

The CALIFORNIA Tech

Happy
Valentine's
Day

Volume LXXIV

Pasadena, California, Thursday, February 15, 1973

Number 18

ASCIT of Massey, ASCIT Is Massey, Or, A Massey ASCIT

Choose one.

by Philip Massey

Tuesday Afternoon at the ASCIT Meeting got underway with the discovery of a quorum and the interruption of a yogurt long enough to call the meeting to order. In a slight fell swoop, the BOD opened nominations for appointive offices, as well as for the elective offices of Director of Student Life, Athletic Manager, and Social Chairman. Nominations for appointive offices will be open until one week from today (elective offices until two weeks from yesterday—Feb. 28), and must be submitted in writing to Phil Massey, Ruddock, before such time. The appointive offices are: the 1973-74 *Big T* editors and business managers (not to be confused with this year's or last year's), *California Tech* business manager, *little t* business manager and editor, election committee chairman, coffee-house managers, the Educational Policies Committee (EPC), as well as its Chairman, *Totem* editor and business manager, gameroom chairman, darkroom chairman, and the fun-filled Executive Committee. (Whew.)

The BOD reached other assorted conclusions, decisions, and diversions. The *Big T* is alive and well again, thanks to a board of seven editors and a heart-warming blackmail agreement. If the *Big T* comes out on time, the board will get a \$400 bonus for their efforts (it should be kept in mind that usually the editor has a full year to work on an issue, and that a *Big T* hasn't come out on time in six years).

Money!

There will be a budget meeting a week from Tuesday. Written requests from clubs and such have to be in Dave Peisner's hands by Feb. 26. Peisner has also announced that ASCIT is now cashing student checks at night and on weekends. See him in 238 Page.

There will be an election

News Briefs

New BOC People(?)

Sophomore John Odden and freshman Bob Schaff, respectively members of Blacker and Ricketts, have been named as at-large members to the Board of Control from among twenty applicants, replacing Mark Johnson and Sharon Spivak starting third term.

Coming Soon At The Ice House

Belland & Somerville return with music and comedy to The Ice House for the week of January 30–February 4. Each evening will be memorable. Tommy McLoughlin, a pantomime artist and superb comedian, holds the second place. This



FIRST OF ALL, I want to thank Dabney House for sending these brownies . . .

March 2 for Director of Student Life, ath managers, and social chairman, as well as a by-laws change dealing (once again) with making the office of social chairman appointive. See the next *Tech* for exciting details. In the meantime, Gordon (?–Ed.) Claypool has been appointed temporary elections chairman.

Promises, Promises

In a series of off-the-bean-bag discussions, various people said what they wanted to do. Coleman (Dir. of Acad. Affairs) has begun work on getting the Humanities Department to allow credit for courses in the fine arts. There are also petitions in the houses calling for a reconsideration on the part of the Humanities Department on its destruction . . . er . . . reduction of the language department. Peisner is planning to work on getting students to work in the bookstore, and in general make it responsive to student needs rather than to bookstore salaries. He also plans to publish a student directory, with the help of Manis and Wakai (Directors-at-Large).

Bryan Jack was given a hundred dollars for donuts and stuff for BOC meetings for the next year. Lastly, Wakai reported on what the defeat of the one by-laws change meant, and on

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Personal Exploration: Contact and Interaction

by Peter Beckman

For the past few years the Caltech Y has sponsored a series of Personal Exploration Groups (PEG) for students interested in deepening their awareness and expanding their ability to communicate with others on a meaningful level.

A number of new groups are now being formed for a ten week PEG program.

In order to learn more about PEG The Tech arranged an interview with some of the members of one of the groups. Here is what they had to say:

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Donner Eats It.

by Marc Donner

Dear Various and Sundry Guitar Music Fans:

Get off your duffs and go buy your tickets to the Art of the Guitar series. We've announced this before but no Techers have gone to buy any tickets yet. Last year when the Techers came around to get tickets they came too late and the concerts were sold out. This year the people at the ticket office are trying to give you a chance to get some tickets. One more time: Carlos Montoya (flamenco guitarist extraordinaire) on Saturday, March 3; Julian Bream (guitar and lute) Thursday, March 15; LA Chamber Music Orchestra with Pepe Romero Saturday, April 14; and Christopher Parkening (classical guitar) Tuesday, April 24. All will be in Beckman and all will start at 8:00 p.m. There are special prices for Techers: Montoya—\$2, Bream—\$2.50, Romero—\$2.50, and Parkening—\$1.50. But the best is yet to come! You can come to all four for only \$4! Go getcher red hot tickets fast!

This next Monday will be the day the real world celebrates George Washington's birthday. The real world will be closed. We will be open.

Silver on the Moon

The Flights of Apollo

by Bob Kieckhefer

Dr. Lee Silver, professor of geology, recounted his Apollo experience at Monday night's Earnest C. Watson Beckman lecture. His talk, "The Apollo Lunar Program—the End of Exploration and the Beginning of Science," reviewed the results of the Apollo explorations and speculated on the research now being started on the samples.

The lecture started with a 20-minute movie of the Apollo 17 flight, starting with the

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nighttime launch. En route to the moon, Dr. Jack Schmitt threatened to start a food riot, but luckily the thrown piece of food disappeared down Ron Evans' throat before Mission Control learned of the incident.

Useful Maps

Once on the moon, Schmitt and Gene Cernan were shown taping Silver's geologic maps in place as a rover fender, while Silver gleefully jumped up and down in "the back room" at the Manned Spacecraft Center. Finally, with rover tracks and geophysics stations clearly visible, the audience was shown an astronaut's-eye view of liftoff from the lunar surface.

Silver next reviewed the Apollo exploration, with emphasis on using lunar discoveries to help explain terrestrial phenomena, such as the occurrence of concentrated deposits of various ores and petroleum. Much of the moon is covered with material ejected from impact craters, giving each landing site a variety of samples.

Glass Spheres

The most notable discoveries include green glass spheres (Apollo 15), orange spheres of a different composition (Apollo 17's "orange soil"), plagioclase crystals of highly varying composition, rocks 4.1 billion years old (from the Apollo 16 landing site in the highlands, once thought to be young), and concentrations of lead in permanently-shadowed regions. Also important are discoveries about the sun's solar wind and behavior during solar storms.

The lunar data we now have gives a fairly complete picture of the moon's history before 3.2 billion years ago, but since then we have little information, while the reverse is true of terrestrial geology. Thus, concluded Dr. Silver, the earth-moon system may yield a fairly complete view of the evolution of a planet after more research has been done on

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Sliding Down Millikan



SECOND OF ALL, I want to ask you, Gene Shoemaker, just what kind of Geology field trip this is?

