 am. Proceeds will benefit the Service League projects for Caltech students, so go out and help yourselves.

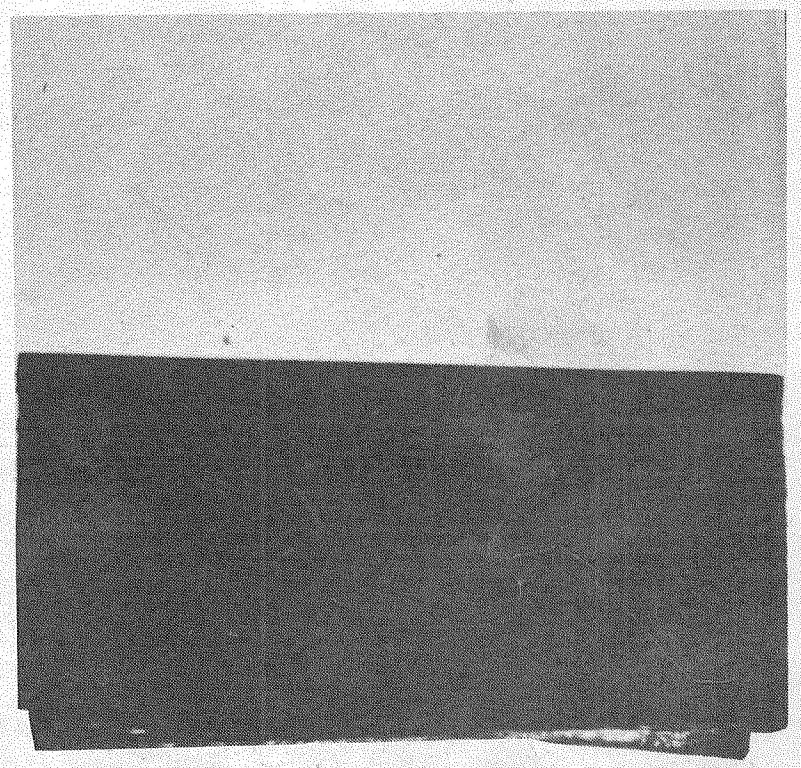
Heth?

Dennis Prager, co-author of *Eight Questions People Ask About Judaism*, will be speaking on "Jewish Values vs. Modern Values" on Wednesday, May 9. The talk will be in Winnett lounge at 4 pm.

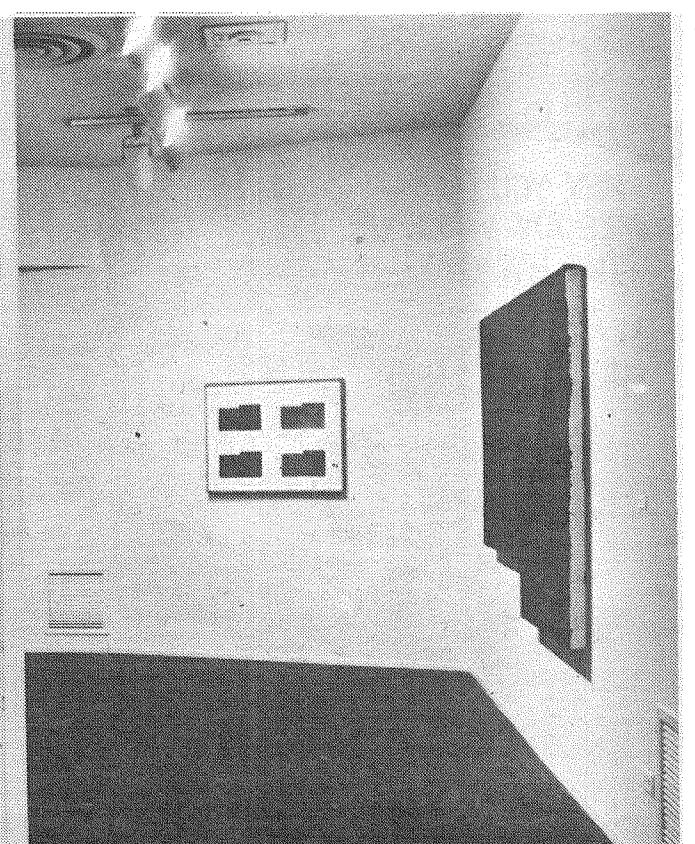
Dennis Prager's book has been acclaimed as "the intelligent skeptic's guide to Judaism." He is director of the Brandeis-Bardin Institute in Simi Valley, and has travelled to 60 countries including China, the Soviet Union and several Arab countries. He is also an excellent and dynamic speaker. His talk here is open to all, and something not to be missed.

