



# What's up, Murph?

By Lily Wu and Ken Whang

How are things at Caltech? We spoke with President Marvin Goldberger along these lines about rotation, the Institute's teaching quality, the school and the students' attitudes towards learning, the Faculty-Student Conference, women at Tech, research funding, society and science, and his own job as president.

These topics will be presented in the form of an interview in three parts. This week, Goldberger discusses his role at Tech and in the outside world. He considers his thoughts on his job as president, interests considered when accepting research funds, the use and misuse of science and technology, and how it all concerns Tech and Teachers.

LILY WU: *What are your priorities as president—where does all your time go?*

MARVIN GOLDBERGER: I have a role to play with respect to the interaction between Caltech and the outside world, in two different ways: one, trying to exert leadership on those important educational issues or scientific policy issues in Washington, establishing relations with funding agencies, all of these things having to do with the educational operation, insofar as it is influenced by the federal scene.

I have a very important

*You don't just go up and select an arbitrary rich person and hit them across the face with a proposal and say, 'I would like a million dollars, thank you, by noon.'*

responsibility in regard to fund raising, I have to deal with and work with the trustees, with whole classes of donors; for example, we have this group called the Caltech Associates which is a very important component of our fund raising because they provide about a million dollars a year, unrestricted funds, the best kind, and I spend a lot of time with them.

We're planning to embark on a major fund drive, so I'm gradually working on accumulating lists of major donors and cultivating major donors. You don't just go up and select an arbitrary rich person and hit them across the face with a proposal and say, "I would like a million dollars, thank you, by noon."

We go to one of these corporations and I arrange a meeting with the chairman of the board of directors and tell them what a marvelous place Caltech is and how advantageous it would be for them to have a close association with us, and arrange for teams of people come in and visit and

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# Faculty-Student Conference Reemphasizes Old Problems

The Faculty-Student Conference will be held a week from Saturday. All members of the Caltech community are invited.

The conference will be slightly different from the 1982 conference in emphasis and structure. For the first time all undergraduates have been invited. Also for the first time graduate students have been invited and have been members of the conference committee on graduate-undergraduate relations.

The upcoming conference will be only half a day long and will be held on campus, at Ramo Auditorium. Conference organizers hope that this will encourage attendance.

The emphasis of this year's conference will be on problems which existed 2 years ago, were discussed at the 1982 conference, but which still exist. An objective of the conference is to remind faculty and students about these problems through discussion and to thereby initiate changes.

The five committee topics are, in most cases, subtopics of the committee topics from the 1982 conference. For instance, Chem 1 is a subtopic of the 1982 Core Curriculum Committee.

At the Conference each committee will present the investigation of a topic, present

### Schedule

February 25, 1984

Donuts	8:00 am
Faculty-Student Conference	8:30 am
Lunch	12:30 pm

inherent problems, possible solutions and, in some cases, will show progress towards implementing the solutions.

The topics to be discussed are Chemistry 1, Humanities, the Summer Undergraduate Research Fellowship (SURF) program, improving graduate-undergraduate relations, and a transfer-out mechanism.

Invitations distributed last November asked all faculty

and graduate students interested to return the form which accompanied the invitation. Those who have not returned the form but are interested in attending should contact the Undergraduate Dean's Office.

Undergraduates have been asked to sign up this week in the student house lounges or at the Y. The signups will come down today. The organizers of the conference need an approximate count in order to buy donuts and lunches.

There will be a booklet for all conference participants which will provide a conference schedule and committee reports. This booklet will enable participants to become familiar with the topics before the conference.

Copies will be distributed by students to all faculty participants. Graduate and undergraduate participants may obtain copies in the Dean's office, The Y, or the Red Door Café after Wednesday, February 22.

# Professor Shair Elected Fellow

Caltech News Bureau

Frederick H. Shair, professor of chemical engineering at Caltech, has been elected a Fellow of the Institute for the Advancement of Engineering for his many distinguished contributions in the field of engineering in the greater Los Angeles area. Dr. Shair will be inducted into the Institute at a luncheon today at the Quiet Cannon Restaurant in Montebello.

A member of the Caltech faculty since 1965, Dr. Shair is currently conducting research into the transport, dispersion, and identification of polluting agents associated with air pollution and contaminants in the air and water. He also played a key role in helping to develop a tracking system capable of following air dispersion patterns by detecting minute levels of a tracer gas released upwind. He has assembled teams that have conducted atmospheric trend experiments throughout the state

of California, the midwest, and overseas. Shair also helped develop the Institute's Summer Undergraduate Research Program (SURF), now in its sixth year. In 1975, he received a Western Electric Fund Award for instructional excellence from the Pacific Southwest Section of the American Society for Engineering Education.

In addition to his academic work at Caltech, Dr. Shair is active in numerous public service groups and engineering committees. He is currently a member of the Environmental Protection Agency, and served as the 1983 chairman of the Southern California Section of the American Institute of Chemical Engineers.

Shair earned his BS degree in chemical engineering from the University of Illinois in 1957, and his PhD degree in chemical engineering from the University of California at Berkeley in 1963. He joined the Caltech faculty in 1963 after spending time in private industry.



CAREER WEEK—(above) Ken Wong questions Dave Chavez in Engineering



Castor Fu examines the job scene.

letters

Treco Left In 3 Minutes

To the Editors:

I feel that I must respond to Mr. Brian Treco's letter to the editor last week concerning a lecture that I presented on February 1st entitled: "A History of Women in Science." What upset Mr. Treco, a graduate student and member of the Caltech Y Excomm., was that I did not begin with "an appropriate introduction to the subject; rather (I) began with an attack on religion."

