

—Photo by Dash

Whatzit? An ARC "Education Happening," of course!

Grad Council Elects Officers, Reorganizes

by Bob Patenaude

The Graduate Student Council met last Tuesday evening in order to elect new officers and chairmen of all committees. This followed elections held the second week of the term in each of the graduate departments of Caltech to choose the 23 representatives that sit on the Council. Dick Nielsen, a graduate in mechanical engineering, was elected Chairman of the Council after chairing the Faculty Communication Committee of the Council, and sitting on the faculty's Academic Policies Committee for the past year. The new Vice-Chairman is Bob Patenaude, a graduate in mathematics. The Secretary is now George Purcell of the Astronomy Department, and the Treasurer is Jay Wiley of the Civil Engineering Department.

ment.

Most work in the Council is done by committees. The Social Committee is chaired by Mike Wilson, the Athletic Committee by John Wilson, the Judicial Committee by Jim Pearson, the Faculty Communication Committee by Steve Murray, the Undergraduate Communication Committee by Bob Rohwer, and the Grievance Committee by Jim Pearson. Bylaws are being drafted by a temporary committee headed by Bob Patenaude, and new student orientation will be headed by George Purcell.

At this meeting and at a meeting held the previous week, the Council heard reports on the progress of each committee. The Social Committee reported on the TGIF held with undergraduates

(Continued on page 5)

Big Gee

Anything Grows At Physical Plant

by John Healy

When you hear "B and G," what do you think of? Rarely indeed does a student think of "Terry" Suber, director of Physical Plant.

Mr. Suber, how have you changed Physical Plant since you became director?

"Physical Plant was a less formal organization. There wasn't such a thing as a staff-concept. So first of all I had to look over the staff, and then I came up with a staff-concept. If you can imagine, these men had never worked in this concept before. Then I had to go out into the shops, and I literally had to fire a number of old supervisors there. And this isn't easy to do." No longer can a director know every man individually and hire them personally. There were also budget structure changes. "Much work was still being done when I came here by word-of-mouth. So another thing I inaugurated was no work order, no service ticket—no work." In regards to Interhouse Dance repairs, no work is now done without previously announcing it and the cost.

Are you aware of the students' attitudes toward Physical Plant?

"Yes. You're the first one that has ever come over here to talk to me on this. I've had a number of dealings with a number of students that have been on a project here or there. I've never had any complaints from them on anything I've ever done with them."

Why do you think a lot of students dislike Physical Plant?

"First of all they don't understand, and they don't recognize all the problems. And I look at it as there are a few feeling this way. I'm not about to say this is the feeling of the student body, because I've met too many students and . . . have had very good relations with them. My door has always been open, and if this isn't working let me know about it."

"I am familiar with some of the incidents that occur that may sound stupid to somebody. But frequently when I get right on out to the man and talk to him . . . I come to find out it's a different picture entirely."

How in general do you feel towards the men under your supervision? Are they just people that occasionally make mistakes?

"We have almost three hundred people here. We cover a variety of things. I mean you name it,

All Fantasies Encouraged

School Meeting Gathers Ideas

By Kevin Savage and
Jeff Hecht

This weekend the Education Project of the ASCIT Research Center held a conference on campus. Attendance was about 325 teachers and college age students from schools in the area plus a large group of people who ran workshops and seminars on innovative techniques in education. The project had planned for an attendance of about 500, and falling short of this figure was a slight disappointment in a rather successful program.

Late as usual

The organization of the conference was a little rough around the edges, showing the student lack of experience in running such affairs. However, the fact that this conference was run by people who have not yet become part of the educational mill resulted in a conference that was

interesting and alive for most of its participants. The day began early Saturday with registration from 8 to 10. As is normal for conferences of this type, the seminars were a half hour late getting started, and the staff didn't completely catch up in administrative details until the first workshops were underway. Most of the participants didn't notice, however, as the workshops were smoothly run by some of the most innovative and exciting educational groups in the U.S.

Saturday Session

The Saturday session was a potpourri of these latest developments in education. With 45 different workshops to choose from and a maximum of seven that could be attended by any one person, one had to be very selective. The topics ranged from "Evoking creativity in storywriting" by Collingwood August, of

Herbert Kohl's group in Berkeley, to demonstration workshops in psychodrama and expression, given by Bill McGaw from Western Behavioral Sciences Institute; to demonstrations of Discovery oriented teaching of science thru direct experiment; to the use of films and other media by children as tools for the learning process; to many and varied other ideas including the development of courses in political science and other areas that would be conducted using gaming techniques such as those used in the PME at Caltech.

Outside Help

Some of the most fascinating workshops were given by Jim Black, a graduate student in Education at the University of Massachusetts. These included a workshop on alternative student-teacher-relationships and investigation of techniques which would serve to break the images of teachers as invincible authorities and students as reluctant sheep. Jim Black arrived about a week before the conference to join the staff in planning and organizing the conference. His presence and the contributions he made had the single most profound affect on the students working on the project. His manner was easy, and he had the ability to encourage individuals to become enthusiastic about their own projects rather than overly critical to the point that they might censor their idea as impractical before the idea was fully developed. Jim would, on hearing some of the ideas of the Education group, be able to produce several ideas on related and unrelated topics that were triggered by the original set of ideas.

