

Caltech Will  
No Longer  
Celebrate Pentecost

# The CALIFORNIA Tech

The Gift  
Of Tongues  
Has Passed Us By

Volume LXXIV

Pasadena, California, Thursday, March 1, 1973

Number 20

## Budget Slash, New Excom, New Officers

by Philip Massey

Last Tuesday's BOD meeting was the most heavily attended; it was the budget meeting. In order to trim the \$17,304.61 budget down to a more acceptable \$14,000 or so, the beer blasts, the social program, the Ping Pong Club, the Activities Chairman, the Glee Club, W6UE, the Song Girls, Athletics, the Coop, the Coffeehouse, and the Director of Academic Affairs all suffered assorted cuts (and bruises). The only person still complaining (and complaining and ...) was Kondor, claiming the \$100 cut out of \$2100 would greatly harm the film program. Not *too* bad for an hour's boredom, one might suppose.

Peter Beckman, Mark Boals, Dave Drake, Rik Krueger, and Roland Lee were appointed to the Excom, Dave Peisner became *Tech* and *little t* business manager; and Gavin Claypool became editor of the *little t* as well as business manager (again) of *Totem* and Election Chairman (still). Phil Massey is still *Totem* Editor. (Isn't there *anyone* out



FIRST OF ALL, I want to thank Dabney House for sending back these sugar cubes. Photo by Ray Spears

there?) Dave Larwood is chairman of the student houses' darkroom, and Dennis Loh, Dan Solomon, Bruce Spalding, Steve Sweeney, and Jon Teich will be the Educational Policies Committee.

In its first non-unanimous decision (two opposing) the BOD re-opened nominations for *Big T* b.m., *Big T* ed., Excom, and Gamework Chairman for a *closed* period, to close March 8 (and presumably to re-open March 9, or whenever). (Three guesses who one of the opposing votes was.) So it ended.

## Student Survey

# We No Like Proposal

by Phil Neches

In a survey conducted late last week, Caltech students registered overwhelming disapproval of provisions of a version of the Institute Humanities-Social Sciences requirement recently proposed by the HSS Division. The provision barring "professional, technical, 'tool,' and highly specialized courses" (including first year languages) came in for the strongest criticism.

By 203 to 15, the students polled felt that first year foreign languages should receive HSS credit. Currently, first year languages receive credit retroactively

upon completion of the second year of the same language. The proposed requirement would eliminate even this retroactive credit.

### Others Axed

Asked if mathematical economics and social science courses should receive HSS credit, 144 replied that all should, 23 that some should, and 45 that none should. The HSS Division proposal seeks to exclude HSS credit from courses of this nature.

Less certainty was expressed about the desirability of HSS credit for industrial relations and

Continued on Page Four

## Let Me Say This...

# To The Committee

by Mark Johnson

From his statements to the Ad Hoc Committee

First, let me say that I agree with Dr. Dean; the undergraduate education at Caltech is very good. However, there are many areas which can be improved. I have chosen five which seem most important.

### FIRST:

There is a very strong resistance to change. This is in spite of, or possibly because of, a proliferation of seemingly effete and impotent committees. It has been pointed out that many of the important changes made at Caltech have not in fact been made by these standing committees, but rather through Ad Hoc committees. Nonetheless, it seems that a new standing committee is formed every time a new problem arises.

*Suggestion:* I suggest that we review the authority and scope of the current committees and eliminate those that are redundant, narrow in scope, or lacking authority. Students should be generously represented on those remaining committees. Further, these committees should have actual power and be encouraged to use it. Finally, as the needs

# The Continuing Saga Of The Ad Hoc Committee

by Philip Massey

Last week, as you may recall, we left the Continuing Saga of the Ad Hoc Committee on the Undergraduate Program hearing speakers on the destruction of the languages program and on the current plans to increase the restrictions on what courses get credit towards the 108 units of required Humanities and Social Sciences credit. Again the policies and practices of the Humanities Division was the center of attention at the most recent meeting.

Dr. Huttenback opened his talk by stating that the Humanities Division had four purposes: serving those undergraduates who majored in science and engineering who should be taught to read and write, the four undergraduate humanities options participants, the graduate program students, and the "encouragement" of general interest activities, such as the Glee Club. Stating that he did not plan to

address himself to the matter of our languages program (so to speak), he went on to discuss the future criteria used to determine if a course would count towards the 108 required units.

### "Some of Our Best Courses . . ."

Basically, Dr. Huttenback feels that the decision as to whether a course gets credit or not should be based not on its goodness or lack thereof ("Some of our best courses won't be receiving credit"), but on whether the course is broadening and has breadth. (Under current plans the first year of a language course will not get credit.) Further, he does not believe in the validity of the arguments that students are hard-pressed to fit in all the courses in everything they want to take; he feels that since there are about a hundred unassigned units requirement in each option there would be no difficulty in a student taking a course in humanities that isn't offered for credit.

### Are Extinct!

As might have been expected by the large number of students present (although, I admit, I saw no arrows), the matter of the languages mess came up during the question period. Dr. Huttenback replied to questions that half of the language professors had been fired for budgetary reasons; he refused to state how

arise, short term Ad Hoc committees could be appointed. I believe this would make it easier to effect changes in the future.

### SECOND:

There seems to be a common shyness on the part of both faculty and students at Caltech. Since I personally find I have a greater interest in those courses where I know the professor, I would like to see this problem overcome.

*Suggestion:* I think faculty should be encouraged to eat in the student houses, and that students should be encouraged to talk to the professors while they are there. (I might point out, that while the food isn't great, it is free.) [For whom? —Ed.] Various departments should be encouraged to have afternoon coffee hours which would be open to all students.

### THIRD:

Because of the large number of institute and option requirements students frequently find that there is little time to take courses of interest outside their major.