Visit Scenic Academia

The Caltech Y and the Gnome Club are offering another Career Counselling Seminar. This one will be held on Wednesday, May 2 in the Y Lounge at 7:30 pm. The topic will be "Careers in Academia". All interested undergraduates are welcome.



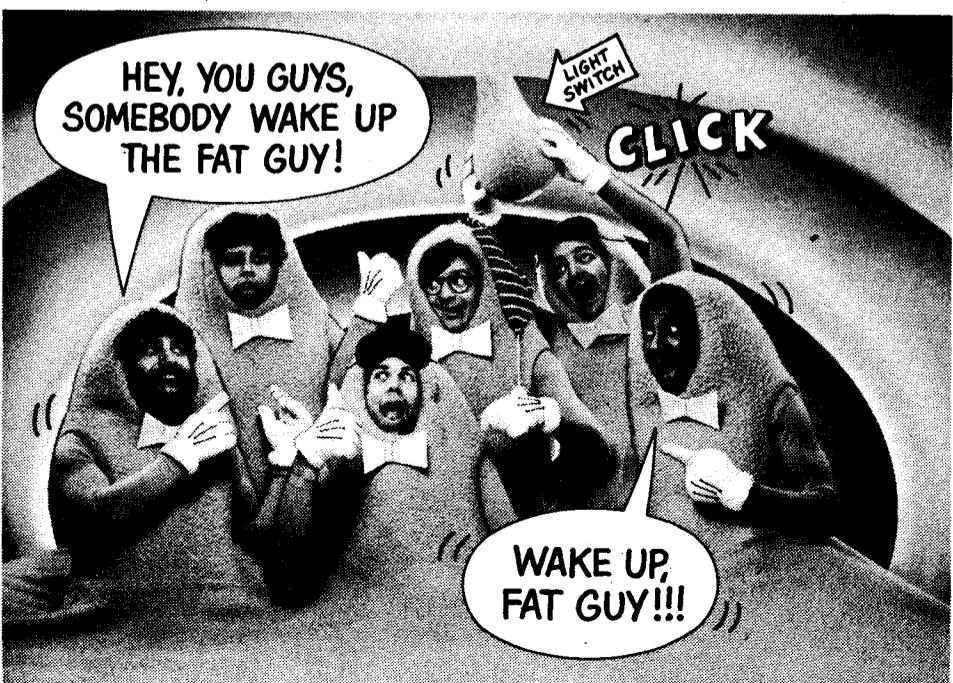
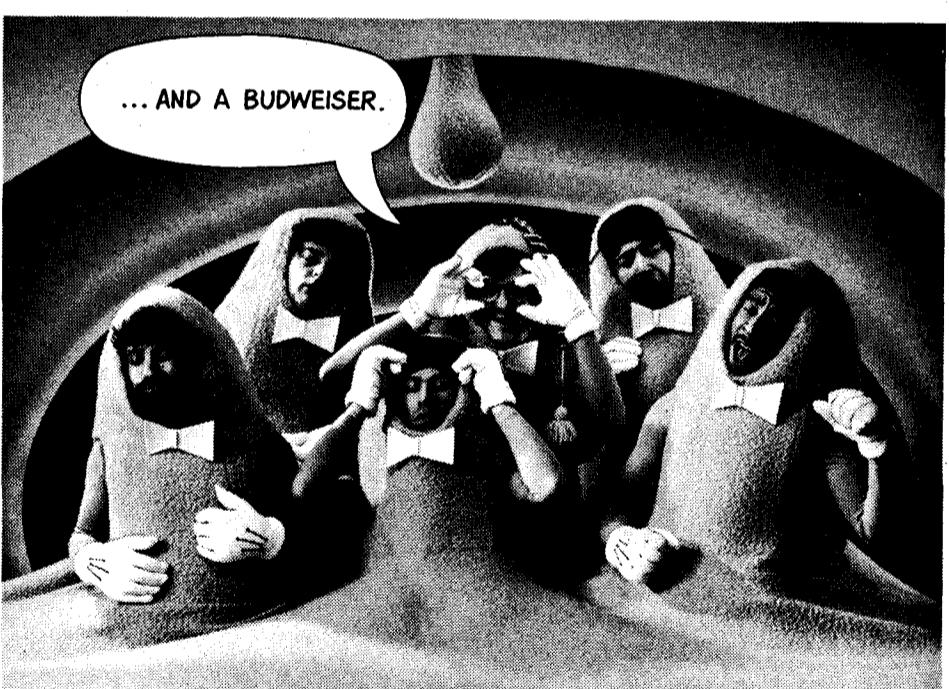
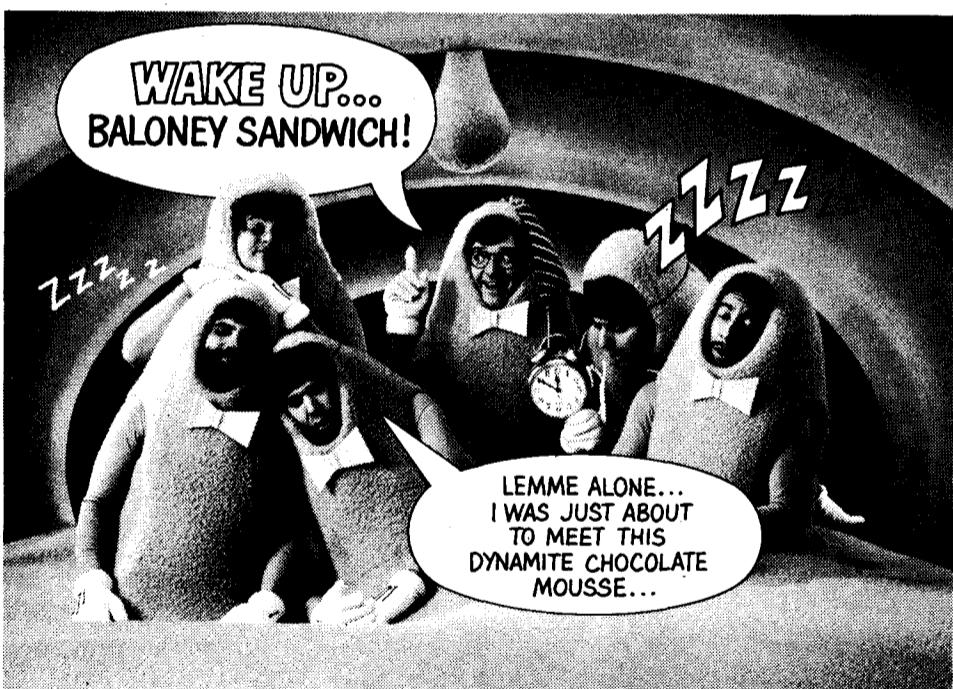
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SPORTS