Caltech Lab School

The structure of the task groups, which were the working units of the conference on Sunday, was developed by Jim Black, Newton Margulles (of TRW Systems), and a small part of the Project Staff. These units were given the responsibility of developing several concrete ideas

(Continued on page 4)

Tokes, Laico Propose Caltech Overseas Studies

Zoltan A. Tokes, R.A.
Fleming House
Dr. Terry Laico,

Postdoctoral Fellow, Biology

Teckers are ready to pack up and go to just about any corners of the world—at least this is what a recent survey indicates.

As a result of a growing concern toward the kind of educational experience students receive, we spent hours trying to find out what is unique to our new undergraduates. In a matter of ten years an entirely new

generation has invaded the universities, with a noticeably different attitude, motivation and emotional constitution. Some of the characteristics of students in the late sixties are related to an increasing involvement in the problems of their society, and a growing concern for international affairs. Current educational institutes will have to take this into very serious consideration, if they are to meet the desires of this new generation. A large number of our undergraduates are currently involved in a dialogue with the faculty, to find out how our education can be kept up to date. No one should expect snap answers. The concern of students and faculty, however, serve as an assurance that the challenge of an outstanding and broad educational experience will prevail in the future. There are numerous ideas, floating in almost as many faculty and student committees, that are concerned with continuous change in our academic policies.

Study Abroad

The ideas of studying abroad, as an answer to opening up the educational horizon, is something we felt should have some priority and should be considered in the immediate future. However we had no clear idea on how the student body felt about this issue. We have designed a rough and rather preliminary questionnaire to assess the students reactions. After circulating the forms in all seven undergraduate houses, the results of the 324 completed forms were compiled with the help of the following students: J. Jacky, K. Mitchell, L. Moss, L. Optican, E. Sovero, M. Teener, and M. Turner.

Large Support

The returns clearly indicated that students feel very strongly in favor of seriously considering an overseas study program. About 95% expressed the feeling that Caltech could give a broader edu-

(Continued on page 3)

(Continued on page 4)

What Do You Do With A HOT BOD?

Cool her down at the POOL PARTY-PARTY, obviously. We'll start grilling our steaks at 6:00 p.m., Saturday, May 3, out by the Swimming Pool. A band will start playing at 7:30 for dancing and swimming. Refreshments will be served.

Sign up for the dinner with your House Social Chairman or see Bill Bradley in Rm. 8 Fleming if you live on campus.

Editorial

Getting It at Last

For the first two terms of this academic year, the social program of the Associated Students was weak, if not really non-existent, and never organized. This week the **TECH** has something good to say about the social program. It exists; It not only exists but it thrives. Thanks to the untiring (hopefully) efforts of Social Chairman Bill Bradley, the weekends on the Caltech campus are no longer dull except for the ceaseless over volume streaming from House stereos. Bradley has provided parties which have been successes, and outdid himself Saturday in the participation he aroused in the Beckman Auditorium appearance of the very talented **Baker Street Irregulars**. It should be noted that participation was wholehearted and large and that the event came very close to breaking even financially, a condition almost unheard of among disorganized Techers. Keep up the good work, Bill!

Ira D. Moskatel
Craig L. Sarazin

The Right View

Welfare And The Poor

by Jeff Ochsner

The existence of a welfare system in modern America must at best be considered a necessary evil. Originally conceived of as a short term program for the depression, welfare has become a permanent part of the American way of life. Almost all would agree, however, that the present welfare system is not working. Supposedly a constructive program, this system has become more and more destructive. Clearly, it has gotten out of hand. As an example, in New York City one out of eight people is now on welfare. Perhaps the best solution would be to eliminate it entirely, but this is impossible. A total restructuring of the system is, nevertheless, in order.

First, it is important to recognize who is poor. A poor family (four persons) according to standards of the Social Security Administration, is one with an annual income less than \$3,300 (in 1967). By such standards, 90% of all Americans were poor in 1900, 50% were poor in 1920, 20% in 1962 and 11% in 1967. This last figure amounted to 5.3 million families out of 49.8 million. At this rate, there would be no poor by 1987. However, it should be clear that poverty will not disappear; poverty is merely a social evaluation of people's purchasing power. Any family with an income 2/3 below that of the average middle class family could be classed as poor. Thus, as the average middle class income rises, so, too, will the poverty line.

It is notable that the 11% of American poor live better than 60% of the families in the Soviet Union. The purchasing of the average American Negro, while lower than that of American whites, is ten times that of his African contemporaries (or about equal to that of the average French or Italian citizen).

Further, the existence of a vast poverty bureaucracy, the Poverty Program, with a vested interest in the poor, will not really attempt to eliminate poverty. If the poor were to disappear the clientele of these programs would vanish. Then, the bureaucrats would lose their jobs.

Additionally, the last 11% will be harder to eliminate by their very nature. Many of the poor are handicapped, aged or unemployable (disabled). The mobile poor, graphically represented by the "Oakies" and "Arkies" of the 30's are no longer with us. According to poverty figures in 1967 there were 5.3 million poor families or 25.9 million poor persons. Of these families, 25% have heads over 65 years of age and another 22% are headed by women. The remaining 53% have family heads who are incapable of earning an adequate income. Notably, 1/3 of all poor families are non-white. 15% of the poor families have more than four children. Finally, 40% of all poor persons are under 18 years of age.

The present welfare system tends to militate against the poor helping themselves. A restructured program must change this. Perhaps the welfare system should have three major goals. First, it should provide for the permanently unemployed—the aged and the disabled. It would be advantageous to reduce this number where possible. Second, it should persuade poor families to have fewer children. Third, it should help poor workers by aiding skill improvement and providing incentive to seek higher wages (which the present system opposes).