*Suggestion:* We should abolish all institute requirements beyond the freshman year; further, the

Continued on Page Two

Continued on Page Five

# Flamenco Music

by Marc Donner

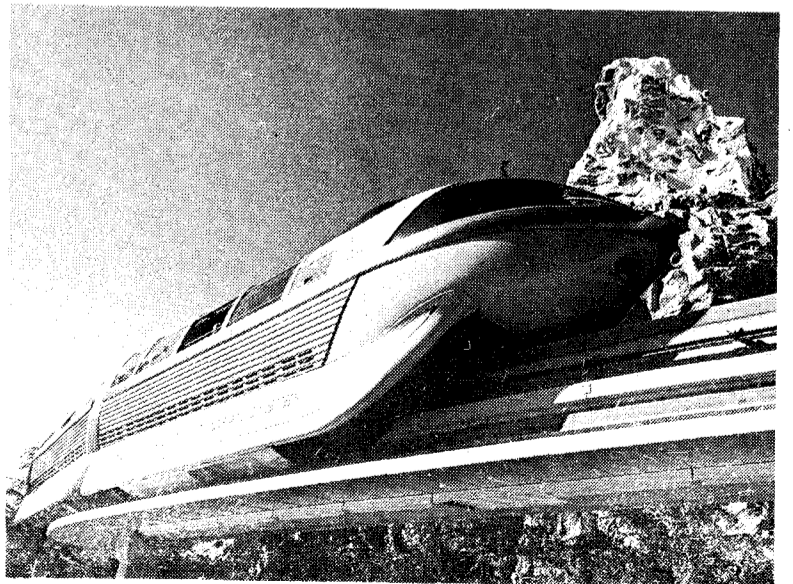
Just a couple of reminders this week about the coming events at Beckman auditorium. On Saturday, March 3 Carlos Montoya will be performing traditional Spanish Flamenco music at 8:00 p.m. in Beckman. This is the first of the Art of the Guitar series composed of Montoya, Julian Bream, Pepe Romero with the L.A. Chamber Music Orchestra, and Christopher Parkening. The Montoya concert will cost \$2 with Caltech ID and the whole series can be had for the magnificent steal of \$4.

Please remember that Paul Chihara will be on campus twice in the next week. First, on Tuesday, March 6 he will be in Winnett Lounge to meet infor-

mally with students at 4:00 p.m. Then, on Thursday he will be at a performance-cum-discussion of his Tree Music Cycle in Ramo Auditorium at 8:00 p.m. This is the first of the Encounters program which specializes in bringing talented modern composers and their work on campus in a less formal setting than normal.

In the near future is a performance by one of the great young violinists of recent times, Yong Uck Kim. He will be giving a recital on Saturday, March 10. Also note that the Dabney Lounge Chamber Music Concert originally scheduled for Sunday, March 4 has been postponed until next season.

# Busing



SECOND OF ALL, we, your students, wish to ask you, Gene Shoemaker, just what kind of Geology field trip *this* is. Photo by Walt Mancini

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Editorials

# Humanity Is Creativity

The underlying conflict between the committee that designed the Humanities proposal and those who would prefer a more liberal requirement seems to be a disagreement as to what constitutes a course in "real" Humanities.

Dr. R. A. Huttenback, a humanist of some note (possibly F?), seems to believe that a "real" Humanities course is a course which deals with an attitude of thought centering upon distinctly human ideals. He is wrong.

Humanity is more than a collection of disjointed thoughts. Humanity is more than an open set of ideals. The difference between Man and the lower orders of life is a difference in action. If thoughts were all that distinguished man from beast, there would still be no evidence of difference.

The gist of humanity is creativity. The truth is that humanity is evidenced in a mode or attitude of action, centering upon distinctly human interests or ideals. Creative action may take many forms: the fine arts, the business sciences, even pornography. Then there are the vehicles that carry us to creative action, not the least of which is the ability to understand and communicate in a tongue not your own.

Man creates. Is it too much to ask that he be given credit for his creativity?

—Dennis L. Mallonee  
Gavin D. Claypool  
Eric H. Eichorn

# Vote Yes On By-Laws

Tomorrow, ASCIT is holding a special election to fill a few vacant offices. At the same time, a bylaws change familiar to those who voted in the past two elections will again be on the ballot.

Despite the apparent non-existence of controversy surrounding it, the proposal to make the offices of activities chairman and social chairman appointive instead of elective has failed to receive the necessary two-thirds vote to go into effect. No one seems actively against it; the BOD hasn't raised a big fuss about it; still, it hasn't passed.

We urge a YES vote on the change. One can point at last year's BOD and ask how competent they turned out to be in picking a social chairman, but that's not too good an argument; the current BOD is well aware of the MacDonald fiasco (as evident in Tuesday's budget meeting by the money crunch) and, we feel safe to say, it will not be repeated.

Continued on Page Three

**THE ASCIT FRIDAY NIGHT MOVIE**

# PRIME CUT

Starring LEE MARVIN and GENE HACKMAN

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

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

**NEXT WEEK:**  
**THE GANG THAT COULDN'T SHOOT STRAIGHT**

JOHNSON

Continued from Page One

various departments should require only essential prerequisites. The remaining course load would be decided by the student and his advisor, and would be based on the student's educational goals. I realize that this would require much more time and effort on the part of the advisor, but I think the results would be worth it. A somewhat overlapping proposal would be to expand the independent studies program. Currently, the program requirements are far too stringent. I mention both these proposals because to some extent they are substitutes, and I feel we must have one of these. Finally, courses in the fine arts should be considered as equally legitimate as courses in other disciplines.

**FOURTH:**

I think the Caltech transcript inaccurately reflects student performance. In particular, the grade "F" seems meaningless. I know of very few people who have failed a course because they couldn't learn the material presented. More often it is because the student never "really" took the course.

*Suggestion:* I would eliminate the grade "F." The transcript would then show those courses and skills which the student has demonstrated an ability in. Further, I would suggest that either the (2/9) factor for converting units to semester hours be changed to (5/18), or that units be listed as in the catalog, i.e. (3-0-6).