Trackmen Prevail

From page one

Juries this season, sat out of the 110m high hurdles but captured third in the 400m dash with a season best of 53.3. In the 200m dash John Hattick peaked for his first win this season with a 23.3 clocking, followed by Blaisdell (third at 23.9) and Morrisset (fourth at 24.0).

In the distance events, Bill could battle for his first win of this season in the 5000m run (16:02.8), and senior Robourne grabbed a close second in the metric mile with a 4:03.5 clocking. In the 400m hurdles,

freshman Lewis Collins cruised to an easy win at 58.6.

These performances, along with additional showings by Blaisdell and Morrisset in several field events, boosted Caltech's season record to 7-5.

The SCIAC finals are scheduled for today and tomorrow at Whittier College (and Claremont College for certain events), and there is a chance for all you track fanatics to see some impressive performances by conference stars. With a little support, there could very well be some Caltech jerseys in the spotlight at this meet. See you there!

Meet Score:		Dual Scores:	
CIT	67	CIT	84
LaVerne	49	LAPD	44
LAPD	27	CIT	81
Redlands	37	LaVerne	59
			Redlands 38

He also made some Goals

GELLMAN SCORES!!

by Grant T. Yokum

"Gellman! Andy Gellman! How we love that boy!", cried the crowd, as Andy parked the Beavers to a one-game lead over Pierce in a best-of-three series in which Tech hopes to recapture the Warden Cup. Gellman burst onto the ice and scored the first three goals for Tech. When asked to comment on his hat trick Gellman replied, "They were all that I consider suck-ass goals, but it don't make me no never mind, all scores count the same." With Norm Bobroff assisting on each of Andy's goals and John Christenson driving home an assisted goal, the no-nonsense attack pack (Christenson, Gellman and Bobroff) once again exhibited the stick-to-it-iveness that has made them the team's most productive trio this year. Although lacking the dazzling speed of the SONICS (the line comprised of Fred 'Trans' Culick, the 'Hyper' Minahan, and J.P. 'Upper' Bardet) they persistently pounced the opposition and only collected all four Caltech goals in the 4-3 victory over Pierce.