This Morning At 10

Brown Announces SF DSP

What if Caltech received 7.5 megabucks, or Jack Schmitt came back, or Dr. Andrew Ingersoll was able to argue with physicist Robert Dicke, faculae to faculae? Sheer fantasy, say you? Sheer truth!

The Fairchild Foundation has established the \$7.5 million Sherman Fairchild Distinguished Scholars Program at Caltech. The program will bring leading scholars, industrial executives, and government figures to Tech for at least the next ten years.

"This will be the outstanding university-connected distinguished-visitor program in the world," said President Harold Brown. "It will mean that at any given time we will have at Caltech 20 to 25 Fairchild Scholars. Eminent world leaders in various fields will be able to share their ideas with the Caltech community, influence research and teaching and, in turn, be influenced by it."

Besides Schmitt and Dicke, those already accepting invitations for the next few years include Nobel chemistry laureate Sir George Porter of the Royal Institution in London, and Astronomer Sir Fred Hoyle of the University of Manchester, England (a frequent visitor). The

A Massey ASCIT

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the history of the Social Chairman. At least one BOD member seemed to fall asleep due not to the presentation, but to the subject matter.

Aww, Gee

There is no graduation speaker for this year. There is also no student representative on the commencement committee that deals with such matters. Anyone wishing the job (not of speaker, but of being on the committee) should see Mike Mariani, especially someone who favors shortening the ceremony by the half hour that won't be used otherwise.

There was talk about reviving the Coffee hour, and great enthusiasm generated over having donuts and coke at the next and future ASCIT meetings.

The next meeting will be Tuesday at 4 in Winnett.

scholars are selected by Caltech and are invited for periods ranging from a few months to two years.

The Scholars will have opportunities to teach if they so choose. The program will give industrial leaders a rare opportunity to exchange ideas and views with the Caltech community.

Take that, Los Angeles Times!

Vote Yes on San Pasqual

by Eric Eichorn

In order to unify the campus and make movement between the north and south halves a great deal safer, the Caltech administration has decided to ask the City of Pasadena to close off San Pasqual Street from Chester to Wilson. Through traffic would thus be diverted to Del Mar and California Boulevards.

Before such a move can be undertaken, it is necessary to obtain the permission of the Pasadena Board of Directors (or the cooperation of the PHWH&RR). A meeting of the Planning Commission was held yesterday to consider the request by Caltech for vacation of the street, and to make a recommendation to the Board of Directors.

Caltech Presents

Caltech's presentation to the Planning Commission was made by Dr. Bill Corcoran, vice president for Institute relations, and Jim Black, director of public relations. They summarized for the full Commission the information which had been given to the Department of Public Works and the Public Land Use Committee of the Commission. The Committee, in earlier consideration of the request, concurred with the Department of Public Works that

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Brownies?!

The picture at the top of Page One is currently on display in Baxter Art Gallery. It is part of the exhibit "Twelve Painters of the Human Figure" which will continue through March 10.

THE CALTECH FORUM

Huttenback Replies!

I read the open letter of February 5 with interest and as Chairman of the Division of Humanities and Social Sciences I want to assure you that neither the Institute administration nor the Division entertains any intention of phasing out the language program at Caltech. I share with you the conviction that foreign language training and the study of literature other than that in English constitute important facets of an education in the Humanities.

It is indeed true that the full time staff in the language area will be cut to one person in each language we teach. We do, however, plan to continue to offer at least two years instruction in Russian, French, and German. Enrollments in advanced language classes have been very sparse in recent years. For instance, the enrollments for advanced German for the six terms covering 1970-1972 were 3, 3, 1, 2, 2, and 3. Comparable figures for French literature were 5, 3, 3, 2, 3, and 4; and for Russian literature, 0, 2, 2, 3, 3, and 3. It is worthy of note that when the division scheduled a course in Chinese last year the enterprise had to be cancelled due to lack of response.

Of all the Institute undergraduate options, only English and the various branches of Geology still maintain a language requirement. Chemistry and the options in Geology and Planetary Science are the only remaining areas of graduate study where the passage of a language examination is a necessary prerequisite for admission to candidacy for the Ph.D. degree.

It is because of these factors that it has become necessary to reduce the size of the language faculty in these times of financial stringency. Given the nature of the Institute and financial constraints, we must pick our areas of concentration with care. On

Is Caltech A University?

It is a little difficult to believe that the Institute is serious about cutting the foreign language program. They're having a little money problem, so they decide to eliminate three instructors from a department that would be killed by such a cut. It would be absurd for such a major school to offer only token one-year courses in three foreign languages. The powers that be are so fond of telling newcomers about the broad educational opportunities we have here. But now we find out that broad education is perhaps best taken care of by PCC. In one breath we are told that, small as the Institute may be, we are indeed a major University. And then it turns out that for art and music classes and for the year-abroad program, we must make our own arrangements with Oxy. So, Hell, we may as well throw the second year of language off campus too. Actually, I find it quite difficult to attack the reasons behind the proposed limiting of the language program, because I simply cannot conceive of what could possibly cause them to consider pulling such an absurd stunt.

And while we're on the subject, I suppose nothing can be done about past accidents of campus architecture, but shouldn't we be learning from these mistakes? As a campus tourguide, last week I was taking around two visitors who expressed discontent with such matters as Culbertson, Millikan, Throop, the increasing lack of the original Spanish architecture, and the new houses (which are

the other hand, I can assure you of our continued determination to offer an outstanding program in the Humanities and Social Sciences to all students at the California Institute of Technology.

- Robert A. Huttenback

Eucalyptus And Its Roots

While I profess to be no lover of concrete where grass will do just as well, I must protest an inaccuracy in Rene Gandolfi's letter (Caltech Forum, Feb. 8, 1973). Simply as a matter of aesthetics, the eucalyptus trees west of Throop had to go.

Eucalyptus trees have very sensitive root systems, and a major disturbance (such as demolishing a building behind them) will damage the roots irreparably. Had the trees remained, they would most likely have died. I think a new living tree is generally more aesthetic than an old dead one.

-Phil Neches

theoretically similar in appearance to the old ones). Then we spoke about the current style which dictates that Tech is to be liberated from its ivy and shaped into a new campus in that all-too-familiar, pre-packaged, plastic style of concrete, anti-septic lawns, and a few scattered saplings. How about a few more trees, less concrete and no more removal of ivy. Also fewer buildings like Steele. If you don't care about us, at least consider the impression made on visitors.