I am truly sorry that I have "shaken" Mr. Treco's feelings, but in the interest of fairness the facts ought to be stated.

Last week I had a conversation with Mr. Treco during which he stated that he had left my lecture after hearing *only the first three minutes*. The lecture lasted 65 minutes. If Mr. Treco had stayed to hear the rest of my lecture he would have realized that it was not a platform for my own personal views regarding religion, or a diatribe against the Christian religion, but rather just what my lecture stated itself to be, A History of Women in Science.

Since the lecture dealt with the history of women in science before the twentieth century, a brief introduction of thirteen minutes concerning some of the various obstacles that had to be overcome and the prevalent views regarding women was appropriate. I had stated in my introduction that "Men through the use of religion had reinforced their idea of the superiority of the male sex to the female. By quoting various texts in the Bible, men were able to convince themselves and women that a woman's inferiority was ordained by God. Religious leaders then reinforced their sexist doctrines by quoting scripture and augmenting it with Greek philosophy." I then presented two quotations, one from Thomas Aquinas and another from Martin Luther. Had Mr. Treco stayed on he would have heard my next sentence: "Theologians,

however, were not the only ones to blame, great philosophers, such as Immanuel Kant, in the late 18th century made this remark..." I followed this with a quotation from Robert Millikan, who in 1934 advised President Few of Duke University against the appointment of Hertha Spomer, a thoroughly able scientist, to a professorship in physics. Few women did well in physics, Millikan argued, the future of the discipline rested with "bright young men."

The purpose in giving these quotations was to show that when such views prevailed in the religious, philosophic, scientific, and educational spheres, and when men controlled the teaching and institutions of science, it was very difficult for women to achieve. I then went on to discuss other obstacles to women, and how sometimes their achievements were actually erased from history's record, etc.

The question is this: Did religion play an important part in preventing the advancement of women? The answer by all conversant scholars in women's studies is yes, and if so, it is appropriate to mention it in such a lecture. And I think two minutes out of sixty-five is an appropriate amount of time to be devoted to that particular issue.

The rest of the lecture was devoted to detailing the lives and achievements of a few of the most notable women that contributed to science before the twentieth century.

In summary, my lecture was nothing of the sort claimed by last week's letter, but rather, an attempt to make people, both men and women, more aware of the forces which have influenced their attitudes in the past. Thus awareness may lead to career choices based more on individual talents and interests, and less on constraints dictated by fallacious sex role stereotypes.

-Al Seckel

We're Bad; They're Worse

To the Editors:

Ricketts is accused of lechery, which might be true, but I think that the women here can deal with it. I for one am not looking to get laid but to get dates. It's a pain to go to a movie by yourself. Does Fleming have women on its waiting staff? The letter to the OWC mentioned that Page and Fleming both voted heavily against the anti-sexism amendment in the elections. The problem in Page and Fleming is not lechery, but paternalism, which I think is a much more serious offense to women. We will treat you with respect, dear, but you must be a second class citizen and out of men's business. There is not a lot that a woman could do about that. This seems to go right along with a macho image presented by the two jock houses. In my experience, sports freaks tend to be that way quite a bit.

-Mike Crawford

First Watson Lecture To Be Repeated

Caltech News Bureau

The first in what is now known as the Earnest C. Watson Caltech Lecture Series was given when Beckman Auditorium opened its doors in the fall of 1964. This lecture became famous throughout the U.S. as Earnest C. Watson's Liquid Air Lecture. To celebrate Beckman's 20th birthday, Dr. H. Victor Neher, Caltech emeritus professor of physics, will recreate this renowned demonstration of the properties of liquid air.

Dr. Neher's presentation, the first in the Winter-Spring 1984 Ernest C. Watson Lecture Series, will be held at 8 pm Wednesday, February 22, in the Beckman Auditorium on the Caltech campus. Admission is free.

All subsequent lectures in the winter-spring series will also be presented on Wednesday at 8 pm in Beckman. All are open to public.

The lectures in the series will be:

- March 14, "Turbulent Flow," by Paul E. Dimotakis, associate professor of aeronautics and applied physics, Caltech.

- April 4, "The Evolution of Computer Graphics," by Allen H. Barr, research fellow in computer science, Caltech, and James T. Kajiya, assistant professor of computer science, Caltech.

- May 2, "The Legends of Caltech," by W.A. Dodge, Jr. '44, H.W. Sigworth '44, R.B. Moulton '57, A.C. Smith, Jr. '70.

- May 16, "Gravitational Wave Experiments - A New Challenge for Laser Techniques," by Ronald W.P. Drever, professor of physics, Caltech.

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BY GREG SUSCA

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The Caltech Y Fly-by

Friday...February 17

Noon Concert - It will be a pleasant surprise. Saunter over to the Quad around noon.

Right Brain Lab - this is the last session. Develop your creativity, 3:00 to 5:30 pm in the Y Workroom. Thank you, Cynthia.

Wednesday...February 22

Noon Update - everything you wanted to know about "The Caltech Submillimeter-Wave Observatory." Presented by Tom Phillips, professor of physics, in Winnett Clubroom no. 1. Bring a lunch.

Would you like to go to the Grand Canyon over Spring Break? Contact the Y office for details.