Ideally, a new system might incorporate the following proposals: 1) It should make it easier for the poor to have fewer children, both by providing contraceptives and rewarding smaller families. 2) It should provide subsidies for old people along the lines of Milton Friedman's negative income tax. 3) It should incorporate a negative income tax for the poor unemployed. 4) It should provide some subsidies to the idle but employable who would earn too little if they accepted jobs at market wages. 5) It would incorporate a system of minimum wage law exemptions for unemployed adolescents (mainly non-white) so as to enable them to find jobs. 6) All present programs should be eliminated.

President Nixon is contemplating a massive revision of the present poverty system. Hopefully, his proposals will flow along some of these lines.

Ed. Note—This is a good example of an interested student writing his opinion in to the **TECH. We suspect there are some viewpoints opposing the above. We invite you, the reader, to submit columns for publication on a guest basis. The **TECH** will print all articles of timely issue, limited by available space and exercise no editorial censorship on text except in cases of possible libel or extremely bad taste.**

"Recorded Live At Caltech"

BSI: Warmth & Relevance, Commercially

by Alan Lederman

Every year the Pasadena Ice House selects from the young groups that have performed there the group that it considers to have the greatest potential. Previously such performers as The Association and Pat Paulsen have been selected. This year the Ice House chose the Baker Street Irregulars, and with good reason.

At their Beckman concert, BSI displayed an unusual amount of both creative and vocal talent. Mike Smith, leader of BSI, writes about ninety per cent of the group's material, the rest being drawn from other artists. His style is very collegiate, designed to appeal to today's sophisticated young people. He was very successful, judging from the reaction of the audience. The group won the respect of the audience by their introductory remarks

and jokes preceding each song, revealing them to be more mature than the typical adolescent rock groups now in vogue. The BSI personality is that of a very warm, congenial and frankly relevant group.

The best song of the evening was "Join The Klan," a recruiting song for the Ku Klux Klan which had just the right balance between sarcasm and humor.

Also impressive was "Crucifixion," done originally by Phil Ochs. The fact that this song was well done indicates the group has the potential for delving into serious folk.

Better, but

Those of us who attended the previous concert in Fleming House last term noticed the group was both more confident and more professional in Beck-

man. Perhaps this is because BSI, who were uncertain of their commercial status at the time of their previous concert, now have signed a contract with Decca records. A group can sell either its publishing rights, its recording rights, or both. The publishing rights entitle the owner to use of the group's original material; the recording rights entitle the company to produce and market the group's records. BSI is a very fertile group. Mike Smith writes an average of one song a week, and although not all are satisfactory, the ideas in one song can be used in another song. It is clearly advantageous, then, for BSI to keep their material as their own property, for the fact is if they were to sell their publishing rights, they might be reduced to becoming writers for a more popular artist. Decca offered to produce BSI records without publishing. Recording is proceeding now; the first release should be within two months.

But those of us who were at Fleming also noticed there was little new material in the Beckman concert and that new material was weaker than the staples; a disturbing trend. Moreover, if one deletes the group's personality and listens to them perform critically, they are certainly not among the finest. This is not to say that Barbara Smith is anything less than great, but more than a vocalist is needed to carry a group. If the group is to be a success commercially, it must incorporate its warmth and relevance into its album. I think this could be done by leaving the introductory remarks preceding each song on the album; in fact, recording live in a friendly audience would be best. I therefore suggest their first album be "Baker Street Irregulars; recorded live at Caltech!"

ROTC Visits Edwards AFB

by Goodman

Last Friday, Caltech's detachment of Air Force Reserve Officer Training Corps (AFROTC) and applicants for the program took a trip to Edwards Air Force Base, led by Capt. Donald Woodman, assistant professor of aerospace studies.

The tour began at the Rocket Propulsion Laboratory, where engines and fuels are tested for the Air Force and NASA. The chemistry lab conducts studies in crystallography, NMR, and combustion analysis. Also seen were facilities for solid propellant synthesis and testing, which is fully automated; flame shape analysis; and actual test firing of complete engines.

We'll take that one

The visitors also saw the NASA headquarters at the base, as well as the Test Pilot School, where all pilots of experimental aircraft receive their training. At the base is the Air Force Flight Test Center, home of the X-1, X-15, and wingless "lifting bodies."

The detachment conducts the two-year AFROTC program, leading to a commission as a second lieutenant and four years of active duty in flying and/or research and engineering. More information is available from AFROTC, ext. 2391.

Notice

FRIENDS OF BIAFRA CLUB,

Caltech Branch, is having its first organizational meeting at the Y Lounge, today at 12:30. It is essential for those interested in Biafra and its struggle to attend this initial meeting, and for that reason, your presence would be appreciated.

APPOINTIVE OFFICES

Apply to Hornbuckle or your Secretariat member if you want to get in on the G. & C.

COVERT

I am alive and well and living in the Fiji Islands. Am sending memoirs.

Love and kisses,
Spiro T.

BE COUNTED

If you haven't already filled out your Tech Record Poll, you may do so in Louise Hood's office in Winnett. Results will appear in next week's Tech.

RAPID CLUB MEETING

7:30 p.m., Tues., April 29, Clubroom one — elections and what to do with auction funds.

ROTC

Is not the real-life equivalent of the PME. You might get shot down.

ELECTIONS AGAIN!

If anyone would like to help prevent a rerun of second-term's officer-election-type fiasco, please see me before next Thursday at 23 Dabney House. Levin

Letters

Editors:

Our eyes with emotion were blurred to

Read the masthead on which we're referred to,

But we'll quit overnight
If you don't spell us right.