-Rob Olshan
O/C Fleming

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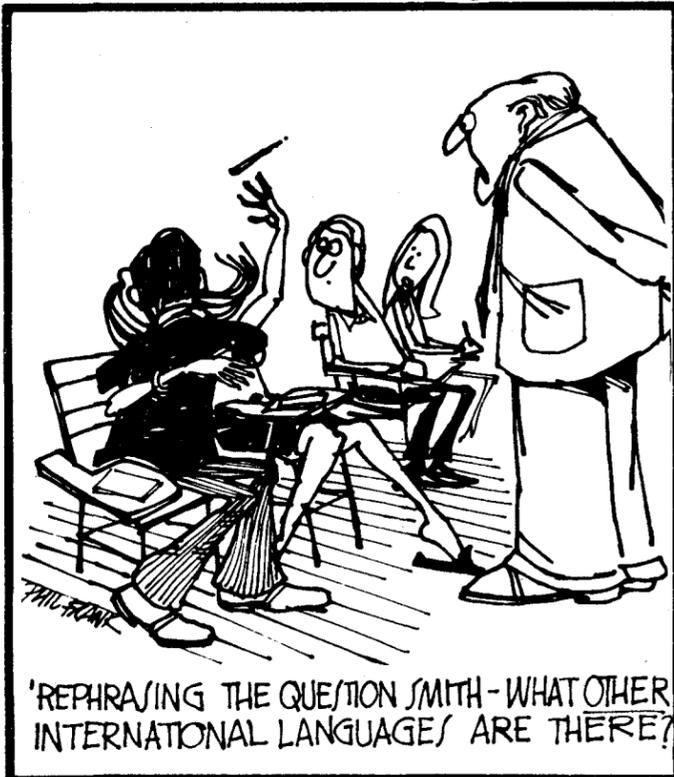
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FRANKLY SPEAKING

by Phil Frank



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THE ASCIT FRIDAY NIGHT MOVIE

2001

A SPACE ODYSSEY

This Friday in Ramo Auditorium
at 7:30 and 10:30 p.m.

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

NEXT WEEK:

LITTLE BIG MAN

Ingersoll's Great Red Spot

Jupiter's Great Red Spot — a mystery to astronomers since its first official "discovery" in 1957 — may be a hurricane-like vortex of hot air spiraling up through the planet's atmosphere.

That's a conclusion of Dr. Andrew P. Ingersoll, associate professor of planetary science. The view, formulated in the last year, represents the joint thinking of Ingersoll and other scientists.

Although the established history of Jupiter's Great Red Spot begins only in 1957, it may have been detected as early as 1664. Under constant observation since 1878, it has been found to vary greatly in color, form, intensity, and motion, oscillating with respect to longitude by about two percent of its own width.

Usually about 20,000 miles long and 8,000 miles wide, it has

varied from an intense brick red to a faint gray. Even when it has temporarily vanished from sight, its existence has been discernible by a hollow in the southern part of Jupiter's southern equatorial belt.

Non-Solid State

"Because of its long life, a lot of people have wanted to believe that the Great Red Spot is associated with a solid object floating in the atmosphere or a plateau attached to the planet's surface," Ingersoll said. "It bothers people to think of an atmospheric feature lasting for hundreds of years.

"But on Jupiter, weather features last that long. The reason may lie with the huge mass of Jupiter's atmosphere which is probably thousands of miles thick.

"The mass of the atmosphere below the banded clouds that we observe through a telescope acts like a flywheel — it tends to damp out any change. Any large

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No Pb Bricks In Synch Driveway!!!

by Dennis Mallonee

The Plymouth Valiant that currently resides in the Synchrotron driveway is what is affectionately known as the Campus Security Vehicle.

There exists a certain amount of confusion at Caltech about what the Security Vehicle does. We'd like to clear up that problem once and for all.

In the beginning, Caltech was a small institution, devoid of area. It was easily patrolled on foot. As the campus expanded, it became more difficult for Security to do an effective job. Thus, the Campus Security Vehicle, which patrols the perimeter of the campus.

The Security Vehicle carries first aid equipment, oxygen apparatus, blankets, and a security officer who carries an American Red Cross first aid certificate.

G&C For Clean Air

Project Offering Course

The Clean Air Car Project will be giving a special course in auto emissions next term. James Hen3ry, responsible for the bulk of the instructional chores, em-

The Vehicle and Nancy Anderson's electric buggy (also to be equipped with the same outfit) are the first and most important sources of first aid for Techers. There have been many times when an ambulance has been called for after an accident in the Student Houses and shown up late or not at all.

Which brings us to the point of all this. The Campus Security Vehicle is the fastest source of aid on campus. The Synchrotron driveway must be kept clear or it won't be able to get out. Remember, call Security (x1702) when you get zonked.

phasizes that students are going to look at the real world side of an engineering problem. In environmental areas, non-technical problems often prove to be far more difficult obstacles than the obvious technical ones.

The course is planned in a six unit (3-0-3) lecture-discussion format. It is hoped that outside speakers will be able to give additional insights into real world problems. One recommended optional assignment will involve going to an Air Resources Board meeting. There will be several written assignments which require technical information to be presented to various technically and non-technically oriented audiences.

No special background is needed and freshpeople are encouraged to take the course. The CACP will give brownie points for the class when hiring new project members for the summer.

To pre-register for the course, sign up for ME 100 with Dr. Fred Culick as instructor. More information can be obtained by calling James Hen3ry or John Batchelder at x2694 during the day or 793-6686 in the evening.

Chamber Music Club Wants Your Bod

If you play a musical instrument (especially a string), the Caltech Chamber Music Club wants you. Our purpose is to broaden the possibilities for music making. For those interested in small chamber ensembles, we have buying money for our music library.

For those interested in a chamber orchestra, we have one under the direction of Tony Templeton which meets Saturdays at 1:00 p.m. and Wednesdays at 9:00 p.m.

If you are interested in any way, call Klaus Englehardt, at 796-6881.

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CAMPUS INTERVIEWS

FEBRUARY 26

Contact College Placement Office to arrange interview appointment.

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P. E. G.

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than as something to be ashamed of.

Laurie: I think, too, it's a stripping of the roles we get into and continue to perpetuate. You expose yourself to a group of people without the safeguards they provide. You accept that "this is what I really am" and have a group of people accept this rather than some false role.