First United Methodist Church of Pasadena

500 E. Colorado Blvd.

invites you to worship with us during the week on Wednesdays from 12:15 to 12:40 Beginning May 2.

Ph 1 from one

do research in biology.) There will probably be a test or questionnaire mailed out to freshmen this summer to facilitate organizing the initial rosters in the sections.

Dr. Goodstein (presently preparing the course) will work hard to present the material at an appropriate level. "I hope to design lectures which can be easily understood by as many students as possible without boring those who are already familiar with the equations. I spend a lot of time learning the history of any subject I teach so that I can find things that might make the subject more exciting. My wife Judy [A Ph.D. in history and the Institute Archivist.—R.B.] helps me greatly by suggesting the best sources for a particular topic."

His experience spans the teaching of physics as well as the subject. He feels that the Feynman Lectures on Physics will remain a monumental achievement for years to come. "Feynman has significantly influenced the teaching of physics in the United States for twenty years; the Berkeley Physics Course is a good example of that. The problem back in 1960 was this: every year two hundred or so students come to Caltech all fired up about atoms and quantum mechanics, and instead they're told about pulleys and springs. They were bored and turned off. So Feynman

discussed pulleys and springs, but used them as vehicles to teach modern physics."

However, very few people have Dr. Feynman's enthusiasm and ability for teaching, and the problems of 1960 have returned in 1979. So the physics department has decided to rearrange the order of topics and to replace the two-track system. "It's a good idea to shake up a department (and even a school) at least once every ten years."

Dr. Goodstein believes that

the revision of the course structure is not the most important innovation. "Forty years ago, long before Richard Feynman shook up the faculty, Robert Millikan and Carl Anderson taught Physics 1 recitation sections. Since then we seem to have lost this Caltech tradition; it looks like we are bringing it back." This could be the first step in bringing the senior Caltech faculty closer to the newest undergraduate students.

Down at the local Flicks . . .

ASCIT Movies this week offers a good ol' blood-and-guts type Clint Eastwood movie, *The Outlaw Josie Wales*. Clint Eastwood and Chief Dan George star in this movie about vengeance and morality in the post-Civil War old West. Clint Eastwood not only stars, but directs in this movie. Come and see this "... absorbing, lusty, gutsy, action-filled adventure." Remember, show times this year are 7:30 and 10:00 in Baxter Lecture Hall.

Cinematech offers two excellent movies this weekend. The first is *On the Waterfront*, starring Marlon Brando. Elia Kazan directed the picture, which won eight Academy

Awards. This is a story of corruption and crime in the waterfront area of New York. Karl Malden and Eva-Marie Saint also star, and Leonard Bernstein's music makes this a movie well worth seeing. The second movie this weekend is an animated feature, *The Point*. This widely-acclaimed film is about the only round-headed fellow in a country where everything has a point. After his exile, this round-headed fellow finds that there is more to life than having a point. This is a thought-provoking film that is also entertaining. Cinematech starts at 7:30 on Saturday, also in Baxter.

—Jon Zingman

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Discuss,
Discuss . . .

The Women Students' Discussion Group will hold a special meeting today, April 27th, 12 noon-1pm, upstairs in the Y Lounge. Three graduate (Chemistry) students—Pat George, Frances Houle, and Mary Ann White—will discuss the NSF/UCLA Women in Science Conference they recently attended. If you can't attend the discussions on a regular basis, feel free to drop in any Friday. Call Bev @2394 for further info.

Take this
to Heart

Is your heart beating nicely today? You'd better check for a minute and make sure. If you're still reading this article, it was probably still functioning. Good.

Now, how would you like to help some people who don't have the luxury of believing that *their* hearts will continue to beat, tomorrow, or even later today? (And, being the greedy devils you are, maybe picking up some loot on the side.)

The deal is this: Colonel Sanders and the Kentucky Fried Chicken Kitchens (say *that* three times with a mouth full of cole slaw) have arranged with the American Heart Association to help sponsor the first annual Have-A-Heart Bike Ride on Sunday, May 6. You help raise money for the Heart Association by obtaining sponsors-by-the-mile, and riding whatever distance you see fit along the Ride route. If you obtain sponsorships totalling up to 25 cents or more per mile, you qualify for a drawing for 10-speed bikes and other prizes, as well as automatic free munchies at the end of your ride.

The Bike Ride route passes through Pasadena, so you don't even have to travel very far to join it. Each segment starts at a Kentucky Fried Chicken

location, and entry forms are available there. The Ride planners have obtained enough Huffy 10-speed bikes to enable them to give away about one for every 100 qualified riders.