**FIFTH:**

It seems that many of the problems at Caltech are simply because we are trapped by history. This is a personally unpleasant trap and one which I think Caltech should avoid. Specifically, in the past we have been inadequately prepared to meet the challenges of opening fields, because of what have become over commitments in other fields. Also, the Division structure has created some outdated groupings.

*Suggestion:* In the future, Caltech should avoid over commit-

# CALTECH FORUM

## Consult Students

It has been forced to my attention that there's an increasing tendency on the part of administrative people here to make decisions without concern for the opinions of the people who have to live with these decisions. The current plans to put concrete steps where Throop was, and the destruction of the language program are two recent examples.

In the first case, at least some attempt was made to seek out opinions. The Throop Site Committee was formed, consisting of faculty members, grads, undergrads, and the like, and it was decided that a "natural setting" would be desirable. Unfortunately, this recommendation was ignored and the Architect's Office made plans for concrete steps that would be wider than the Millikan plaza itself. The number of persons who have

ting itself in any particular field; this is with special regard to tenured faculty. One specific recommendation would be to offer large enough salaries to needed talents, independent of tenure. As for the Division structure, I find it hard to understand why Mathematics is taught in one Division and Applied Mathematics in another. It would seem more reasonable to create a separate Division of Mathematical Sciences. Also, the current structure of HSS seems unusually divisive. I wonder if some more equitable system might be arranged.

Finally, I would like to say that while these comments have been general, the success of any will depend on the specific way they are implemented. I encourage this committee to consider both the generalities and the specifics when making its final recommendations. Thank you.

FIRST OF ALL, I want to say that I'm sorry I ever thought of those blasted picture captions. —DLM

signed the petitions against such a plan has perhaps re-enforced the original recommendation of the committee. However, the petitions should have been unnecessary.

The drastic cut in the personnel of the language department here, and the elimination of all foreign language reading courses, was again made without any attention given to the persons who would be affected by this decision. If the news of it hadn't leaked out in the manner it did, there would simply have been an awful lot of surprised students who had tried to pre-register for courses that no longer existed.

It seems to me that in a community as small as Caltech's, it should be possible to make decisions that affect a large number of people with at least some slight effort to determine their wants and needs. It seems to me that it is pretty bad that numerous language programs that students were planning to take were eliminated without some consideration for their plans; that such a decision was ratified by the Administrative Council without consultation with the other faculty in each option strikes me as absurd.

—Philip Massey

## A CALIFORNIA Carol

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Volume LXXIV Number 20

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- Spirit-of-Editors-Past**  
..... Peter W. Beckman  
..... Philip M. Neches
- Spirit-of-Editor-Present**  
..... Gavin D. Claypool
- Spirit-of-Editors-Future**  
..... Eric H. Eichorn  
..... Dennis L. Mallonee
- Dark Spirit** ..... Ray Feeny
- Old School Spirit**  
..... Bob Kieckhefer

- Regular Cast**  
Marc Donner, Paul Harper, Patti Horne, Philip Massey, Etaoin Schroedlu, Steve Sweeney, millikan troll.

- Soul-Stealers**  
Todd Boroson, Dave Brin, Gerald Laib, Phil Neches, A. J. Owens, Dave Peisner.

- Supporting Cast**  
Scrooge ..... Dave Peisner  
Jacob Marley . Marvin Mandelbaum  
Boy-in-the-Street .... Rob Olshan

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## FRANKLY SPEAKING by Phil Frank



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## Fetal Stars

# Astronomers Discover Objects

Using very sensitive infrared detectors attached to the Hale Observatories' 100-inch and 200-inch telescopes, three Caltech astronomers have discovered what may be a group of very young objects—stars still in the process of condensing out of a cloud of interstellar gas.

The observations by Dr. Gareth Wynn-Williams, research fellow in astrophysics; Dr. Eric Becklin, senior research fellow in physics; and Dr. Gerry Neugebauer, professor of physics, are of objects hidden in a dense cloud of gas and dust 10,000 light years away from the solar system. The cloud, called W3, is so opaque to light that until recently it was known only from indirect evidence that it contained several fairly young stars.

### A Star Is Born

One of the newly-discovered objects, called IRS-5 (for infrared source number 5) emits 30,000 times more energy than the sun and is larger than the whole solar

system. Its temperature, however, is only 170 degrees Fahrenheit, which is extremely low as compared to the 5,000 degrees or more of a normal star.

The object may therefore be in the process of collapsing under its own gravitational forces to become, over a period of years, a much hotter and more compact star, the researchers stated. In the meantime, this "protostar" (embryo star) is of great interest to radio astronomers as it is also an astrophysical "maser," emitting intense radiation at the precise wavelength of the water molecule.

Only one other such "protostar," in the Orion Nebula, is known to astronomers with any certainty. The newly-discovered object is of special interest in that it is much more energetic than the Orion source, and may eventually become an exceptionally bright star.

### New Suns Space

One of the reasons for

believing that IRS-5 is an embryo is that it is situated only a few light years from several extremely young hot stars, which were probably born within the last 10,000 years—a short time by astronomical standards. Star formation is therefore still likely to be taking place in cloud W3, especially as the region contains vast quantities of hydrogen gas, the raw material out of which stars are formed.

Unfortunately for astronomers, this hydrogen gas carries with it minute dust particles, which is a form of cosmic pollution that renders the inner part of W3, including the new stars inside it, invisible to optical astronomers. To penetrate the cloud it has been necessary to observe at wavelengths longer than those of visible light.

Before coming to Caltech, Dr. Wynn-Williams had used a radio telescope in Cambridge, England, to study the hot gas in W3. He then joined Drs. Neugebauer and Becklin in observing the region at infrared wavelengths from Palomar and Mt. Wilson. As well as leading to the discovery of cool objects like IRS-5, the infrared observations were used to measure temperatures and thicknesses of the dust in W3 and confirmed the existence of at least one very bright hidden star at its center.