Steve W.: I think the important thing with me is that I'm becoming aware of the feelings I didn't know I had before. I'm learning to find out where I'm at—not just intellectually, but on an emotional level.

Ian: I particularly like the experience of trusting other people and seeing them more open than they can be in everyday life. I find it very satisfying to see people really trying to be honest and direct instead of playing games.

Laurie: The group provides security. If you're down you can call any member of the group for help. I can come to the group and say "this was a bad weekend," and the group will give support and comfort that you need so often but don't get from friends.

Steve E.: I find it very rewarding to relate to a bunch of people on a personal level. Previously, I had tried to relate at an intense personal level to one person at a time, but I found relating to a group of people another realm of experience entirely.

Chris: One thing that hasn't been mentioned is that this is a real "here and now" experience. We aren't here to talk about what has gone on before. We're really trying to get into what we feel about each other and try, as much as possible, to keep things within the group.

Tech: How does an actual

session operate?

Chris: There are usually about a dozen people in the group, including two facilitators. They've trained for about ten weeks by having group experiences and doing outside reading. They'll help the group go where it wants to go, but they won't lead it.

In the first session, everyone will sit down and get comfortable. The leader might just take a minute or two to say what he thinks about the group—then he'll shut up. It's up to the group to deal with what happens.

Steve: On the first day everyone starts to get in touch with what they're doing and how they're doing it.

Chris: And there is an initial defensiveness. Eleven people are watching and reacting to what you are doing, and you're pretty self-conscious. The opposite is also true. You'll be reacting to others. People will put out cautious little feelers; then, when the feelers are responded to, they'll often open up.

Jim: There tended to be a long silence until someone said, "HA!" Now, it's really neat. We have periods of silence, but they're nowhere near as tense as they were during the first few weeks.

John: The group creates its own experience. That's what makes it so intense. The things you talk about are things that would not have happened if you had not come together in the first place. It's kind of scary if you haven't done it before, because you feel that things are running away from you. But after a while you find that they almost always happens in the same way, and that you can be in a scary situation and come out O.K.

Steve E.: The discussion is often more coherent because we will often concentrate on one person's feelings for a while, or

on an interaction between two or three people. Everybody will get interested in relating to just a small number of people and working out their feelings.

Tech: Since most of the discussion centers around what people feel, don't you sometimes reach situations where people get upset?

Laurie: Yes, but that's O.K. It's good because in this group others feel good when someone gets mad. He's really showing what he's feeling.

Chris: Another point is that no one is required to do anything that he doesn't want to. There is no requirement of openness, no requirement to say bad things, and no requirement to stay in the room if people are saying bad things to you.

Tech: Do you find yourself more open to people in the outside world because of the group?

Laurie: Definitely, but there has to be an adjustment back and forth. In a lot of groups there is physical touching—here we're all over each other quite often—so you go out and meet a friend and throw your arms around him and he looks at you as if to say, "What in the Hell?" I leave the group with such a tremendous high that I'm in love with the world and the world isn't ready to receive all this love.

Steve W.: It often turns people off. I have to check myself because I'm trying to express too much of what I'm feeling, and people recoil from it.

Chris: I have had similar experiences, but now I can sense when someone is receptive to my openness so I now have a new capacity to be more open to others.

Steve E.: I found that many people outside the group cannot accept me when I'm open, but when I meet someone who is receptive, I'm glad that I had this experience with at least some people outside the group.

Steve 3: When I'm open with someone outside the group it often stimulates them to be open with me, too. There is a risk involved, but it usually pays off.

Tech: What is the purpose of a "Weekend"? What happens?

Steve E.: When a group gets together by itself for an entire weekend you don't lose the feeling of togetherness as you do between weekly meetings. You don't get into your old rut, so

the experience is a lot more rewarding and intense.

Chris: Having the meetings over several weeks allowed the group to evolve slowly. There wasn't all that trust and openness at first, and the "Weekend" was a climactic event where everything blossomed.

Ed: At the weekend I had an experience when I felt that I was breaking through to people. It was really tremendous and it carried through to the outside. People I had always considered assholes I now see as people I can like and care about.

Tech: Is physical contact important? Is it necessary?

Laurie: I love it and I don't care what anyone else says. It's one of my needs. Through physical contact I think that I can communicate just as much as the others. It's just another way.

Jim: I agree, touching is a good way of saying things that are hard to express in words.

Ian: I think that physical closeness comes very naturally with emotional closeness. The more trust you have for people, the more they can accept you for what you are, and the more natural it is to be close physically.

Chris: And it's important that nobody is forced to do anything. If you want to put your arm around somebody they have the choice of responding, being neutral, or telling you to move it.

Tech: What is a Microlab?

Ian: The original concept of the encounter group was labeled "The Laboratory in Human Relations," and the microlab was the label for the introductory session.

Here, everyone in the program will be involved in the initial meeting. We will be doing some structured exercises rather than just free interactions. Then, we'll break up the large group into the groups of ten that will retain their identities throughout the entire program.

Tech: Exactly how is this program going to be set up?

Ian: The program is ten weeks long. The initial Microlab will be in Winnett Lounge on February 21 at 7:30 p.m. We hope that

everybody who is going to be involved will have signed up the previous week so we'll know how many people there will be.

We will then break into groups that will have ten weekly meetings each lasting about two hours. Then, about the eighth week we'll all go away for a "Weekend."

Those interested should contact Walt, Wes, or Barbara at the "Y." The cost, including the "Weekend," is a meager fifteen dollars.

Tech: Is the group process worthwhile for normally adjusted people?

Laurie: This is not designed to be a therapy group, and everybody *should* be reasonably well-adjusted.

Chris: We're trained, to a degree, to look for people with serious problems and get them out of this group and into professional care. The group is designed for normal people capable of living their everyday lives, but who want a little more.

Ian: It's an enrichment process for those who wish to deepen their relationships and their ability to make friends. It's an excellent experience for anyone who feels lonely or isolated and who wishes to get closer to people.

Tech: Any closing comments?

Chris: I would just like to say that I felt normal and happy before I joined the group. Now, I find my life so much better that by comparison my existence before seemed somewhat empty.

Laurie: I think a warning should be issued that groups can be very addictive. Once you're in, you don't want to be out.

Ian: I've been involved in group programs for four years here at Caltech. Each year we've tried to get some assessment via questionnaire. Last year there were no negative comments, a few neutral ones, and an overwhelming preponderance of positive ones.