Get ready. A Y person will be knocking at your door...soon.

For more information, call the Y at 356-6163.

## Fortress Ruddock

### Rudds Approve New Security Measures

by Ken Whang

Pushbutton locks on individual room doors, new locks on outside doors, and a gate of "decorative ironwork" between Ruddock and Lloyd may be installed as a pilot project in Ruddock House if a security plan approved at a Ruddock House meeting last Tuesday night is implemented.

This plan, coined "fortress Ruddock," is a reaction to the increasing rate of theft in the student houses. A survey conducted by Ruddock R.A. Debra Kreber earlier this term found that over a third of all respondents had been victims of at least one theft in their stay at Caltech. 97% of these occurred in rooms with open or unlocked doors.

According to Harold Ginder of Campus Security, Ruddock was chosen as a test ground for the new security devices because while other houses "were dubious, Ruddock volunteered."

The cost of interior locks alone is projected at \$10,000, a cost that Ginder says is worthwhile if it effectively prevents today's thefts from turning into tomorrow's assaults. "I think it's a healthy paranoia."

"If this works, we'd like to do it for all of the houses," he added.

Many residents of Ruddock are seriously concerned that the new security measures, especially the gate closing off the courtyard, will isolate Ruddock from the rest of the community.

Louis Cuellar summed up many residents' opinions at the house meeting, when he said plainly, "I can't even believe that Ruddock is considering this. We might as

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## the gadfly

An examination of student life at Caltech

### Midterms? Holidays?

Time and again, students can be overheard discussing the latest thing that one of their professors has done which seemed unfair or unreasonable. However it is manifested, most of these conflicts have their roots in the tug of war between education and evaluation. How much of each should be sacrificed for the other and to what ends? While trying to learn, the evaluation process often gets in the way and often too much. Here are some examples.

Midterms week just passed and as usual, one either does well on them or fall behind in class. Despite the fact that midterms were distributed, many professors still hold class during that week and continue lecturing on materials to be covered on the final. The exams alters one's schedule, and the studying preparation often means that there is no time for classes, which means falling behind for next week's homework material. If that is not bad enough, some classes *do not* cancel the weekly homework assignment for midterms. Due for the exam week is still the regular 200 pages of reading or the 6 problem sets. That often creates a burden that is unmanageable, particularly if it is on top of having to attend classes. Finally, some profs, with a bizarre sense of good will, would cancel the homework due for midterms week, only to assign a double homework set for the following week.

The motivation behind so much emphasis on evaluation puzzles me, especially since it comes from an institute which likes to emphasize education and research not hampered by the petty little technical details in life like practical applications, reality, and grades. Practically, a fair grade may be reached with far less exams and homeworks for mere 9 week courses. The most plausible of remedies would be to simply cancel classes and homeworks for midterms week unless the class is not giving a midterm. This is not unreasonable, since midterms are the exact equivalent of finals and it is a standard policy in any school.

The upcoming single day holiday is also subjected to similar abuse. A few classes which have homeworks due regularly on Mondays have had the nerve to make next week's homeworks due on Monday as well. An institute holiday should truly be a holi-

Summer part time experience educator for large international cultural organization to organize and implement this summer one month's cultural enrichment program for European students at Caltech. Good remuneration. Contact British European Center, P.O. Box 421,

day, not another workday with no classes. Very little consideration is given to those students, since such a policy doesn't even allow them to leave for the 3 day weekend. Professors certainly are invisible themselves on their vacations.

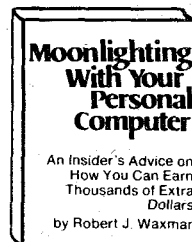
Classes with no collaboration homework policies must also be investigated. Such a policy is ludicrous, especially since they tend not to even have textbooks, such as EE114 and EE40. The policy is counter to all philosophies of education, collaborative learning, and fruitful discussion of the subject matter. Of course there is a small (very small) minority which may cheat and "scum" homeworks under a collaboration allowed policy. But those determined to cheat and work with a minimum of effort will do so regardless of the set policy. The average student then spends much more time not understanding, being frustrated, and doing entire problems incorrectly from initial misconceptions which they could easily clear up by discussing the subject with other students. Again, the notion of learning is abandoned in the professor's effort to simply try to arrive at a number to pin on each student. A no collaboration homework policy should not even be allowed to exist.

There is also the issue of graduate students sharing classes with undergraduates and being graded on the same grading scheme despite their having several more years of experience. The needs, backgrounds, and goals of the two groups are very different; therefore, why not have different classes or at least different grading schemes? Again, it is frustrating for undergraduates to be penalized gradewise in such classes, especially since it is typically true that the graduate students fall in the upper portion of the class curves. Setting dual curves is an easy solution if the departments are unwilling to take time and effort to create separate sections or classes.

These and other such problems seem to stem from a basic lack of communication or understanding of purpose and intent between students and professors. Hopefully, the latter will take more time now and in the future to consider some of these points and perhaps delve into other problem policies and possible solutions thereof.

—Lily Wu

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# Goldberger's Worries Range From Institute Dollars to Human Survival

from page 1

we try to sell them on this. So fund raising takes various forms. I travel around the country and appear before alumni groups, making inspirational speeches about Caltech.

The way that the administration works is that the president and the provost are involved with the chairmen of the various divisions in all matters of appointments and promotions, and salaries and in a sense this is my contact with the academic and campus affairs.