The researchers speculate that eventually the radiation in the cloud will cause the dust to disperse, allowing the new stars to be seen from the earth.

## Yes On By-Laws

Continued from Page Two

The fact that the social chairman will receive a salary makes it imperative that a stronger check be held on the officer than in the past. The change will also streamline ASCIT's operation, eliminating the necessity of holding a special election to fill a vacancy. The high turnover rate for these offices makes such a change desirable.

—Gavin D. Claypool  
Eric H. Eichorn  
Dennis L. Mallonee

## Down The Tubes

# Vote No On By-Laws

by Etaoin Schroedlu

There will be an election tomorrow (Friday) on the proposed ASCIT bylaws change to permit the ASCIT Board of Directors to appoint the ASCIT Social Chairman and Activities Chairman, rather than have these two officers be chosen by general election of ASCIT members (as at present). If all this sounds familiar, there is a cause: this proposal has already gone through two ASCIT elections, one of which was voided and the other of which failed to generate enough 'Yes' votes for ratification. Now our indefatigable ASCIT leaders are trying again. I urge a 'No' vote on this proposal.

The arguments the ASCIT leaders are presenting in favor of this change seem to be primarily: 1) Appointments are easier to revoke in case of incompetency on the part of the officeholders; 2) Appointments could be made for one term only, providing both the BOD and the officeholder with the opportunity to sever the connection at need.

### Remember \$3K?

Point 1) above is no doubt true. Point 2) is not necessarily relevant, as another by-laws change could always be effected calling for elections for these offices once a term. More to the point, I believe, are arguments concerning the role of the BOD itself. I am not convinced that placing middlemen (the BOD) between the students and their officers is any guarantee of competency on the part of the latter. In fact, the evidence seems to go the other way. The last BOD was sucked into the Country Joe-and-all-the-others concerts, with apparently no more knowledge of what was happening, or any more idea of the probable result, than anyone else. Those concert fiascos, incidentally, were primarily arranged by Kathe Burbach, a non-Techer who apparently had no conception of the facts of social life here at Caltech, and who was placed in her position of responsibility by the BOD, not the student body at all. So much for

the superior qualifications of the BOD to choose ASCIT's social chairman and activities chairman.

It seems clear that ASCIT members are less interested in having (and supporting) social programs and activities programs than the student leaders are in trying to provide them. This is not surprising: BOD members are pre-selected (by and large) as activists, or they wouldn't have troubled to become BOD members. To this extent apathy is underrepresented on the BOD, and the BOD's views on programs are not necessarily representative of the students'. More to the point, the BOD tends to overestimate general student interest in activities (there is a long history of expensive social program failures). In fact, apathy seems so rampant at present that last time I looked, there were no candidates for Social Chairman at all.

### They Were Yours Once

Perhaps ASCIT members are actually trying to say that they don't want a big expensive social/activities program. If so, this is a legitimate message which ASCIT leaders should note. After all, without student support any such program can only be a dismal, irresponsible failure, and removing the selection of officers responsible for the program one step further from the students on whose support the program depends seems an unlikely method of insuring that the necessary communication and exchange of ideas takes place.

Here is the long-awaited answer to last week's crossword puzzle

J	O	I	N	T	E	D	S	T	R	E	A	K	S
U	N	Q	U	O	T	E	H	A	I	R	N	E	T
B	E	S	W	A	B	A	R	B	I	T	E	R	
I	S	H	S	T	R	I	C	T	N	I	P	A	
L	E	A	P	S	T	I	C	K	S	W	I	N	
E	L	L	I	S	S	E	L	C	L	A	N	G	
E	F	F	E	C	T	R	E	C	H	A	R	G	E
D	I	S	C	R	E	E	T	P	L	E	B	E	S
A	L	I	E	N	M	O	A	I	N	A	N	E	
I	L	L	K	I	L	L	S	T	I	L	L		
R	E	E	F	E	N	D	E	A	R	L	I	T	
I	G	N	O	R	E	D	P	R	E	E	V	I	
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# Student Rush Program

A new "student rush" program will be instituted for selected events in the remainder of the spring season at Beckman and Ramo Auditoriums. The program is designed to make available the best remaining seats at these events to Caltech students at greatly reduced prices.

Separate rush lines will be set up at the box office of each selected event. At 7:45 p.m., 15 minutes before curtain time, Caltech students with valid IDs will be able to buy two tickets for the best remaining seats for \$1 each, subject to ticket availability. Students who have already bought tickets at the usual student discounts, may return these tickets to the Caltech Ticket Office for a full refund before 4:30 p.m. of the

working day prior to the event, if they wish to take a chance on rush tickets being available.

These \$1 rush tickets will be offered for a total of 13 events: in March, Carlos Montoya, Paul Chihara, Yong Uck Kim, Julian Bream, Mario Davidovsky, and "Antigone;" in April, Joy Blackett, Horacio Gutierrez, the L.A. Chamber Orchestra, and Christopher Parkening; in May, the Erick Hawkins Dance Co., Rolf Schulte, and Vladimir Ashkenazy.

This is being instituted on a trial basis to ascertain student response. The Faculty Committee on Programs will consider in May whether or not to continue such a policy in the next Fall season.

Further information may be obtained from the Caltech Ticket Office; campus extension 1652.

## Student Survey

**Continued from Page One**  
business economics courses. By 126 to 90, the respondents felt these courses should get HSS credit.

Reading courses proved to be another sore point. Asked if reading courses should receive HSS credit, 155 said all should, 34 that some should, and 22 that none should. A plurality felt that no limit should be placed on the number of reading courses which count towards the 108 unit HSS requirement. Currently, reading courses receive HSS credit only with special dispensation from the Division.

### Requirement: Yes

Most students felt that they should be subjected to some form of Humanities Social Science requirement (164 favored, 56 opposed), and most felt that the current 108 units should be retained as the magnitude of the requirement. However, far more sentiment showed for lowering the number of units than for raising it.