I feel that the single most important vehicle of change for many people has been the group experience. I'm really sold on the whole concept and I encourage any Techer to get involved.

Caltech Y

Elections Coming Up

by Dennis Mallonee

Tonight at 7:30 p.m. in Winnett Lounge, the Caltech Y will be sponsoring a videotape presentation of some of the neat things which go on in a Personal Exploration Group program. Student facilitators will be there to discuss and answer questions. On February 21, PEG will begin a series of meetings with an experimental overview of their whole program—also in Winnett Lounge.

Coming next Tuesday, Feb. 20, during lunch, the Y Lounge Discussion Series continues with Dr. James Bonner, professor of biology. Dr. Bonner will discuss the topic: "This Attraction to Biology by Physics Majors."

Y Elections

This year, all Y members will be asked to vote for President, Treasurer and six executive committee members. Nominations are open until February 28. Any

interested undergraduate or graduate students should contact Walt Meader or Wes Hershey at the Y. All Y members should receive a mail ballot around March 5. These should be completed and returned to the Y office by March 9.

NOW THRU FEB. 18
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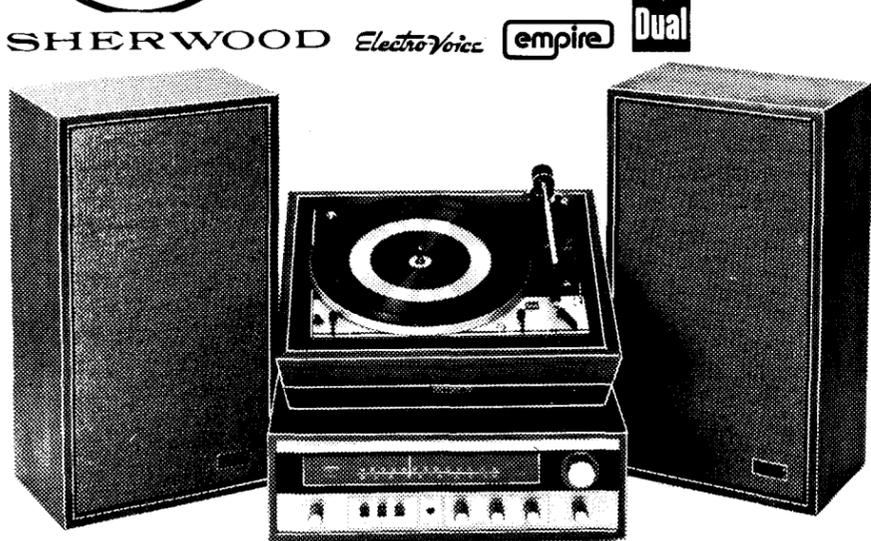
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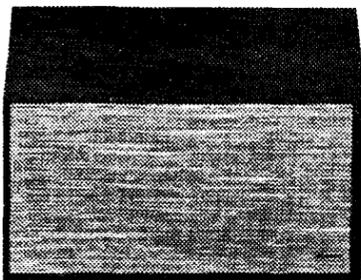
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Math Competition Open

The mathematics Department is pleased to announce two categories of prizes to be offered again this year to Caltech undergraduate students.

The E. T. Bell Undergraduate Mathematics Research Prize—A cash prize of \$150 awarded for the best original mathematics paper written by a Caltech junior or senior.

Contestants for the Bell prize must be nominated by a faculty member familiar with their work. Students who wish to be considered for this prize should contact a member of the Mathematics faculty prior to the end of the second term to inform him of the nature of the research. If this faculty member feels the entry is sufficiently worthy he will nominate the contestant and act as his sponsor. Each student is entitled to only one entry. Each contestant nominated must submit his paper in final form to his faculty sponsor by the end of the fourth week of the third term. A faculty committee will then judge the papers and announce its decision before the end of the third term. The committee may award duplicate prizes in case of more than one outstanding entry. The name of the winner (or winners) will appear in the commencement program.

The Morgan Ward Competition

Any Caltech freshman or sophomore may enter this contest. An entry may be individual (submitted by one student) or joint (submitted by a group of two or more students). Each student is entitled to at most three entries, of which at most two may be individual.

An entry is to consist of a mathematical problem, together with a solution or a significant contribution toward a solution. The problem may have any source, but this source should be stated in the entry. The entries will be judged on the basis of the nature of the problem and originality and elegance of the

solution. Any outside references used should be indicated. (The Honor System applies here.)

Entries from each contestant or group must be placed in an envelope and delivered to the Mathematics Office, 253 Sloan, during the fourth week of the third term. The name of the contestants must be written on the envelope *only* not on the entry. The Judging Committee will consist of three volunteers, approved by a vote of the Caltech Mathematics Club. Each judge must be a junior or senior and a member of the Mathematics Club. The judges will select a group of finalists and submit their entries to the Mathematics Department faculty who will make awards to the winners. Prizes will ordinarily be awarded for the two to four best entries, the value of each prize being \$25. Prizes for individual entries will be limited to at most one to a contestant, and no group may receive more than one prize.

Long Distance Telephone Rates

by Eric Eichorn

Students wishing to save money on long distance telephone calls should place them between the hours of 6 and 8 p.m. (starting at 5 p.m. for out of state calls). During these hours students may take the Caltech switchboard, making it possible for Techers to take simultaneous advantage of lower nighttime rates and lower Direct Distance Dialing rates. Calls placed during the day are charged at higher daytime rates, while calls placed after 8 p.m. are charged at operator assistance rates.

Since third term last year a team of student operators headed by Dave Peisner has kept the switchboard running after normal working hours. In addition to evenings, they work from 10 a.m. to 3 p.m. on Saturdays. At these times, as well as during the working day, dial 55 for long distance. At other times dial 53.

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Off Board Contract — End of the No More Sugar? Credit Card Ripoff

by Paul Harper

In an experimental program by the Master of Student Houses and his student advisory committee to cope with student dissatisfaction with board contract food, students in three houses are being permitted to discontinue food service use.

Under the plan, eight students from each of Blacker, Dabney, and Ricketts will be allowed to go off board contract. Modifications are now being made to one alley in each house, to accommodate the students' food desires, such as the addition of 220v outlets and new stoves. The cost of the kitchen conversion is from \$300 to \$400.

The selection of which houses were to participate in the program was basically dependent on lack of funds, according to student house master David Smith. Because of the design of the kitchenettes in the new houses, it would cost considerably more to adapt them to the complete food support of an alley than it would in the old houses.