Regards,
T. Apostol, E. Shrdlu

Letters

Keller Warns:
"To Thine Own
Self Be True"

Seniors:

You are responsible and wholly responsible for the men you kill or help to kill. The Bible says, "Thou shall not kill." I don't speak as a religious dictate (sic), but I do say that when you kill another man, YOU kill him. You can not pass the responsibility to some one who ordered you. If you are a free man you cannot kill another but of your own volition.

You are young males of fighting age living in North America in 1969. There are many great and awe inspiring institutions and people on this continent and if you love them I believe you should be willing to donate your life and entire energy to their salvation when imperiled. But when a group of might crazy generals and river polluting, foreign land profiteering industrialists who have managed to gain control of much of what has degenerated out of the government of the Home of The Brave and the Land of The Free orders you to do their killing, will you kill? I am no protester, and this is not the propaganda of pacifism, upon whose merits I do not comment here. This is the real nitty gritty and I'm talking to you.

"This above all, and to thine own self be true, for it must therefore follow as the night the day, thou canst not then be false to any man." (sic)

Barry Keller

California Tech

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Gold Fever II

Pravda On U.S. Economy

The following is a continuation of a translation by William Devreaux of an article entitled "Gold Fever" appearing in the March 25, 1969 issue of "Pravda". These extracts deal primarily with the U. S. economy as seen through a Russian's eyes and as Soviet authorities permit it to be depicted to the people of the Soviet Union. The range and diversity of sources utilized by the author is particularly interesting.

by Yuri Zhukov

In his last economic report sent to Congress 15 January 1969 President Johnson noted with satisfaction that for the last five years the profits of corporations increased 50 percent. The owners of the monopolies, thus, profited quite well from the war. Their profits really increase "like pumpkins in the night," if the expression of the California historian, Bruce, is used. But how costly? The military-industrial complex made a sacrifice of both the plans for creating the notorious "great society" and the gold supply of the USA (according to the data of the Federal Reserve Eystem on 28 February, the American supply of currency in January again decreased by 256 million dollars, and the gold supply as reduced to 10,828 million!).

The USA is seeking to compensate for its expenditure on the war in Vietnam by an increase in taxes on the people and strengthening the extraction of excess profits from their foreign capital investment. I read in "The New York Times" that a return of 6,017 million dollars was obtained from investment of American capital outside the borders in 1967, of which 4.52 billion of this sum was taken into the USA.

But for all that the economy and finances of the country are testing the enormous effort. Inflation literally ravages the ordinary American — prices rise without restraint. And ahead of him there is no hope. As was carefully noted in the February issue of the situation bulletin of the "Chase Manhattan Bank," the year 1969 will be for the American economy "a year of testinfi." And a writer for the Associated

Press expressed the opinion, "in 1969 the American economy will be overheated. The war influence, with which President Johnson could not cope in 1968, will remain a governing factor on the economic front . . . The year will be difficult."

But what about this self-perpetuation of monopolies? They draw for themselves the single conclusion: so it pays to always act aggressively, giving no quarter to a competitor. As in the time of the memorable gold fever in California!

Yes, the spirit of the gold fever is not dead in this land. Only the scale is changing. One hundred years ago two bearded men were fighting, grappling on the bank of some gold-bearing stream. Nowadays gigantic corporations choke each other, bossing millions.

Things are never solid and stable in this world. Today you are god and king, and tomorrow you fall down to the ground and are stomped by the feet of competitors. For how long a time had the company "Douglas Aircraft" had a reputation of invulnerability? But just in May of 1967 the towering corporation "McDonnell" from St. Louis (state of Missouri) swallowed it, and now on the business scene a new, still more powerful aerospace empire emerges, "McDonnell Douglas Corporation."

It is interesting to note the contradictions which can creep from behind even ingeniously devised official facades. Like Potemkin's villages, these artifices can deceive even highly intelligent, but uninformed, individuals who do not examine their substance in depth. Whether many Soviet citizens view with such disapprobation the "costly . . . sacrifice made" by the U. S. "military-industrial complex," without hothering to examine the vastly greater relative role of military activities in Soviet life, is doubtful. Or, put another way, all of the people can be fooled some of the time; and some of the people can be fooled all of the time; but all of the people can't be fooled all of the time.

Physical Planter Suber . . .

(Continued from page 1)
technicians we were getting fifteen years, even ten years ago. We're trying to train our own. The quality of the men to do this work is moving down—this is in the shop area.'

Do you think this is why we might have occasional problems in the student houses?

"I would say this has a lot to do with it. It depends on which man gets over there. I think what you're talking about is in some of our emergency calls. That's another subject.

"We're geared to work in the normal work day. When I came here our men quit work at four, and if you had an emergency at 4:30 you almost could not get a man. And most of the men don't live in this area. So you have to get them back. There's laws about overtime . . . and it's not always the money that they come back for. Frankly I've been amazed at how well they have come back.

"Also our heating plant closed down at night. And basically a few years ago you could try to get somebody at seven or midnight, and it was almost impossible. We've now got a radio paging system. And I have hired men that are on duty here from four in the afternoon to eight in the morning, Saturdays, Sundays, and holidays.

"I have found a good sort of all around man that is willing to work at night. He is the type of man that we want to be familiar with the campus. Now we can at least call to an easy place (ext. 1717). The operator will take the call down and get on the radio and call the service mechanic. He'll size up the situation. If it's something he can do, he'll quickly do it; if not, he at least knows who to call.'