I have to be very knowledgeable about the budget and work with the vice-president for finance about the allocation of funds, decisions about how much money should be spent on rehabilitation of laboratories, of stimulating start-up funds for new professors, providing money from various funds that I have control over to support various kinds of research.

**"Oh, physics is zero. Zero, identically zero."**

I have an involvement with the students which I must say, I'm sorry to say has not been as close in the past few years as I would have liked, and I'm taking at least one positive step to cure that. I left a note with Chris Brennan a couple of weeks ago that I will visit each of the houses on a regular basis to give them a chance to have at me as I'm letting you now.

LW: Do you have any time for physics?

MG: Oh physics is zero. Zero, identically zero. It's been hard, it really has.

I knew when I came here that there was no realism to my trying to practice physics. The field moves rapidly. It requires long stretches of time and concentration and although I sometimes have trouble figuring out how I spent a day, when I get home I'm really tired.

I sometimes have eight appointments in a day. You have to think terribly hard about something for a half hour, 45

**"There's no classified work on the campus at all, identically zero. With considerable reluctance and for a variety of complex reasons, we've agreed to take on a modest amount of classified research at JPL"**

look through the table of contents to see what my friends are doing, occasionally try to read an article, but by and large it's just slipping. You know, I try to go to colloquia when I can, but I don't try to make a pretense that I'm a physicist anymore.

KEN WHANG: Do you find any conflicts of interest in the kinds of funding you receive and the kinds of prerequisites they have on the way it's spent?

MG: It arises occasionally, we try to stay away from, well there's no classified work on the campus at all, identically zero. On the other hand we get a substantial amount of money from the Department of Defense for basic research, without any strings attached, no publication limitations, or any nasty boundary conditions, and nobody seems to have the slightest qualms about taking the money. I don't know of a Caltech professor who has refused to accept a work grant from the Department of Defense.

There are problems not unrelated to the ones you run into the government sponsorship of research that you run into with the industrial companies, if they want to put too narrow restrictions on where you could go.

By and large, we've never undertaken anything in a formal way that involves proprietary information. We insist that we have the right to publish anything that we deal with, and that's very important because if you have people working on projects which involve proprietary information, then it is only cosmetically different from working on classified things. If you can't talk to your colleagues about it, then the fact that one may involve national security and the other not, as far as com-

which I'd just as soon not go into at this point.

LW: You are very vocal about your anti-nuclear feelings, yet Caltech is full of scientists who built the first one. What is the use of technology if it can be equally bad as good. Don't we have responsibility to society?

MG: Sure we do. Dick Feynman in a set of lectures somewhere told a story...that basically said that the gates of heaven and the gates of hell are opened by the same key. It's a very complex problem. The people who discovered nuclear fission were not working on weapons. I have a friend who for his PhD thesis in 1936 was working on trying to develop an ef-

**"There is no question that everybody knew what we were doing. We were trying to build nuclear weapons. And even when Germany surrendered, we didn't stop."**

fective weed killer and it's now what we call "Agent Orange".

You never know, that's one part of the problem. You know a science could be used for good, it could be used for evil. You could use lasers for microsurgery in the eye, and these army clowns are talking about a weapon that will blind people over the distance of a mile. You know it only takes  $10^{-5}$  joules per square centimeter of laser light to blind a person. It's not a hell of a lot of energy.

So Charley Townes when he invented the laser was not thinking about blinding people or even fixing their eyes as a matter of fact, you never know where those kinds of things come from. That's one part of it.

The other part is what is your responsibility in regard to involving yourself in these military things or choosing not to. I believe this is an individual decision. I can give a fifteen minute argument on either side of the question, as to whether you should or you shouldn't. If you don't participate, then you don't know anything and consequently, you don't know what to fight. It's a big subject.

LW: What about the students here at Tech. Shouldn't they be faced with the question?

MG: Well it is something to care about, the problem is probably more complex than you can appreciate at this time, at this stage of your development. There has been a lot of talk recently about nuclear explosive driven X-ray lasers and I went up to Livermore

laboratories and had a highly classified briefing on the subject and there were all kinds of fascinating physics problems associated with that, that if I were still doing physics, I'd be terribly intrigued about, it's fun. I mean abstractly, the physics is fun. And it's very easy to get caught up in it and stop thinking about the larger issues.

You were saying a lot of people around here were involved in the evolution of nuclear weapons; I was on the Manhattan Project myself: I was working on the reactors. I was on the project in Chicago and our responsibility was to build big production reactors to make plutonium and I had one very minor involvement as far as the bomb was concerned; we were asked to check out a calculation that was carried out in Los Alamos, a couple of us went over to a corner and worked on it, but we knew what we were doing.

There is no question that everybody knew what we were doing. We were trying to build nuclear weapons. And we

were hopelessly behind we went on and even when Germany surrendered, we didn't stop.

There are all kinds of terrible historical things. The reason that we didn't stop was that we were still fighting Japan and we headed up this

**"There has been talk recently about nuclear explosive driven X-ray lasers. Abstractly, the physics is fun. And it's very easy to get caught up in it and stop thinking about the larger issues."**

tremendous amount of steam, and it was a very exciting physics problem. You didn't even know you could build a bomb. It's very easy to get caught up in these things.

I think it is important that these issues be raised with the students, perhaps we don't do enough of that. It's a hard issue to come to grips with. I always get asked that question, "What do you tell your students at Caltech?" And I tell them that I don't tell them anything. We're all citizens, and we have an obligation to our country and how can I tell them they should not support what voters say they want? I can't do that. I can't do it myself but I can't tell somebody else that they should be civil disobedient or disloyal.