Large majorities favored eliminating the distinctions currently made between "humanistic" HSS courses and non-"humanistic" courses. Similarly, the current provision for 27 units of English fared poorly. The vote went 156 to 68 against the "humanistic" sub-requirement, and 137-80 against the English sub-sub-requirement.

### Nonsense: No

Respondents overwhelmingly agreed that HSS credit should be given for courses taken at other schools such as Scripps and Oxy. That vote went 208 to 10. Unfortunately the questionnaire did not distinguish between "theory" courses, which are currently given credit, and "practice" courses (such as instrumental performance classes), which currently do not get Caltech HSS credit.

Undergrad representatives to the Curriculum Committee conducted the poll, which was presented to the committee on Monday. Extra copies of the final results can be obtained from the California Tech office.

Try Roma's for finals.

It may not help, but at least the pizza tastes good.

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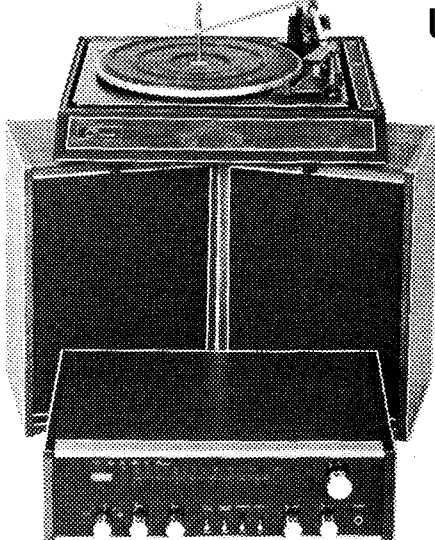


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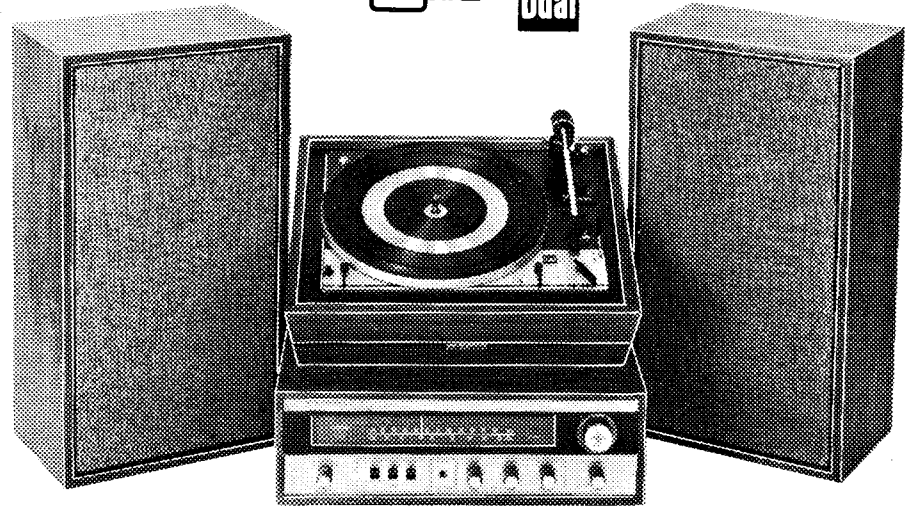
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# UNIVERSITY STEREO

# Chamber Orchestra ; Art Auction In Dabney

At noon Wednesday, March 7, the Olive Walk will once again resound to tuneful strains, as the Caltech Chamber Orchestra makes its (long feared?) debut. The repertoire will include a Concerto Grosso by Corelli, the fourth Brandenburg Concerto by Bach and various smaller works played by assorted subsets of the orchestra. In the event of rain, the concert will be adjourned to Dabney Lounge, where the sound will be better and the crowds of music fans considerably less overwhelming. At either venue, you can see and hear Caltech's finest at absolutely no charge.

The evening of March 9 marks the presentation of the second annual art auction to benefit the Child Care Center for Caltech families. The auction will provide an opportunity to acquire fine works of art by established artists such as Picasso, Miro, Bragg and by promising young painters as well. Sculpture will be offered—and all this in a range of prices which will appeal to everyone. Last year over 200 art-lovers strolled through Caltech's Dabney Garden enjoying champagne, hors d'ourves and the music of a guitar, then stayed to bid.

This year's auction will also be in the garden lounge of Dabney Hall. There will be a gala reception from 7:00 p.m. to 8:00 p.m. during which everyone may leisurely view the works of art which are to go on the auction block. At 8 p.m. sharp, the bidding begins. Admission will be \$1.50 per person and raffle tickets will be sold with a fine piece of art as the prize.

## Faculty--Student Oral Intercourse

ASCIT will be sponsoring a series of afternoon Coffee Hours aimed at a better interaction between faculty and students. The first one will be Wednesday, March 7 in Winnett Lounge at 4:00 p.m. and will feature the Humanities and Social Sciences Division.

## Program On Nuclear Application

A training program for undergraduate students on the application of nuclear energy to problems of the environment, medicine, and biology will be sponsored this summer by the Laboratory of Nuclear Medicine and Radiation Biology at UCLA.

Scheduled for June 25--August 31, the program will be open to qualified students in mathematics, sciences, or engineering. Applicants should have completed at least one year of college by June.

Application deadline is March 15, and successful applicants will be notified in April. Trainees will receive a monthly stipend of \$360 if they are from within 50 miles of UCLA and \$400 if from farther away. Funding of the program is through the Associated Western Universities, which is supported by the Division of Nuclear Education and Training of the Atomic Energy Commission.

Trainees will participate in summer research programs in nuclear fields of cooperating UCLA faculty. Lectures and demonstrations on environmental problems, medical and biological applications, and related subjects will be included.