He isn't always trained in the specific thing that goes wrong.

"He's not supposed to be. One of our better men is a custodian. He's there to size up the problem."

Remember when the central plant went out on Christmas morning (3 a.m.)? "We lost our electrical transformers. Steam went down, air went off, etc. By three o'clock in the afternoon we had that plant back on the line. You just ought to sit there

at seven in the morning and hear the men come in and call, 'honey, go ahead and have the kids open their packages—I'm not going to make it home,' and to see the way those men work . . . It's hard work to close things down and open it back up. You can imagine what would happen in Booth if we shut down too long. I can also remember when a couple of years ago ver Thanksgiving we had a fire in Ricketts.

"We don't ask for any thanks. Any service organization is going to be criticized. Let's just take the faculty. You've got an unusual group of faculty here. They're intense—they've got some terrific research going on—and they get frustrated sometimes. They can't complain to other faculty members. They're not going to complain to the students. But we are a good sounding board for them. Okay, they don't mean it towards us personally.'

A plant grows in Oil Miss

Suber was born and raised in Mississippi and graduated from the University of Mississippi with a B.S. in civil engineering. He worked for the TVA doing field work in dam and tunnel construction. For a year during WW II he worked on an investigation of the dam and lock sites for the St. Lawrence seaway. He then went into the service. After the war he became a highway-construction project engineer. For a time he considered teaching, but he couldn't afford to take a cut in pay. This lead, however, to grad work at U. of C. at Berkeley, where he received a master of engineering degree. Afterwards he went to U. of C. at Davis to develop and organize its physical plant. After fifteen years there, he saw that he was moving more and more into the legal aspects of his work, and began to consider another position. His acquaintance with West Hertenstein, past director of Physical Plant, and contact with Richard Mulligan, director of personnel at Caltech, finally brought him here to work in maintenance and operation. In July of 1965 he became assistant director, replacing retiring Mr. Kaupp; in the spring of 1967 he became director. Suber participates in workshops and seminars concerning maintenance and operations

and is nationally known in his field. He is married and has two daughters.

Like many municipal services, B&G is mainly known during emergencies. At such times an electrician may have to do a plumber's job. And B&G has to live with their work. The maintenance field could be better understood.

Suber is an open, friendly, down-to-earth guy. He is confident, he says, because he has nothing to hide and is dedicated to doing a good job. Criticism keeps him on his toes and also helps to maintain his sense of humor.

What about students again?

"You can't begin to understand the situation until you live in here. A former professor of mine said that the more you know about a subject, the less you can be positive about it; the more positive you can be about something, the less you know about it. The more you know about something, the more you can't give a straight answer—you've got to qualify it."

Writer's note: This interview is not meant to present the complete picture of Physical Plant. Further interviews may be conducted in order to better understand this issue.

Do You Care ?

There's a big city out there and a lot of people who don't care, about the rotting houses and the inferior education, and all the other things that make up the environment of our minority citizens. Do you care? Come to Club Room 2, Winnett Center, today at 5:00 p.m.

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Fleming R.A. Proposes Foreign Studies

(Continued from page 1)

ditional experience and the same proportion would like to see the idea of some sort of overseas program.

Catch Up

Most major universities have overseas campuses already established in traditional educational centers in Europe. We thought it would be interesting to ask the students the following questions:—"If Caltech indeed wants to educate leaders for the future, which culture do you think would be the most important for a student to learn more about?" They were asked to indicate the first four preferences in a list of twelve different cultures. The results (CIA are you ready for this one!) indicated that Soviet, Chinese, American, German, African and Japanese are the Tecker's main concern, in that order. The Soviet choice received 107 first choice votes and 269 total votes. Total votes for Chinese were 139, American 111, German 125 (but fewer first priority votes), African 109, Japanese 105. There are many ways of interpreting these results. In our interpretation, this indicates a very strong shift from the traditional interest in Anglo-Saxon, Teutonic and Latin cultures toward Asia and Africa. This is a very realistic reflection of the state of international affairs today and a realization that in the coming decades our relationships with Asian countries will become increasingly broad and indeed critical to the future of the world.

Frosh, Too

One may ask if this is a result of our faculty directing students toward these cultures. We have made a correlation to find out if there is a shift of interest as a result of the level of college education. It turns out that freshmen and seniors have voted almost identically with the other classes. (So State Department, don't blame it on our "liberal faculty.")

To find out what kind of environments students look for, we asked the question whether they prefer a small suburban or an isolated campus, or a major urban university campus. Over 65% preferred the latter one and 31% chose a small suburban campus. Hardly anyone voted for an isolated campus. Is this a reflection of a desire to get into where the "action is," or a reaction against Pasadena? Does this mean a decline in the appeal of the tranquil romantic campuses?

Gay Paris

It was interesting to find out how Teckers would choose from a random list of 27 major cities of the world. This will be another thriller to the State Department, but 170 chose Moscow, 160 marked London, and who said Teckers don't have a romantic side? . . . 143 marked Paris. The rest of the

cities were chosen in the following order: Berlin, Tokyo, Tel Aviv, Rome, Melbourne, Athens, Rio de Janeiro, Nairobi, Hong Kong, Cape Town, Singapore and so on, down the line to Lima.

You want to study what?!