**It's a hard issue to come to grips with. I always get asked that question, 'What do you tell your students at Caltech?' And I tell them that I don't tell them anything.**

Next week: Student problems and needs.

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minutes, and then switch gears and stop thinking about that and think about this other thing. I spend a fair amount of time paying attention to the Jet Propulsion Laboratory which is a giant operation. It has 4800 employees and it has a budget which is five times that of Caltech's, and that's a major responsibility.

I miss physics. I get physical review letters and I

munication is concerned it creates an atmosphere which is unacceptable.

So we are very cautious about that. With considerable reluctance and for a variety of complex reasons, we've agreed to take on a modest amount of classified research at JPL, but it all goes on up there, and the amount of it is relatively small, and we keep it that way. That's a long and complex story

**"If you have people working on projects which involve proprietary information, then it is only cosmetically different from working on classified things."**



## sports

## Basketball Team Defeated Twice

by Ath Man at Large

The Caltech Beaver basketball team, despite providing competitive opposition for significant stretches of both games, lost two more league games last week by scores 103-56 to Whittier and 80-55 to Claremont-Mudd.

Jim Helgren led the point parade against Whittier with 16, while Stewart Peebles added 12 and Tom Heer netted 11. Perhaps motivated by a large, vocal personal rooting section, Heer was on target throughout

the game, making good on four of seven field goal attempts. Ed Zanelli scored nine points and dished off for five assists, while Peebles grabbed a team-leading eight rebounds.

The game was utterly devoid of drama until Whittier approached the century mark with a few minutes to go. They reached it with just moments to play, to the delight of their fans.

After falling far behind Claremont in the first half, the Beavers played the Stags nearly

even in the second half, losing the second half only 35-30. Stewart Peebles led the way for the Beavers scoring 17 points, grapping 12 rebounds, and creating four steals. Ed Zanelli scored 10 and fed teammates for seven assists.

Tom Heer also had four steals, and Chris Cotterel, starting his first game ever at Caltech, chipped in with three. Chris Kyriakakis shot well from the outside, netting four shots for eight points.

## Baptists Beat Beavers

by Doug Oute

It was one of those weeks for the Caltech baseball team. Although they played hard, the Beavers came up short three times, losing both games of Saturday's double header against PCBBC, and Tuesday's game against LA Baptists.

The first game of the doubleheader started off rockily for Caltech. After two innings of play, they were down 7-2. Caltech's offense remained quiet until the fifth inning. With the Beavers down 10-2, Phil Scott drove in a run with a single. With two men on, Steve Havstad stepped up and drilled a triple, driving in two and closing the gap to 10-6. PCBBC answered with one run of their own in the top of the sixth, but in the bottom of the sixth the Beavers scored three more runs to close it to 11-9. Unfortunately, that's as close as Caltech got, as PCBBC pulled away with four more runs in the top of the seventh, and the Beavers lost 15-10.

In the second game, Caltech benefited from a strong pitching performance. PCBBC was allowed only four

hits, but two of them were home runs. In the top of the first inning, PCBBC scored two runs on a walk and a home run. As it turned out, that was all they needed, as they went on to win the game 3-1. The Beavers collected only one hit, with Steve Havstad hitting a single to avert a no-hitter.

Tuesday against LA Baptists, the Beavers did a solid job pitching, with Jim Hamrick, Ed Casey, and Phil Scott combining to allow only 6 hits. The Beavers, however, suffered through another tough offensive outing, getting only two hits in nine innings. Kurt Schwartz singled in the fifth, and Bob Mostert ripped a triple into deep left field in the sixth. The Beavers were thoroughly frustrated, and struck out 14 times. The final score in the game was 5-1, with Phil Scott scoring the Beaver's only run.

With their five game losing streak on the line, the Beavers travel this weekend to do battle with UCSD. The Beavers expect a tough time, but hope to be up to the challenge.

## Weekly Sports Calendar

Fri.	2-17	7:30 pm	Basketball (Varsity)	Pac. Coast Baptist Bible	P.C.B.B. College
Sat.	2-18	10:00 am	Swimming	Redlands	Caltech (M/W)
Sat.	2-18	12 noon	Baseball	U.C.S.D.	U.C.S.D. (2)
Sat.	2-18	1:30 pm	Men's Tennis	Redlands	Redlands
Sat.	2-18	8:00 pm	Basketball (Varsity)	LIFE College	LIFE College
Tue.	2-21	3:00 pm	Baseball	Pacific Christian	Caltech
Tue.	2-21	3:00 pm	Men's Tennis	Occidental	Caltech
Wed.	2-22	3:00 pm	Women's Tennis	La Verne	Caltech
Wed.	2-22	6:00 pm	Basketball (JV)	Redlands	Redlands
Wed.	2-22	8:00 pm	Basketball (Varsity)	Redlands	Redlands
Thu.	2-23	12 noon	Swimming (M/W)	SCIAC Championships	Southgate
Thu.	2-23	10:45 pm	Hockey Club	Harbor #2	Harbor #2
Thu.	2-23	TBA	Wrestling	NCAA Div. 3 Nationals	TBA
Fri.	2-24	1:00 pm	Golf	Claremont-Mudd	El Prado
Fri.	2-24	All Day	Fencing	NCAA Women's Regionals	Air Force Acad.
Fri.	2-24	1:30 pm	Swimming (M/W)	SCIAC Championships	Southgate
Fri.	2-24	TBA	Wrestling	NCAA Div. 3 Nationals	TBA
Sat.	2-25	10:30 am	Swimming	SCIAC Championships	Southgate
Sat.	2-25	12 noon	Baseball	Redlands	Redlands (2)
Sat.	2-25	1:30 pm	Women's Tennis	Redlands	Redlands
Sat.	2-25	2:00 pm	Men's Tennis	Claremont-Mudd	Claremont-Mudd
Sat.	2-25	6:00 pm	Basketball (JV)	La Verne	La Verne
Sat.	2-25	8:00 pm	Basketball (Varsity)	La Verne	La Verne
Sat.	2-25	All Day	Fencing	NCAA Women's Regionals	Air Force Acad.
Sat.	2-25	TBA	Wrestling	NCAA Div. 3 Nationals	TBA
Sun.	2-26	3:00 pm	Women's Soccer	Suffer-Jets	Caltech