Blacker and Dabney were originally chosen as the only two houses to take part in the trial program, on the basis of a survey that indicated that the number of people who desired to go off food service was small enough to involve only one alley. Ricketts was added when it was found that it already had an alley with a sufficiently equipped kitchen.

Red Spot

Continued from Page Three

disturbance in the visible cloud surface would have to drag along an atmosphere thousands of miles thick. So the cloud layers — and Jupiter's Great Red Spot — are locked into a pretty stationary pattern."

This new view of the Great Red Spot as a vortex of upward moving currents of hot air is based on the way air move around the outside of the spot. "The air around the spot is moving in an anticyclonic direction, counterclockwise in the southern hemisphere," Ingersoll said. "We can find an analogy in the earth's oceans. If you have a pocket of warm water in the ocean, the water is lighter at that place and it creates an upward bulge or dome on the surface. This in turn creates a high pressure region, which leads to anticyclonic circulation.

"The hurricane hypothesis also is supported by studies of the spot using infrared and ultraviolet light — studies which indicate that the tops of clouds are considerably higher over the red spot than at other places. The critical infrared observations were made by James A. West-

The Credit Card Evaluation Program concludes on March 8, 1973. A final written description of your work, as well as any equipment developed in connection therewith must be submitted at that time to TTI. Teams may, at their option, additionally make an oral presentation to the TTI technical staff. Such oral presentations will be limited to one hour and may be scheduled on March 9, 10 or 11, at 9, 10, 11, 1, 2, 3, 4, or 5 o'clock. Times for oral presentations will be assigned in the order in which requests are received.

In the event a team elects to make an oral presentation, it may defer the submission of its written description and its equipment until the time of its oral presentation.

Requests for oral presentations must be made by means of the postcards which have been sent to each team.

Happy Birthday

As the twelfth inning ends, the forces of God have moved to a nearly insurmountable lead in the Dabney-Page softball game. Stars for the leading team include the weathermen (no, not the SDS splinter group) and the grass roots.

To an impartial observer it appears that Bob Kieckhefer has made most of the errors that have contributed to the Almighty squad's lead. Second of all, what kind of a Ge 105 field trip is *this*?

phal, associate professor of planetary science, using the 200-inch telescope on Palomar Mountain.

Lab Space for Rent

Ingersoll explained that Jupiter as viewed through a telescope reveals nothing but a layer of clouds — clouds slowly shifting their patterns and moving at different velocities. "We don't know yet what the surface of Jupiter is like," he said. "In fact, no one has yet been able to establish that the planet has a solid surface."

"It is important to understand atmospheres on other planets because of the insight this knowledge gives into weather patterns on earth — questions like why the wind blows as hard as it does, for example, or why large storms on earth frequently have a circular structure with a characteristic dimension. Our neighboring planets can be valuable laboratories for testing and cross-checking theories of weather developed for use on our own planet.

"If our theories really explain atmospheric conditions on earth, then we should be able to apply the same theories to Jupiter, for example, and get an understanding of why its clouds are banded or why its atmospheric features last so long."



Foil Team Foiled Again

by Errol Brynne

With grit in their hearts and fire in their stomachs, Caltech's blazing broadswordsmen brayed their defiance Saturday to a pernicious pack of pikemen at UCSD in such multiferous and ferocious tones as would cause a plumed serpent to quail.

Nor was this the Beaver's first encounter with the anteater. In previous years Diego daggermen had gallumphed at intervals up to uffish Techer ticklers in aardvarkian temper in a mood to slay ("Look, Horatio! A fly! zot!").

Yet usually it was the enemy who fled southwards in defeat, crying for mercy and seeking the dubious protection of Operation Intercept.

Such is the stuff of legends.

Legends Debunked

Last Saturday the scores were: women's foil 7-2, men's foil 9-0, epee 9-0, and the glorious Caltech saber team 7-2. Unfortunately for the cause of truth and justice, the sevens and nines belonged to UCSD while the zeros and twos were Tech's.

Single victories were won by Katherine Delfosse, Janet Wainwright, Mark Puryear, and Darrel Peterson.

The Epee team, bolstered by the addition of Henry Lau, also consisted of Ken Wiener and Tim Ericson. They have improved greatly and tried hard but their coach said, "It was like sending puppy dogs against full grown wolverines. I couldn't watch."

The foil team, led by fencing captain Larry November, with Bob Cowan and Martin Lo, fell victim to brainwashing but promises vengeance. Next year they won't take showers before the match either.

Steve Mitchell also fenced Saber and Anne Clemmens fenced foil. Their matches were very close.

After being thrown off the team for behavior unfitting a gentleman, Dave Brin was relegated to coaching and giving the stirring pep talk. Which probably explains everything.

Janet Lansburgh
and John Towers

Get Well Soon

From Louise Hood
and the
California Tech Staff

Track Season Begins With Meet Against Occidental

Caltech opens the 1973 track season Saturday against the ever-strong and perennial conference champion, Oxy.

Al Kleinsasser will again be the leading Caltech middle distance competitor. Kleinsasser, last year's conference champion, who placed second in the District meet and narrowly missed qualifying for the NIAA National Championships, has already run a 4:23 mile this season. The holder of both the school 880 and mile records, he should lower them both below their present 1:52.2 and 4:19.4 levels. Tom Herman will also score points for the Beavers in the 880 and should show improved times.

Greg Griffin, Caltech's hard-working and dedicated distance runner, should break the school records in the 2-mile and 3-mile races while scoring points in the mile. Griffin, who had an outstanding cross-country season and competed in the National Championship, has been having excellent pre-season workouts and appears to be ready for an excellent season.

The intermediate hurdles will be a strong event for Caltech. Charlie Almquist, the school record holder at :54.9, is back for his senior year. Almquist, a tough runner and enthusiastic competitor, should lower that mark this year. He will also run the 120 high hurdles and in the 440 and mile relay teams.

In the 440 hurdles, Almquist will be pushed by sophomore Greg Hoyt. Hoyt, who holds the frosh record, looks much stronger and faster in workouts this year.

Flashy Haywood

The sprints will feature Haywood Robinson sporting his variety of caps and new Lee Evans hair style. Robinson, an outstanding athlete who finished a surprising third in the conference championships last year, is counted on for outstanding races at 100 and 200 yards. He will also compete on the 440-relay team and is seeking a spot in the mile relay.

Freshman Dave Webster, who finished second in the Interhouse 330, will run in the 440.

The field events may produce some surprises for the Beaver team. Larry Knuth, Caltech's assistant coach, has been working with a group of promising athletes.