At the time we wrote the questionnaire, we assumed that it would be almost impossible to break up the current science requirements, and felt that the possibility of spending a third quarter and the following summer studying humanity electives would be feasible. With this in mind we asked what topics they would like to concentrate on. The results with the number of votes were as follows: international relationship 193, foreign languages 177, sociology 116, history 89, psychology 86, economics 78, anthropology 67, urban planning 32. In relationship to this we also asked about the preference for instructors. To the question, would you want to be taught by Caltech faculty only, faculty of another university, combined faculty or anybody who is qualified, 56% or 180 marked the last one. 110 marked combined faculty and 29 the faculty of another university. Less than five marked Caltech faculty only.

Money

No program like this can be brought up without the financial aspects. How much could students contribute to such a program above the usual tuition plus room and board, which runs about \$1200 per term? Students were divided equally in their ability to contribute more than three hundred, 300, 200, 100 dollars and none at all. This does evoke some sobering thought, but on the refreshing side there is a great deal of enthusiasm on the part of the freshmen and sophomores. Over 105 signed up as willing to participate in organizing such a program.

What next?

So where do we go from here? We think that the idea is worth serious consideration. We also believe that we have a unique situation in our hands. The opportunity is here to start something fresh and to develop a new program scaled to the 1970's. The mistakes of copying some already existing outdated programs can be avoided and a "glorified chaperoned tourism," to use Dr. Peter Fay's expression, will not be the result.

High Price of Ignorance

If ever we need college graduates who are sensitized to the magnitude of the problems we face, who are slowly maturing to a global concept, then it is today. The sooner we realize that any progress along these lines.

two out of three human beings live in Asia, the sooner we get our literature perhaps proportionally refocused and start an oriental orientation, as Dr. Roman Novins put it, the better chance we'll have to avoid the high price of ignorance.

Finis

We hope this challenge will be met by Caltech, a school so ideally fit with 700 bright undergraduates, and a group of faculty and administrators, who are so capable of meeting challenges of this magnitude. The task is not easy and no quick solutions are to be expected, but we have all the confidence that the most serious considerations will be given for it. In future issues we will report

School Meeting . . .

(Continued from page 1)

to give the Summer Institute on Educational Change a basis for beginning on this summer. Some of the more impressive ideas include the establishment of Lab School at Caltech for the purpose of developing new methods of instruction, particularly in science, and trying it out on students.

Human Capacitors?

The ideas being developed along these lines include the establishment of this school on an experimental basis during the summer with a block of fifty students. Other ideas include developing the technique of having elementary school students whom you are trying to teach something about electrical circuits, act out the parts of some of the individual circuit elements. The Education group, in essence, was collecting the fantasies of all of the people attending the conference, gathering together a list of all the things that would be done in their ideal school system, sorting these ideas so that they can now determine which of these fantasies they would like to make real and which ones can be made real by the Summer Institute. Enough thanks cannot be given to the U Mass School of Education, Betsy Oliver and Jim Black, and especially Dr. Dwight Allen, the deal of the Graduate School of Education who flew out for the conference to be the keynote speaker Saturday evening at Beckman Auditorium. Allen's speech lasted about an hour, and the ideals were very well reviewed by the audience.

Homework Discriminates

Allen made several strong points about the faults in conventional educational procedure during his speech. He feels, for example, that homework discrimi-

Pac. Woodwinds Sailboats At Beckman

For its final concert in the Dabney Lounge Chamber Music Series, Division of the Humanities and Social Sciences will present the Pacific Woodwind Quintet. The concert takes place on Sunday, May 4, at 8:15 p.m. in Dabney Hall. The concert is free and the public is cordially invited.

The Pacific Woodwind Quintet, with Christie Lundquist (clarinet), Anthony Nickels (oboe), Charles Gould (bassoon), Robert Henderson (French horn), and Peter Middleton (flute), will perform the Quintet, Op. 43 by Nielson, Scherzo by E. Bozza, Pastorale by V. Persichetti, and Quintet by H. Villa-Lobos.

(Continued from page 5)

Lissaman, assistant professor of aeronautics at Caltech, said that until very recently sailing has yielded its secrets to science only with difficulty. He said this has been because of the complex interaction between aerodynamic forces (wind) and hydrodynamic forces (water).

Fifteen papers, along with films, will be presented at the symposium, which is open to the public, and will take place starting at 9 a.m. at the California Yacht Club, Marina del Rey. The papers will cover everything from standard improvements of design to far-out revolutionary concepts.

Among the latter will be the presentation of a design for a craft able to travel directly downwind faster than the wind propelling it. There will also be a demonstration of a new sport, wind surfing, in which a special sail is fitted to a surfboard, controlled and guided by a standing surfer-skipper.

Another concept to be presented is the aerohydrofoil, a vehicle with an outstanding high speed performance using dynamic water forces—like a hydrofoil—instead of the usual static water force, or buoyancy, of standard sailboats.

Fees for the meeting are \$4.00 for AIAA members, \$5.00 for non-members and \$2.00 for students. Further information on the seminars is available at the AIAA office in Los Angeles at 7660 Beverly Blvd., 931-1841.

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Photo by Levin

Bob Antak: hands off to Steve Watkins in the winning effort by the mile relay team.

Spikers Split Two; Distance Getting Stronger

The Beaver trackmen split two close meets last week as they barely downed Cal Lutheran (CLC) 73-72 and then lost to Azusa Pacific 75-70.

Against CLC, the Beavers had a difficult time due to the fact that three of the top Beaver sprinters, Tarjan, Butterworth and List had pulled muscles. The Beavers did very poorly here in the short races as their only place was a second by Watkins in the 440.