Program supervisor will be Dr. Martin B. Epstein. For further

## Ad Hoc Committee

Continued from Page One

much money was being saved, but termed the amount "significant." Dr. David Smith, during his presentation, termed the amount as "completely minimal."

Now, another very strange and wonderous thing: there may be a third year of French kept because the interest in French (as opposed to Russian or German) is *the least*, and thus the easiest to handle. Furthermore, apparently informed that there was slight adverse reaction on the part of the students in first year language programs who had found that they might well not be in the second year and thus get no credit at all. Dr. Brown has authorized the Humanities Division to hire part-time (not to retain the current teachers, please note) enough lecturers so that there will be a full two year program in at least German.

### Decision Time

It was at about this point that Dr. Huttenback was asked why no attempt had been made to find out how people would feel about the slash before going

information contact him at the Department of Physics, California State University, Los Angeles, 5151 State University Drive, Los Angeles 90032.

ahead and doing it. He replied that of course they had consulted students. After the general merriment and laughter of the forty students sitting around died down, Dr. Huttenback was asked if he didn't perhaps think that there was evidence present in the room that not everyone was pleased. Dr. Huttenback replied that you "have to make choices," and that he did not consider the opinions of those present to be representative of the students as a whole. (Admittedly he might not have been aware at the time of the over two hundred signatures on the language programs petition.)

(One very valid point that Dr. Huttenback brought up was that the whole matter had been ratified by the Administrative Council, consisting of the heads of all the divisions. Not one division head had made an issue of it, not one division head had apparently bothered to consider the possibility of feelings of students or faculty in his option, and not one of them announced the change publicly.)

Dr. Huttenback cited what he considered "small" enrollment in the language courses; one girl said she was in one of the two German classes and in her section alone there had been sixteen people present, and that there were history classes with only four people enrolled. (One is forced to wonder how many students (student?) are enrolled in the graduate program, and how much money could have been saved from that rather than from a department with the highest student to faculty enrollment in the school.)

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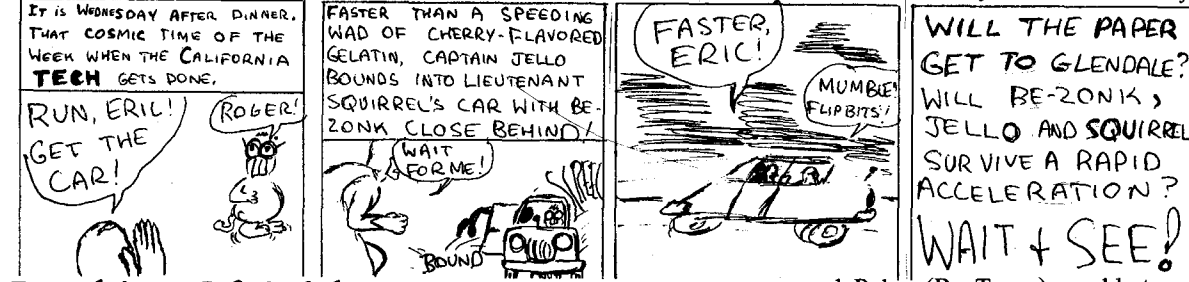
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Bombing Of Culebra

Cranston Protests

Legislation to prohibit the U.S. Navy from shelling and bombing the island of Culebra — the home of 750 American citizens, all of whom are Spanish-speaking — has been introduced in the U.S. Senate with Senator Alan Cranston (D., Calif.) as a cosponsor.

"The Department of Defense made a firm promise that the naval sea and air bombardment would stop by July 1, 1975, and now the Pentagon appears to have backed down on that promise," Cranston said. "I want to see our government's commitment to the people of Culebra kept."

Culebra Who?

Culebra is a 3-by-8 mile island in the Commonwealth of Puerto Rico, 22 miles east of the Puerto Rican mainland. An uninhabited part of the island four miles from Culebra's only town was made part of the Atlantic Fleet Weapons Range in 1936.

Defense Secretary Melvin Laird promised that the bombardment would stop July 1, 1975. He made the promise in April, 1971, when the Pentagon released a study that concluded that, "alternatives are available which could accommodate the Naval Gunfire Support training now done at Culebra."

Promises, Promises

As late as November 4, 1972, Secretary Laird sent a telegram

to the Puerto Rican Governor Luis Ferre reaffirming the commitment to cease shelling by the 1975 date, Cranston noted.

"Yet on December 27, 1972, Secretary Laird announced that the practice bombardments would continue at least through 1985 and would actually increase," Cranston said. "The Defense Department claims that a later 'classified' study revealed that other target areas were not as good as Culebra."

"I agree with former Governor Ferre," Cranston said, "that the U.S. government, in Ferre's words, 'has reneged on a firm promise...' to the people of Puerto Rico."

Bombing Damage

Over the past 37 years of almost continual bombardment, at least 10 deaths and a number of injuries have been attributed to the training activity, according to testimony given by the U.S. Navy and Puerto Rican officials before the Senate Armed Services Committee.

Puerto Rican officials also have testified that many of Culebra's beaches are no longer safe, homes have been damaged, migratory birds no longer nest on the island, and residents are constantly being awakened in the night by the sound of explosions.

The bill (S. 156), which was authored by Senators Hubert Humphrey (D., Minn.) and How-

ard Baker (R., Tenn.) would stop naval bombardment of the island by July 1, 1975.

"The people of Culebra have been harassed long enough," Cranston concluded. "They should be allowed to live in peace without the constant apprehension that now haunts them."

\$20 K Gift From J. R. Fluor To Caltech

J. Robert Fluor, Chairman of the Board of the Fluor Corporation, has announced a continuation of the support of the programs of teaching and research at the California Institute of Technology. A gift of \$20,000 to Caltech has been made. Of this amount, \$15,000 has been applied to the Industrial Associates program and \$5,000 to the Environmental Quality Laboratory.

The Industrial Associates program provides opportunities for interactions between industry and Caltech by way of symposia, faculty visits to companies, industry visits to Caltech, and specific exchanges on problems of mutual interest.