Weight Events Stronger

Doug Herbert, back from last year's team, has been showing substantial improvement in both the discus and shot put. He has been throwing the discus in excess of 135 feet in practice, and looks much stronger with improved throwing techniques. Herbert's best in the shot last year was 40'7".

He will be joined by hard-working freshman, Brent Sweitzer, who threw the discus 123 feet in the Interhouse meet. Sweitzer also had a 44'5½" mark in the shot put, setting a new Interhouse record. Steve Bienz will be competing in the discus as well this year and promises to score points for the team.

The long jump and triple jump will miss Gary Stormo. Dave Webster has jumped close to nineteen feet this year. Robinson and Terry Mills will attempt the event as well.

The high jump should be improved over last year. Freshman Terry Mills has cleared six feet in practice this year and Brad Page has made 5'8". Mills and Page should record points for the team. Barry Cipra and Channon Price are competing in the pole vault for the Beavers.

Larry Knuth has joined Coach LaBrucherie as the assistant coach. After 24 years as football and track coach, LaBrucherie will retire at the end of the year.

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League Tennis Beginning Soon

The Caltech tennis squad is working out daily in preparation for the first league match at 3 p.m. on Tuesday, February 13, vs. Occidental on the Caltech courts.

At present the team lines up in singles as follows: Dave Dummit, Mo Nakatsui, Bruce Eisenhart, Dave Beatty, Greg Zima and Cliff Leong. Steve Grennan, Mike Iwaki and Gary Wakai, who are freshmen, and Ram Rao, junior transfer, and sophomore Roland Lee are battling for Varsity positions.

The doubles line-up includes Beatty-Dummit, Nakatsui-Eisenhart, and Leong-Iwaki.

As usual, we are looking for managers. Anyone who is interested should see Coach Lamb.

Tennis Bums

The Scott Tennis Tournament for the Caltech undergraduate championship will start March 19. Entries close March 16.

The tournament is open to all undergraduates who feel qualified. Entries should be given to Coach Lamb, who reserves the right to pass on the qualifications of the entrant.

San Pasqual

Continued from Page Two
the closure was acceptable if certain conditions relating to public utilities and easements were met, which Tech has agreed to.

The report of an independent traffic survey and consulting organization indicates that while closing this section of San Pasqual would cause an increase in traffic on Del Mar and California, it would still not exceed the capacities of these streets, even at rush hour. A study of pedestrian crossings on San Pasqual was also made, resulting in the calculation that over 2,000,000 crossings occur in a year.

Noble Opposition

Dr. James Noble, formerly a Tech professor, argued against the closing. He presented a letter from John Morrow, president of the San Pasqual Protective Association, a group purporting to represent the residents of the area. In it he claimed that it was not needed, and that local residents were opposed to it, since it would increase traffic congestion on the other streets they would be forced to use. He questioned the validity of the

traffic report, pointing out that it was not made by the city, but by a private company hired by Tech.

Noble conceded that a pedestrian problem of some degree might exist, but suggested that other methods of solving it be found, to wit: prohibiting parking on both sides of the street, forcing pedestrians to use the crosswalks, installing a crossing light like that on California, building an overhead crossing, or building an underground one. *[Or use steam tunnels -Ed.]* He said that a former City Engineer informed him that the other streets couldn't handle the load caused by the closing.

Now Wait a Minute . . .

A resident of San Pasqual then came forward and said that the Protective Association was a very loosely knit group, that this was the first he had heard that Morrow was president, and that he did not consider that it represented him. He stated that he, and many other residents of San Pasqual, were in favor of the closing because it would decrease traffic by their homes.

The Commission ended this segment of the meeting by voting (3-1-1) to recommend closure to the Board of Directors.

AHCUP

Modifications Proposed

by Paul Harper

The second open meeting of the Ad Hoc Committee on the Undergraduate Program is scheduled to be held tomorrow at 3 p.m. in the Millikan Board Room to discuss possible recommendations for changes in student life at Caltech.

The committee, which was formed as a direct result of the upcoming re-accreditation of Caltech, is planning to hold several weekly meetings at which five to six people present their ideas on modifying student life, and their proposals are discussed.

The speakers at the first meeting, held February 9, were Dr. Richard Dean from the math department, Drs. Richard Hertz and Robert Oliver from Humanities, Sharon Spivak of the independent studies option and Bob Coleman, newly elected Director of Academic Affairs.

Bio Majors Rejoice

Much of the discussion dealt with the future of the humanities department, flexibility with options, and the maturity and

fulfillment of a Techer within the present structure.

In his presentation, Dean proposed mild-to-far-reaching modifications, from the removal of blanket requirement of Ma 2 and Ph 2 to conversion of the undergraduate program to a two phase course of study culminating in a Master of Science degree.

Hertz spoke next on the necessity of a flexible, diverse curriculum to the academic and emotional rounding of the student.

Physical Scientists Snobs?

Spivak urged the broadening of options offered in areas such as anthropology, psychology, philosophy and linguistics, and decried physical sciences snobbery.

Oliver and Coleman concerned themselves chiefly with the humanities department, the decreased relevance of it, and the difficulty in obtaining humanities credit for fine arts courses.

Apollo

Continued from Page One

the Apollo samples. This will doubtlessly be modified when the Mars data comes in, but now the scientific effort is to explain Dr. Gerald Wasserburg's "Magic Component" of lunar history.

Dr. Silver's lecture concluded with a short movie of the back side of the moon and Jack Schmitt's comment, "Not many people have seen the back side of the moon, but it's a trend I think will continue." When will we go back?

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Please take action to save the Youth Fares and Discount Fares which have recently been abolished by the Civil Aeronautics Board.

I would appreciate it if you would also write the CAB and request that they delay enforcement of this decision until Congress has an opportunity to act on this important question.

Some 5-million students traveled using this discount fare in the past year. This contributed over \$400-million to cover fixed costs of the airlines. These carriers can be presumed to have a full grasp of the marketing considerations involved and are, at least, as interested as the CAB in dropping any useless discount fares. Yet, an overwhelming majority of the airlines who participated in the CAB investigation are in favor of these fares.

Millions of students have purchased their Youth Fare identification cards with the belief that the cards would be valid until their 22nd birthday. Now the cards are being abruptly cut off by the CAB's decision.

As one of millions of young voters, I respectfully request that you act to pass legislation that will allow the CAB to discriminate on the basis of age by keeping Youth Fares. I will be anxiously awaiting the results of the coming legislation concerning this matter.