The distance men were very strong, however, as they swept the 880, mile and 2-mile. Tardiff doubled by winning the 880 followed by Petersen and Antaki and the mile followed by Higgins and Smith. Smith then won the two mile as Higgins and Her-meyer came from behind.

Small Margin

The meet was decided by the outcome of second place in the triple jump and Stormo staved off a bid by a CLC competitor to take second by 3 inches. Pool won this event and also won the long jump with Stormo third.

In the weight events, Blaschko came from behind on his last put to win for the Beavers. Abatzoglou threw poorly and took a third in the discus. Cox and Jackson were two-three in the javelin as were Holmes and Tyler in the pole vault.

To close out Beaver scoring, the Beavers swept the high jump with Hall winning while Fox and Pilachowski were second and third. Hall also was second in the high hurdles while Mikkelsen was third. Hurn captured a third in the 440 intermediate hurdles.

The Beavers had the services of Butterworth and Tarjan for the Azusa meet but were still missing List who may be missing for the season.

Successful Relays

Caltech captured both the quarter and mile relays to get a good start. Butterworth gained a second in the 100 and the 220 and Andrew ran a great race to finish third in the 220 and gain a badly needed point for the Beavers. Tarjan and Watkins then went one-two in the quarter.

Tardiff won the mile and then ran a fine 2:00.2 for second in the 880. However, the day's finest performance belonged to Smith who took a third in the 2-mile in 10:01.2, 12 seconds faster than his season's best.

But the Hurdles

The Beavers were again weak in the hurdles, taking third by Hall in the 120 highs and a second and third by Jensen and Hurn in the 440 intermediates.

The Tecker's weight team was again a strong point as Ruth, Blaschko and Abatzoglou swept the shot. Thoele, Jackson and Cox all threw well to sweep the javelin. Abatzoglou came back from

TECH Sports

Bob Enenstein

Volleyball Follows Script

by Bob Enenstein

Sports generally have their share of unpredictability. But this past week, most things have gone true to form. The big exception must be the Dodgers.

The fact that the Dodger pitching staff has allowed only three runs a game is commendable, but normal. That the Dodger hitters have been averaging six runs per game is just plain unbelievable. Monday night, L.A. even managed seven runs off Juan Marichal in the process of knocking him out for the first time in two years. If this pace can be maintained, the Dodgers will bring much excitement, if not a pennant to Los Angeles.

One thing that has gone as predicted, however, is Interhouse basketball. Unfortunately the big game was played at the start of the season. The athletic department may be fair, but they have no sense of dramatics. In the game, Fleming defeated Ricketts 30-28. This put Fleming in first place, and it seems likely to end up that way.

Most of the teams appear to have read my column of two

weeks ago and are playing as I asked them to. Steve Johnson is scoring half of Dabney's points even though teams are using a box and one against him. Rickett's Ed Rehbein is leading the Scurves domination of the boards, while Steve Bondow anchors the league's best defense. For example, Page was only able to score seven points in three quarters against the Ricketts starters.

Ruddock appears to have confused the season, and has sent its football team out on the courts. Thus, each other house only gets to play only five real games. The big disappointment has been Page. They have been gunning as much, but enjoying the results less. Here are the standings up through games of April 22.

Fleming	4	0	
Ricketts	4	1	
Dabney	3	1	one tie
Page	2	3	
Lloyd	2	2	one tie
Ruddock	0	4	
Blacker	0	4	

Grads

(Continued from page 1)

last Friday, which was considered a success, the undergraduate Party-Party to which graduates were invited, and plans for a graduate party in May.

The Faculty Communications Committee will be responsible for placing all graduate students who sit on faculty committees. All graduate students are eligible for these positions on committees, which will be formed this spring for the next year. The Judicial Committee will eventually administer the Honor Code for graduate student affairs, whenever this is approved by the graduates.

The Graduate Student Council has sponsored a TGIF celebration each Friday in the basement of the Athenaeum and a basketball tournament which has been extended from the previous term, both of which have been considered highly successful.

the CLC defeat to win the discus.

Azusa swept the pole vault and won the meet because of this. Hall captured a third in the high jump. Pool took a second in the long jump and then jumped to a frosh record of 43'10" in the triple jump for second place. Stormo took a third in this event.

Tech Breaks Loss Skein Downs L.A. Baptist 10-9

The Caltech nine had dropped 17 straight since the start of the 1969 baseball season, when they finally combined good defensive ball with an offensive potential to down L.A. Baptist, 10-9, on home territory on April 16. Senior Lonnie Martin gained the victory after relieving Dave Turner in the seventh with Caltech down, 5-7.

In the eighth inning, the Pasadena nine exploded for five runs as Jerry Eisman and Turner both collected 2 rbi's, as the L.A. Baptist pitchers were forced to face the entire lineup.

On Saturday, Caltech hosted Redlands in a double-header to mark the half-way point of the conference season.

Is this a baseball score?

In the opener Redlands surprised the Beavers, 19-1, but Teckers came back strongly in the second game to come within an out of capturing their first league contest of the season. Redlands drew blood first with a run in their half of the first, but Caltech retaliated with four tallies in their half of the frame and a pair in the second as Martin stroked his third homer of the season.

Sidearmer Turner frustrated the Redlands roster until the fifth when they connected for a

double and a triple and narrowed the gap to 6-4. Caltech was again in scoring position in their half of the frame as Gary Adamson earned his third of four hits for the game, but he was stranded on third when other players got their signals crossed.