## Discobolus Standings:

Fleming	20
Ruddock	11
Page	9
Blacker	7
Lloyd	5
Dabney	2
Ricketts	1

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When you feel good you have more energy and endurance and spend less time feeling tired and ill. You sleep better and feel calmer and more confident. When you look good your wellness shows in improved muscle tone, proper weight, clear eyes, healthy skin and hair. People notice your increased vigor and enthusiasm.

Although you cannot control all health factors such as heredity, environment and age, there are several factors you can control, for example—diet, exercise, rest, stress, bad habits and attitude.

Think about your life style and ask yourself if you are inviting or preventing total wellness. Do you smoke? Do you get enough exercise? Do you eat right and maintain your proper weight? Are you under too much stress?

Take responsibility for health by learning how to stay healthy, practicing good health habits and responding to your body's warning signs before anything serious may develop. Remember, prevention is better than cure.

—Miki Goodwin, R.N.  
Young Health Center



## A Generation Ago —

From the January 7, 1960 issue of the *Tech*.

### National College Food Service To Supply All Houses, Greasy

By CLEVE MOLER

Saga Foods, a national organization specializing in feeding college students, will take over the planning and preparation of meals in all seven Student Houses next fall.

This welcome announcement was made by George Green, Institute vice-president for business affairs, in an interview with the *California Tech*. Final approval of the change was made Monday by the Board of Trustees.

#### Room Fees Boosted

An increase of between \$160 and \$106 a year in Student House room fees was also announced by Green. The present rate of \$206 for a small double and \$259 for a single or a large double will be increased to a uniform \$365, applicable to all seven Houses. (A few large singles in the new Houses will be worth \$425 a year.) The food costs will remain at \$520 under Saga. This will bring the total House bill to \$885 a year.

Green listed rising costs and the switch to normal occupancy as the causes of the increase. He pointed out that it is the first hike in 3 years and he hopes to leave it at the \$365 figure for at least another 3 years.

#### Saga at Redlands

Saga Foods handles the food preparation at a number of colleges around the country, including Redlands locally. Green said that he has investigated many plans for improving House food and found Saga to offer the best possibilities. "But college feeding is the worst job in the world," he cautioned. "Don't expect this plan to eliminate all complaints."

Reports from many of the colleges served by Saga indicate that both students and administration are very satisfied by the service.

Saga will also handle operation of the new Chandler Dining Hall. They will begin by replacing Mrs. Lyall's administration of the Greasy next month.

Miss Cheney will continue in her position as manager of the Student Houses. She will act as liaison between Saga, the Institute and the students.

Student waiters will also be retained next year, although it will be Saga's first non-cafeteria operation. In addition, there will be opportunities for student employment by the new group.

All other Institute personnel involved in the food operation will have the opportunity to go to work for Saga.

Caltech has received a grant for a new dining hall to be named Harry Chandler Dining Hall. The gift of \$400,000 is from the Chandler family, the Times-Mirror Company and the Pfaffinger Foundation.

Harry Chandler, publisher of *The Times*, president of the Times-Mirror Company and a pioneer Southern California civic leader, was a trustee of Caltech from 1920 until his death in 1944.

"Mr. Harry Chandler was a devoted friend of the Institute during his lifetime, and his son Norman is presently a loyal member of the Board of Trustees. The Harry Chandler Dining Hall will be completed in September 1960 and will be an important and distinguished addition to our campus," Dr. DuBridge said.

The dining hall, which will have a main room with a seating capacity of 250 and four smaller rooms each seating 30 diners, will replace the 60 year old Greasy. The new building will be built alongside the three new Student Houses.

Chandler contributed much to Caltech's growth. He was one of the persons instrumental in bringing to Caltech from the University of Chicago Nobel laureate Robert A. Millikan to serve as president of the Institute's executive council. He also helped organize the Caltech Associates, an organization which has intensively supported the Institute, financially and otherwise.

The Harry Chandler Dining Hall is the latest project to be financed in Caltech's \$19,500,000 development program. Two more undergraduate houses, now nearing completion, remain unfinanced.

## The Inside World

**Blacker:** Our energetic(if nutty) Social Team will lead, as Scoutmasters, all moles daring enough to endure two days of Arctic wilderness of Joshua Tree.

The flicking disease that has caught Blacker will continue next weekend with the house-grown Reggae Band Party and either a broomball game with Ruddock or a party with Dabney or both or whatever.