Please visit the nearest Kentucky Fried Chicken or American Heart Association location and pick up the forms. The heart you save may at least belong to friend.

Another
Exam!?

Arrangements for Physical Examinations for students for Graduate School, Transfers, Permanent and/or Summer Employment, Class II Driver's License, etc., may be made at the Young Health Center. These examinations will be done by Nurse Practitioners Tuesday-Friday mornings by appointment. Please call x2394 for further information.

events

Fearless Lieder?

Jessye Norman, soprano, will perform songs from her repertoire of lieder, art songs, and arias in a recital on Wednesday, May 2 in Beckman Auditorium, at 8 pm. Admission is \$8.10-7.20-6.30 for CIT/JPL faculty and staff, \$7.20-6.40-5.60 for Caltech students. For information call x1652.

I Won't Quit 'Til
I'm A Star . . .

George Benson, responsible for the biggest-selling jazz album of all time, *Breezin'*, and whose newest album, *Living Inside Your Love*, has just been released, will appear in two performances only at Bridges Auditorium on the campus of the Claremont Colleges on Sunday, May 13 at 6:30pm and 9:45pm. The band Sea Wind will open the concert. Tickets for the May 13 concert are now available at Mutual Agencies, Bridges Box Office at 4th & College in Claremont, and by phone at (714) 621-8032.

Twelfth Night
In Eight Days

A contemporary production of Shakespeare's *Twelfth Night* will be performed by the New Shakespeare Company of San Francisco in Beckman Auditorium on Saturday, May 5. The performance will begin at 8 pm. Admission is \$7.20-6.30-5.40 for CIT/JPL faculty and staff, \$6.40-5.60-4.80 for Caltech students. For information call x1652.

You Thought YOU
Had It Rough!

Dr. Jane Goodall will speak on "Childhood and Adolescence in Chimpanzee Society" on Tuesday, May 1, in an L.S.B. Leakey Foundation Lecture in Beckman Auditorium. It will be an illustrated lecture about her research with the Gombe Stream Reserve in Tanzania. Time: 8:00 pm. Admission: \$5.50. Caltech students should phone the Ticket Office (x1652) for a special ticket offer. Also phone that number for information.

Industrial
Development

The Industrial Relations Center of Caltech will present 11 management development courses during May.

Three general management seminars—"Assertive Management" (May 1-2); "Effective Time Management" (May 14-15); and "Handling People Problems Face-to-Face" (May 17-18)—will deal with the latest techniques in organizational behavior, motivation, and productivity improvement.

Additional seminars will be: "Improving Customer Service (May 8-9); "Management Skills for Engineers and Scientists" (May 8-9); "How to Implement a Wage and Salary Program" (May 7-9); "The Maze of Governmental Regulations" (May 15-16); "How to Administer the ERISA Plan" (May 17-18); "How to Manage the Private Truck Fleet" (May 21-22); "How to

Establish a Preventive Maintenance Program" (May 21-22); and "Cost and Personnel Impact of Age Discrimination Legislation" (May 30).

A detailed description of courses offered may be obtained by writing Industrial Relations Center, 1-90, California Institute of Technology, Pasadena, California 91125, or call (213) 795-6811, extension 1041.

Six-Pointed
Fireworks!

On Tuesday, May 1st, there will be a Yom-Ha-Atzma'ut (Israeli Independence Day) celebration at 6:00 pm in Dabney Gardens.

Le Mans
On Foot

Sign-up sheets to run in the 3rd annual KELROF 24-Hour Relay (May 19-20) are still up in the gym and the Page House mailroom. Timers and training room assistants are also needed. For more info, contact Rob Bourret (x2831) or Eugene Loh.

g&c

Get Yourself
Committed!

The faculty committee appointments sign-up is now on Flora's door (finally!). The list comes down on May 11, and interviews will be on May 14-15. If you want to know what committees are available, ask someone who looks important.

Uncle Ray
Wants You!

People are NEEDED to be on the Executive Social Committee and the Educational Policies Committee. Sign up on Flora's door in Winnett this week.

Lost:

One large puddle. Last seen on the night of 4/23/79. It is 75 feet long, 60 feet wide and ranges in height from 4 feet at the shallow end to 12 feet at the deep end. It answers to the name "Pool" and can be recognized by the greenish tinge from the presence of copper and the lapping sounds it makes when disturbed. If seen or found please notify the athletic department.

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