War of Attrition

Redlands continued their war of attrition and gained a 7-6 win when they scored the go-ahead run with two outs in the tenth.

Martin went 4 for 6 during the day and raised his overall batting average to .413.

Sailboat Symposium Set for Sat.

Exciting new scientific approaches to the design of sailboats will be presented Saturday (April 26) at the First Symposium of Sailing, sponsored by the American Institute of Aeronautics and Astronautics.

"The time has come when advanced techniques in aeronautics and naval architecture can be applied successfully to high-performance yacht design," said Dr. Peter Lissaman, co-chairman of the (Continued on page 4)

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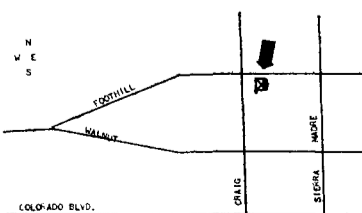
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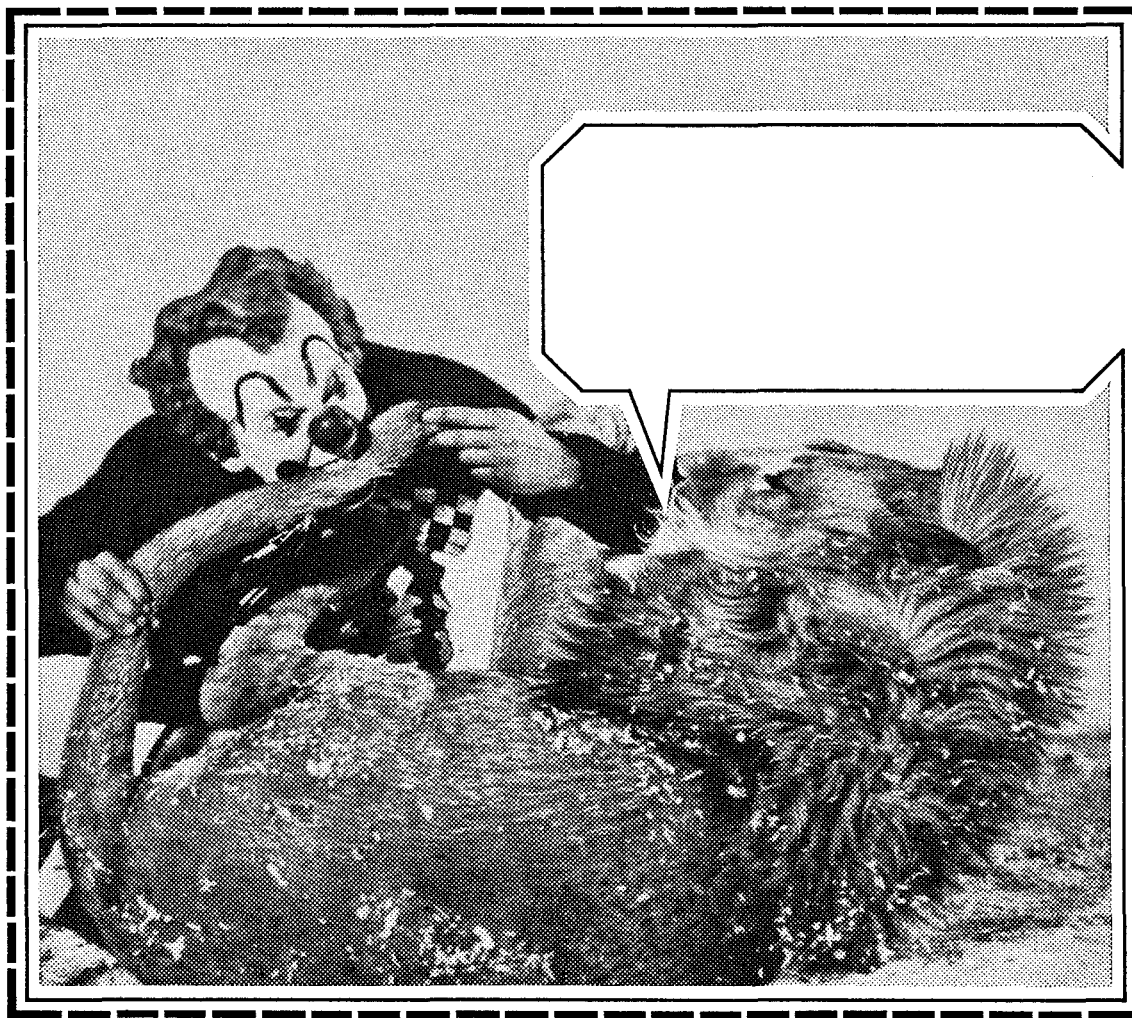
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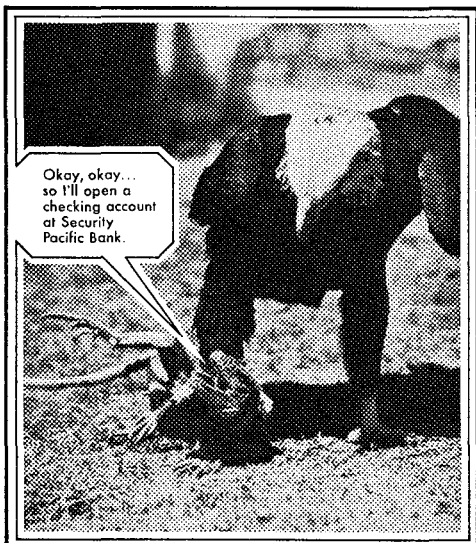
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