The Environmental Quality Laboratory was initiated in 1970 for the purpose of bringing together economists, engineers, lawyers, politicians, scientists, and sociologists for systems studies of pollution problems relating to air, water, solids, and noise. Its main study area is the Los Angeles Basin. The goal is to develop results to benefit not only Southern California but other parts of the United States as well.

Swimming

Bubb Scores Big

by I. M. Wett

The Caltech swimmers finished their dual-meet season last week with losses to Santa Ana JC and Pomona-Pitzer. These losses gave the team a 3-6 record with only tomorrow's SCIAC Championships remaining in the season; their conference record is 2-3.

Last Wednesday the swimmers went to Santa Ana with gloomy skies above, cold water surround-

ing them, and, in a few cases, flu in their stomachs or pains in their arms. The first event of the meet, the medley relay, was won by Santa Ana by two yards after a very exciting race. Tech's loss, coupled with a loss in the freestyle relay at the end of the meet, proved to be the margin of victory, as Santa Ana took the meet 71-41.

Bubb Leads in Scoring

Howard Bubb again led Tech in scoring, with an easy win in the 200-yard freestyle and a touch-out victory in the 200-yard backstroke. Tom Stoughton received eight points, with a victory in the 200-yard breaststroke and a second in the 200-yard individual medley. Max Kay's second place in the breaststroke completed Tech's only sweep of an event last week.

Steve Bitondo's close victory in the 100-yard freestyle was Tech's only other victory of the afternoon. Jim Rowson took two seconds in diving and Bob Kieckhefer received two seconds in distance freestyle to become Tech's other leading scorers.

Pomona Dominates

Bubb took part in all three of Caltech's victories in last Friday's meet, which Pomona won. He won the 200-yard freestyle and the 200-yard backstroke and led the victorious freestyle relay team, with Bitondo, Ron Horn, and Clyde Scandrett following him.

Horn also took second places in the 50-yard freestyle (on a questionable judges' decision) and the 100 free. Kieckhefer again took two seconds in distance freestyle. Scandrett, Stoughton, and Rowson each received a second place during the afternoon.

Claremont-Mudd is hosting this year's SCIAC Championships, with diving today and the

Continued on Page Seven

Ursula Oppens In Concert Last Friday

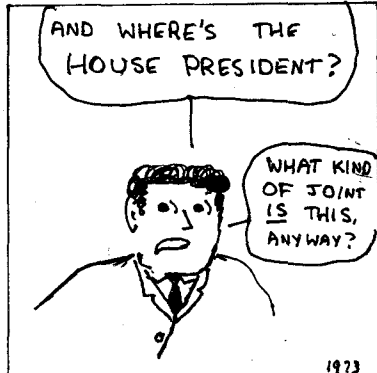
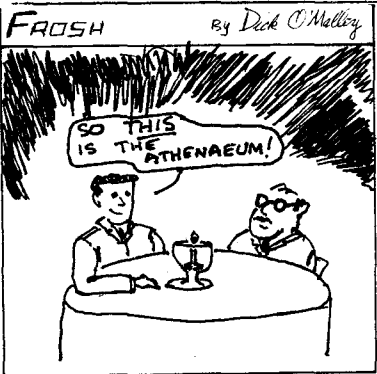
by Etaoin Schroedlu

The Young Concert Artists, Inc., and Caltech presented pianist Ursula Oppens in concert in Ramo Auditorium last Friday night. After the concert, Miss Oppens met interested members of her audience in a reception in the Athenaeum Library.

The program contained Haydn's *Sonata in C Major, Opus 33* by Schoenberg, Beethoven's *Sonata, Opus 101 in A Major*, and Schumann's *Carnaval*, a collection of short pieces.

Miss Oppens, the most famous Radcliffe pianist since Jennifer Cavillieri, particularly delighted her audience (the part of it that arrived on time, anyway) with the allegro opening movement of the Haydn Sonata. Playing Beethoven on the piano is an ambitious undertaking; Miss Oppens' technique and control in the later movements were particularly creditable. An appreciative audience awarded the artist with repeated applause.

Many relatively unknown artists have used Caltech performances as a springboard to success, including mezzo-soprano Shirley Verrett and Nana Mouskouri. Miss Oppens may soon be joining this group.



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# Caltech Harriers Take First Victory of '73 Season

In a meet in which the team lead changed hands after almost every event it was only fitting that the final event should decide the winner. For Caltech it was a replay of two years ago and the Beavers won their first track meet of the season, 75-69 over Claremont-Mudd.

In the mile relay it took the most courageous performance seen on the home track in a number of years to sew-up the victory. Greg Hoyt, running third with a sore leg, took the baton with a 15-yard lead but at the 300-yard mark he suffered a bad leg cramp and 30 yards later the other leg cramped. Running in severe pain and stiff-legged he lost the lead only to fight back on the home stretch to an almost-even position. Al Kleinsasser, running anchor, brought home the victory. Hoyt, who also competed on the winning 440-relay, placed second in the 440 dash in a time of 52.1 and won the 440 intermediate hurdles in 56.5. The mile relay was the last race of an outstanding, but grueling day for the Caltech sophomore.

In the relay, Charles Almquist led off with a 52.0 lap followed by Haywood Robinson's debut in the 4-lap race with an outstanding time of 52.7. Hoyt then ran 54.2 and Kleinsasser finished the day with a 50.1.

Another Caltech star was Almquist, who competed in five events and scored valuable points in each. He ran the first leg of

the mile relay, finished second in the 120 high hurdles with a time of 16.0, second in the 440 intermediates in 57.4, and out-leaned a Claremont-Mudd runner for second in the 100 in 10.5.

The star performances were highlighted by Haywood Robinson's four winning performances. The outstanding Caltech sprinter won the 100 yard dash in 10.1, the 220 in 22.6, and ran victory races in both relays. It was the most outstanding performance by a Caltech sprinter in many a year. The only hope for a Beaver victory was for the athletes to compete in a number of events. Each of the 13 trackmen competed in at least two events.