Blacker will finally *keep* the Discobolus Trophy for once as our basketball squad takes on Dabney. Unfortunately half of the basketball team will be chopping wood in Joshua.

— *This isn't Rodney*

**Dabney:** Spit Cal chain bopped into Jim's 24th. Joe water decked his room. The cat came back the very next day, while the vegies went away. Otherwise nothing as usual.

**Fleming:** Sorry for the absence, dammit! I've got a lot of catching up to do, so here goes:

New Fleming officers are treasurer Glayde "Mean Mr. Mommy man" Myers, secretary Rajiv "Ghandi" Sahney, veep Dave "Aquaman" Watkins, and dictator Stefan "Broccoli" Fenderbender. Look out everyone, this is gonna be a fun year!

The Fleming-Page Frosh football game was quite disappointing because of the utter domination by Fleming.

What do you want to lose at next, youngsters?

This weekend was Movie weekend. The Social Team showed movies constantly (except during the football massacre), with the highlight being the highly sexist "Wanda Whips Wall Street." Actually, the film itself sucked, if you know what I mean.

— *Al Fansome*

**Page:** The old social team is resting in piece. Long live the new one.

Last Saturday's Valentine making party was a huge success. Zuma beach here we come(to practice the elegant, but long lost, art of watching the scenery walk by). Even the J. Paul Getty Museum will be closely scrutinized tomorrow. Enjoy the three day weekend. We definitely will!

— *Kent Noble, Social Chairman*

**Lloyd:** Yes! The Inside World for Lloyd returns after a long absence. Let's see now, what's happened? Nothing much. Just elections, revolutions, Farrel's runs, barbecues, froshwashed, and excomm attempted washes(Treasurers next).

John Rostykus, Jeanine Gainey, and Yosufi Tyebkhan now run the house(yeah, sophomores!) with the help of a junior and some insignificant frosh(well, if you call Brett Bush insignificant...).

Sophomores 5, frosh 0. They haven't yet met commandment XIV. Get it in gear, frosh!

Farrel's may never be the same. The juniors pretended not to know us. For that matter, so did Snuggles.

The barbecue was a blast, thanks to our new Social Team.

That it for now, I think.

P.S. Sophomores rule!

— *Rod*

**Ricketts:**

**Ruddock:** Hey, I was in San Diego last weekend so all my information is second hand. Don't blame me if I get it wrong.

Saturday night was the big party out at Lura. Score: Daquiris N, Sobriety O. I even understand that Butch managed to break a window—it must have been a wild party. Too bad I missed it.

So anyway, the next day the Rudds stumbled over to Millikan pond and had a picnic with all sorts of good food. Biff got in a fight with the water fountain and lost(those Hawaiians think they can do anything).

This weekend we're off to the Ice House for a few laughs.

I guess that's about it. Oh yeah—to Ich & Vodka: pay your barbills so that we have a beer fridge this weekend.

And one final thing. Troops, the tanning season is upon us.

— *Chris Mihos*

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## announcements

### Irish a Month Early

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

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

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

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

### Klezmorim In Concert

The Klezmorim, an ensemble of six young musicians from Berkeley, will perform Thursday, Feb. 23 at 8 pm in Beckman Auditorium.

Klezmer is an eclectic type of music, originally performed by itinerant Yiddish troubadours in Eastern Europe. Klezmer's 400 year history unites elements of gypsy music, military marches, light opera, Viennese waltzes, jazz, Dixieland, vaudeville and Tin Pan Alley.

The members of the Klezmorim are musicians from varied musical backgrounds including classical, jazz, folk and rock. Their performance recreates the raucous sounds of the klezmer bands that flourished in the 1920s in New York City.

The Klezmorim is an active touring band and is currently working on its fourth album. In addition, the group has appeared on the PBS show *Over Easy* and in the feature film *The Jazz Singer* with Neil Diamond.

Tickets for this event are priced at \$13.00-12.00-11.00; students receive a \$1 discount. They may be purchased at the Caltech Ticket Office, 332 S. Michigan Ave., and at all Mutual and Ticketron agencies. For information, call 356-4652.

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### Fenton and Schonbach

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

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

Fenton is an internationally renowned flutist who has performed in many local events, including the Los Angeles Camarata, the Carmel Bach Festival and numerous solo appearances. He received his schooling at U.C. San Diego, and studied in Paris at the Ecole Normal and the Conservatoire Mal Maison. He also attended the International Academy of Music in Nice.

Schonbach is a Lecturer in Music at Caltech. She graduated from the Cincinnati Conservatory of Music, and later studied in New York with Ernest Hutchinson and in Washington with Glenn Dillard Gunn.

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

### Irish Folk Music

Tickets are now available for De Danaan, one of the world's finest groups performing traditional and revivalist Irish music. The concert will take place on Friday, March 23 at 8 pm in Beckman. (Yes, that is spring break, but that was the only date De Danaan was available.) This will be one of the first student-organized concerts to be held in Beckman in many years. Tickets are available from the Caltech Ticket Office and at all Ticketron outlets at \$9.50, 8.50 and \$7.50 with discounts of \$1 for Caltech/JPL employees and full-time students. Thanks to the support of the Caltech Y, Caltech students can purchase two tickets per student at half price.