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<i>Thursday, February 15</i>			
<i>Friday, February 16</i>			
12:30 p.m.	Golf	Qualifying Round	at Brookside
4:00 p.m.	Swimming	Redlands	Away
<i>Saturday, February 17</i>			
All Day	Wrestling	SCIAC Tournament	at Claremont--Mudd
1:00 p.m.	Fencing	UC Irvine & Cal State Fullerton	at CSF
1:30 p.m.	Track	Occidental	Away
1:30 p.m.	Varsity Tennis	Redlands	Away
1:30 p.m.	JV Tennis	Redlands	Home
6:30 p.m.	JV Basketball	Whittier	Home
8:15 p.m.	Varsity Basketball	Whittier	Home
<i>Tuesday, February 20</i>			
3:00 p.m.	Varsity Tennis	Whittier	Home
3:00 p.m.	JV Tennis	Whittier	Away
<i>Wednesday, February 21</i>			
4:00 p.m.	Swimming	Santa Ana JC	Away
6:30 p.m.	JV Basketball	La Verne	Away
8:15 p.m.	Varsity Basketball	La Verne	Away
<i>Thursday, February 22</i>			
All Day	Varsity Tennis	Southern California Intercollegiate	Championships
<i>Friday, February 23</i>			
All Day	Varsity Tennis	Southern California Intercollegiate	Championships
12:30 p.m.	Golf	Occidental	at Brookside
4:00 p.m.	Swimming	Pomona--Pitzer	Home
6:30 p.m.	JV Basketball	Pacific Christian	Home
8:15 p.m.	Varsity Basketball	Pacific Christian	Home
<i>Saturday, February 24</i>			
All Day	Varsity Tennis	Southern California Intercollegiate	Championships
All Day	Wrestling	NAIA District 3 Tournament	at Whittier
1:00 p.m.	Fencing	CSUSD & CSULB	Home
1:30 p.m.	Track	Claremont--Mudd	Home
1:30 p.m.	Varsity Tennis	Claremont--Mudd	Home
1:30 p.m.	JV Tennis	Claremont--Mudd	Away
6:30 p.m.	JV Basketball	Claremont--Mudd	Away

Swimming

Sports Editor Clinches Big Win!

by I. M. Wett

Tech swimmers scored their second dual-meet victory of the season last Friday with a 64-39 win over Chapman College. Techers won 8 of the 13 events, sweeping first and second places in three of them.

Jim Rowson opened the meet with a win in the one-meter diving before the Chapman team arrived at Tech. (They arrived after the meet had been scheduled to start, and since Tech had been told they would not be bringing a diver, the referee started the meet without them.)

Medley Relay Team Wins

Chapman's team arrived before the next event, but they still failed to get on the scoreboard when Tech's medley relay team of Howard Bubb, Max Kay, Dave Clark, and Steve Bitondo put together a winning effort.

Chapman finally narrowed the score to 15-5 with a victory in the 1000-yard freestyle; Bob Kieckhefer placed second for Tech. Bubb easily won the 200-yard freestyle and soon after this, Bob Miller came in a close second in the 50-yard freestyle, giving Tech a 23-15 lead.

Tech then swept its first event

of the afternoon, as Tom Stoughton and Max Kay placed first and second in the 200-yard individual medley. This was followed by Rowson's victory off the three-meter board, giving Tech a 36-16 lead.

Clark and Stoughton followed this with second and third places in the 200-yard butterfly. Bitondo and Ron Horn swept the 100-yard freestyle and Bubb won the 200-yard backstroke, giving Tech a 27-point lead.

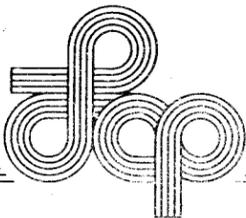
Kieckhefer Clinches Victory

Kieckhefer's second place in the 500-yard freestyle clinched the meet victory for Tech, but this fact did not slow up Kay and Bitondo, who swept the 200-yard breaststroke for Tech's last win of the night. Chapman's freestyle relay victory made the final score respectable.

Some exciting swimming meets will probably be held in the next eight days, recalling that last year's meets between Tech and the three upcoming opponents were not decided until the last relay. Tomorrow the swimmers will go to Redlands to try to break the *n*-year jinx they have had in the 33-yard pool.

Next week's busy schedule includes a meet Wednesday at Santa Ana JC, which last week served as the home-away-from-home for the Olympic champion Russian water polo team. Next Friday, Pomona-Pitzer will be here for another close meet.

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- March 1**
JOSEPH SILVERSTEIN, guest conductor and violin
MICHELE ZUKOVSKY, clarinet
Haydn: Violin Concerto No. 1
Mozart: Clarinet Concerto
Prokofieff: Symphony No. 6
- March 22**
LAWRENCE FOSTER, guest conductor
JAMES FIELDS, piano; GLENN DICTEROW, violin; NATHANIEL ROSEN, cello; SHEILA ARMSTRONG, soprano; LAURENCE HARVEY, narrator
Beethoven: Triple Concerto
Beethoven: Scenes from Egmont
- March 29**
ZUBIN MEHTA conducting
ROGER WOODWARD, piano and harpsichord
Brahms: Symphony No. 3
Bach: Harpsichord Concerto in D minor
Xenakis: Eonta
Liszt: Totentanz

- April 12**
ZUBIN MEHTA conducting
TEIKO MAHASHI, violin
Mozart: Symphony No. 32
Prokofieff: Violin Concerto No. 1
Nordheim: Greening for Orchestra (World Premiere)
Mozart: Symphony No. 41 ("Jupiter")

FRIDAYS AT 8:30 P.M.

- (except Wednesday, March 21)
Your ticket to the Philharmonic's Friday night sampler entitles you to attend a Friday Night Special from 7 to 7:45 p.m. prior to each of your concerts.
- March 9**
ALDO CECCATO, guest conductor
STEPHEN KATES, cello
Shostakovich: Cello Concerto No. 1
Liszt: A Faust Symphony

- March 21 (Wednesday)**
same program and artists as March 22
- April 13**
same program and artists as April 12
- April 20**
ZUBIN MEHTA conducting
RADU LUPU, piano
Beethoven: Piano Concerto No. 4
Mahler: Symphony No. 6

SUNDAYS AT 3 P.M.

- March 4**
same program and artists as March 1
- March 11**
same program and artists as March 9
- April 1**
same program and artists as March 29
- April 15**
same program and artists as April 12
- Programs and artists subject to change



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