### Kleinsasser Breaks Record

Al Kleinsasser smashed the Caltech mile record he set last week by more than 4 seconds, lowering it to 4:14.5. Running without any competition after the first 80 yards he again looked at ease with an outstanding race. The lap times were 61.0, 65.1, 64.9, and 63.5. With competition Kleinsasser appears to be able to run much faster. In the 880, he came from behind to win with a time of 1:56.4. The mile race was the outstanding performance of the afternoon, however, which is even more true considering that Kleinsasser ran by himself.

Greg Griffin set his second school record in two weeks with an outstanding performance in the three-mile run, finishing in 14:37.5. Griffin, who ran a near-perfect race from a strategic point, finished a heart-breaking second when Wayne Akiyama ran an almost unbelievable last lap to barely nip Griffin at the finish

tape. Griffin's last lap was a 68.9 and Akiyama's was estimated at 64.5. Griffin also finished third in the mile with a 4:32.7.

John Steubs ran on the 440 relay team and then placed third in the 220-yard dash for valuable points. Steubs had a 23.8 in the furlong event.

### Mills Jumps High

Terry Mills led the field event participants with a new freshman record of 6 ft. 2 in. in the high jump. Mills, who is improving every week, looks strong in the event and he should attack the varsity record this season. Mills also scored third in the long jump with an 18 ft. 11 1/4 in. mark. Brad Page placed third in the high jump with a mark of 5 ft. 10 in.

The day started with a surprise Beaver sweep in the shotput. Brent Sweitzer had an outstanding mark, with a winning heave of 44 ft. 1 1/4 in. Sweitzer, like other team members competed in four events in order to help assure a team victory. He had an outstanding day with a 19 ft. 1/2 in. second place long jump, a 37 ft. 9 1/2 in. third place in the triple jump, and a 128 ft. 4 in. throw for third in the discus. It was a busy but outstanding day for the Caltech freshman.

Doug Herbert had a second place finish in the shot and the discus plus a third in the javelin. The mark in the discus was only one inch less than Claremont-Mudd's winning mark. Herbert threw the javelin 121 ft. 1 1/2 in. and placed the second in the shot with a 41 ft. 3/4 in. mark. Steve Bienz placed third in the shot put with a mark of 30 ft. 6 1/4 in. for valuable points.

It is impossible to say too much about the performances of everyone on the team. The desire and ability to enter many events led to a team victory and a 1-1 season mark. These were performances that cannot be duplicated each week and everyone competing deserves a large share of the win. This week the Caltech team travels to Redlands for a triple dual meet with La Verne and Redlands.



## Wrestling

# The Eight-Fold Way?

by H. P. Schnurd

A research seminar in Quantum Wrestling was conducted concurrently with the NAIA District III wrestling tournament Saturday by two Caltech undergrads, Gary Zieve and Ken Walker. The wave-particle duality of wrestlers was demonstrated; it was shown experimentally to be impossible to accurately determine the position and momentum of the two.

Although it is generally accepted that there is a certain finite probability amplitude that a wrestler will be detected at a certain location at a given time, this was one of the more subtle points of the experiment; it appeared, to the observers, that the wrestlers in question were all over the mat at once, or, at least, in all the right places at all the right times.

It has long been understood that there exist similarities between quantum mechanics and quantum wrestling; however, the extent of such similarities has been a matter of considerable discussion during the past months. One limit was verified;

while in quantum mechanics, it is impossible to predict what will happen to a given particle, it was clear from the start of the first match of each who would be detected in slot (1) after the experiment; indeed, the predictions of the theory were true, and Zieve and Walker, distinguishable because the mass/energy of one exceeds that of the other by a ratio of 150/142, were confirmed in the number one positions.

Incidentally, after their rather earthshattering performance, they have been invited to attend the National Research conference on Quantum Wrestling two weeks from now.

## Swimming

Continued from Page Six

swimming finals tomorrow at 3:00. Over 30 people (not necessarily people over 30) are needed to time or judge at the finals, so if you will be in Claremont tomorrow, the conference would appreciate your help. Pitzer is just across the street and Scripps is within walking distance of the CHM pool.

## Eight-Sport Menu

		Thursday, March 1	
All Day	Fencing	West Coast Conference Championships	SFCC
2:30 p.m.	Swimming	SCIAC Diving	at Claremont-Mudd
		Friday, March 2	
All Day	Fencing	West Coast Conference Championships	SFCC
1:00 p.m.	Golf	Pomona-Pitzer	at Brookside
3:00 p.m.	Swimming	SCIAC Finals	at Claremont-Mudd
		Saturday, March 3	
All Day	Fencing	West Coast Conference Championships	SFCC
12:00 noon	Baseball	Southern California College (2)	Away
1:30 p.m.	Track	La Verne & Redlands	at Redlands
1:30 p.m.	Varsity Tennis	La Verne	Away
1:30 p.m.	JV Tennis	La Verne	Home
		Tuesday, March 6	
3:00 p.m.	Varsity Tennis	Pomona-Pitzer	Away
3:00 p.m.	JV Basketball	Pomona-Pitzer	Home
		Wednesday, March 7	
3:00 p.m.	Baseball	Whittier	Home
		Thursday, March 8	
All Day	Wrestling	NAIA Nationals	at Souix City, IA
1:00 p.m.	Golf	Redlands	Away
		Friday, March 9 & Saturday, March 10	
Both Days	Wrestling	NAIA Nationals	at Souix City, IA
Both Days	Fencing	Western Women's Intercollegiate Championships	at Long Beach State

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Above: Mrs. Louise Hood, second from right, with friends. On Louise's right is her successor to empress of gameroom keys, Mrs. Flora Constanten. Right: Dean Lyman Bonner presents Louise with The Honorable Order of the Tuesday After Lunch Bunch.