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### Biology Tutorials

Each term the Biology Division offers a flexible series of tutorials as Bi 23, taught by interested faculty and postdoctoral fellows in areas not otherwise covered by the curriculum. The Spring Term selections include Current Medical Issues, Viruses and Cancer, Brain and Behavior (minimum eight students so that visual perception experiments can be conducted during the meetings), Field Ornithology, and Biological Energetics. Further information on these tutorials is available in the Biology Office and at preregistration, or call J. Strauss at x4903.

### Are You A Leader

The Robert L. Noland Leadership Scholarships were established by the Board of Directors of Ametek to honor its current president, Mr. Robert L. Noland, who is an alumnus of Caltech. These awards to be made by the President of Caltech, have been established to recognize outstanding leadership by Caltech students.

The Directors of Ametek recognize that leadership takes many forms and can be exercised through both traditional organizational groups as well as through informal and ad hoc activities.

The leadership to be recognized may be measured by personal actions which have helped other people and have inspired others to fulfill their capabilities. Candidates will be considered without regard to sex, nationality, color, creed, or religion. Selection will not be based on financial need or scholastic achievement.

This year Caltech is pleased to announce that awards of \$1,500 may be made to current sophomores, juniors, or seniors who have demonstrated outstanding leadership.

If you know a student who should be considered for these awards or would like to be considered yourself, please contact the Dean's Office, 102 Parsons-Gates, by March 2nd.

### See America By Chair

"America the Beautiful" will be personally narrated by Charles Forbes Taylor as part of the Armchair Adventure travel film series. This presentation will be next Friday, February 24 at 8 pm in Beckman Auditorium.

Beginning at the Golden Gate Bridge, Taylor travels through California to the Spanish missions, Catalina Island, Yosemite and Lake Tahoe. From here, he shows sights from the Northwest, the Grand Canyon and Texas. This film journey concludes on the East Coast with visits to New England, Independence Hall in Philadelphia, and Washington, D.C.

Tickets to this event are priced at \$6.00-5.00. They are available at the Caltech Ticket Office, 332 S. Michigan Ave., as well as all Mutual and Ticketron agencies. For information, call 356-4652.

### More Courses

The following new, used or remodeled courses will be offered third term, in addition to the ones the Registrar told you about:

**H 106: Viking Invaders Into Norman Conquerors: The Foundation of Normandy** will be offered by Eleanor Searle on Wednesdays from 2-5. Enrollment will be limited to 10.

**SS 200: Asset Pricing Theory.** This course focuses on the five major asset pricing models in finance. For each model, the theoretical development is analyzed and empirical tests are discussed. Thursdays 2-5 pm.

**SS 101/H 161: The Nuclear Weapons Issue, 1945 to the Present: History and Politics.** This course will be taught as a special interdisciplinary course in the spring quarter by Professors Bruce Cain and Daniel Kevles. Students may take the course as either SS 101 or H 161. Preregistration will be by sign-up in the Registrar's Office and enrollment in the course will be limited. The course will meet on Thursday evenings at 7:30 pm and students will be expected to come to the first meeting having read John Hersey's *Hiroshima*, copies of which will be available in the bookstore.

**SS 133: The Law and Economics in the Public Sector** will be taught by visiting professor Jeff Strnad and will meet on MW 2-3:30.

**H 161: Special Topics in History: Dixie, the Land of Oz and Sunny California: Regionalism in America.** This course will examine regional differences in the United States, and view their influences on such topics as art, literature, and historical scholarship. After examining the concept of regionalism and its development, three American regions—the South, the Midwest, and the West—will be studied. The course will be taught on MW 2-3:30 by Jon Gjerde.

### OWC Open Forum

The Organization for Women at Caltech will be having an Open Forum on Tuesday, February 21 at noon in Winnett Lounge. This is an opportunity for members and nonmembers to find out what the OWC is doing and to voice their opinions. Bring a friend and a lunch! (Please don't confuse the two.)

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

The California Tech is published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc., Winnett Center, Caltech (107-51), Pasadena, California 91125.

### Totem Poll

Have you contributed to the Totem yet? Contributions of poetry, prose, drawings, and photographs are being accepted from all members of the Caltech community for this year's Totem.

Works may be sent to David Sahnou, 1-55.

### Senior Photos

The *Big T* is now accepting senior photos for the 1983-4 yearbook. The photos submitted should be between 3"ff5" and 8"ff11" in glossy black and white. Note that the size of the picture turned in will probably not have a bearing on the size of the picture in the yearbook. All pictures should be turned into 107 Winnett along with a piece of paper containing the name, hometown and major of the senior. The deadline for senior pictures is the beginning of 3rd term.

For additional information call Roger Fong (x3961) or leave a note at the above address.

### CLAGS Dance Planning Meeting

The place to be this Sunday afternoon at 2:00 is the CLAGS meeting (room 210 Baxter). Once again, CLAGS is throwing a dance party in Winnett, and it's only a week away. Disk Jockey April from KROQ will be spinning tunes, so it looks to be a grand evening. If you want to help with the dance, or have ideas for decorations, music, etc., come to the meeting on Sunday! This is important, as we need people for setup, cleanup, refreshments(!?) and all that. If you want to know more, call Teresa at 578-9773 or Josh at 578-9768.

### Glee Club Selling CIT Sports Jackets

The Caltech Men's Club is selling good quality CIT blazers as a part of their effort to raise funds for their 1984 Spring Tour. These blazers are either black or dark blue in color and have C.I.T. written on the top of the front pocket. Prices vary from \$7 to \$20, depending on its original price. Ask Men's Glee Club members for more details.