

**We Will
Entertain No**

The CALIFORNIA Tech

**Concrete
Proposals**

Volume LXXIV

Pasadena, California, Thursday, March 8, 1973

Number 21

ASCIT Goes to Impulse Power; Musical Wins

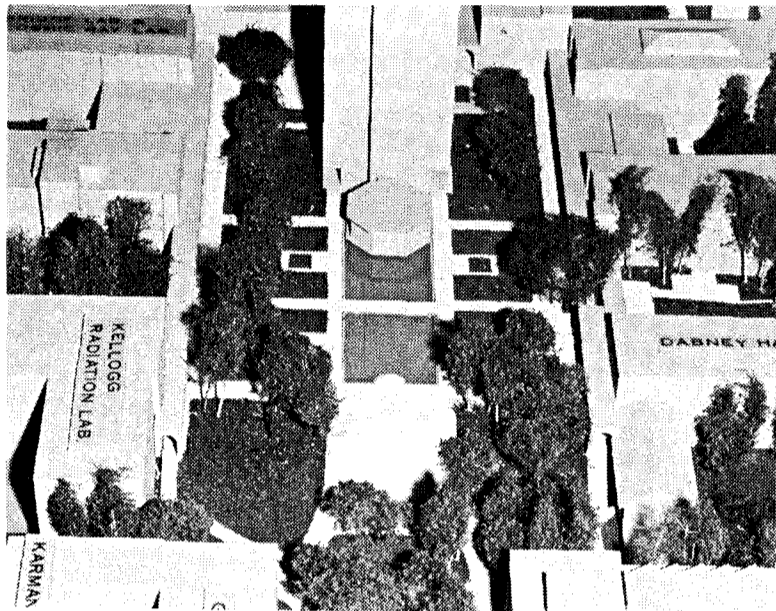
by Philip Massey

The Ascit musical won big, the minutes were approved, and there will be donuts at future BOD meetings.

A report by treasurer Dave Peisner revealed that ASCIT has about \$1900 to fool around with the whole year. This is much lower than last year, but by diverting power from the batteries and the impulse engines, it may make do.

\$1700 for Donuts!???

The election results were approved. As soon as they are sworn in (don't hold your collective breaths), Rick Krueger and John Denker are the new Director of Student Life and Ath Managers, semi-respectively. The bylaw change was again defeated, and it was more or less agreed that because of that and the complete lack of anyone wishing to be social chairman, the BOD will kind of forget about the subject, and the chairman, in particular, for a while. If anyone wants it, he can submit his name to Phil Massey (Ruddock) any time between now and forever. It was then gleefully pointed out that the BOD could sure buy a lot of donuts with the \$1700 the social chairman will not be



THE CURRENT PLAN for rescaping the Throop site involves a humongous concrete block of steps. But there are other alternatives. Read the article on page two. Photo by Ray Feeny

spending. It was further decided that the Excom might look into the whole mess of ASCIT social programs and lack thereof, and the lack of desirability or whatnot. Beckman said it might be reasonable.

Ascit Gets Pirated

The Pirates of Penance ASCIT Musical got \$200 outright, and a \$200 pledge, to be used only if necessary. It was added that the BOD would kind of like the money back.

It was moved and approved that there will be donuts and Coke at future meetings. The money will come out of the social budget, and that is that.

Ad Hoc Committee Still Has Work

by Paul Harper

With its last meeting with open topics last Tuesday, the Ad Hoc Committee on the Undergraduate Program is planning to narrow its areas of review and concentrate on one or two aspects of undergraduate life.

The topics that will be taken up by the committee are as yet undecided, but some possibilities are studies of such things as the first two years at Caltech, Institute requirements, or the Humanities problems that have been dominating meetings. Although active student participation in these meetings will not be as wildly encouraged as it has been, several will probably be open to the Caltech community.

The committee was formed by the Faculty Board in conjunction with Caltech's re-accreditation, to bring to light student and faculty

opinions and problems, and make recommendations for changes to the Board in the form of a report at the end of the school year. The recommendations will include long range and vague suggestions, as well as more specific, immediate ones.

Dr. James Knowles, chairman of the committee, in commenting on the progress made so far, admitted that, "Although the subject of the language program is one that should be dealt with, it has been taken out of proportion to the rest of the subjects that the committee could study."

Because it is felt that the student opinions that have been gleaned by the committee are not necessarily representative, a survey will be made of the student body to obtain written thoughts and ideas on policy changes.

Down The Tubes

Cutbacks Unjustified

by Etaoin Schroedlu

During the discussion concerning the recently announced cutback in Caltech's foreign languages program, figures and commentary have been bandied about concerning student demand for particular courses within the Humanities and Social Sciences Division. Dr. Robert Huttenback, Chairman of that Division and defender (if not perpetrator) of the cutback, has cited as one justification (not the only one) that students have been "voting with their feet" and not taking language courses, in particular upper-level language courses, in significant numbers. It has also been noted that "we can't do everything; we had to cut back somewhere."

This reporter decided to investigate course enrollments and instructor teaching loads in the Humanities and Social Sciences Division as a whole, in order to evaluate the claim that the language course enrollments are small, and to consider the possibility that other areas within the Division might have been more appropriate areas for cutback, if indeed a cutback is necessary. The result is a compilation of all course enrollments, and instructor teaching loads, within the HSS Division for the academic year 1971-1972 and first term this year, which is being made available to the Curriculum Committee, the Registrar, and others as appropriate.

Some You Win,
By and large, the evidence did

Ad Hoc Committee

Open Meetings End

by Phil Massey
and Dennis Mallonee

The last open meeting of the Ad Hoc Committee on Undergraduate Programs was held last Tuesday. The Humanities Program (and lack of a language one) was the main topic of only two speakers.

Dr. Oscar Mandel spoke on the need for having a full time staff in the language department, consisting of one or two persons in French, and two in German and two in Russian. He stated that currently plans called for part-time lecturers to provide a

two-year program in each language, but that the literature in translation courses were dead. (The absurdities inherent in the claim that the cuts were necessary due to budgetary reasons are in the fact that nineteen people have signed up for German lit., and 13 for Russian for third term. There are history classes with about three people in them, and there are but four graduates in the HSS graduate program at whatever fantastic cost each.)

Dr. Mandel further stated that he felt it was intolerable not to offer credit for first year languages, and that retroactive credit after completion of the second year was "minimally acceptable."

He told the committee that the "literature group" in the Humanities had been integrating foreign languages in translation people into his group over a period of years, in the hopes of supplying Caltech with an impressive program in literature. His remarks contrasted sharply with those of Dr. Dan Kevles, who stated that the purpose of the Humanities Division was to educate illiterate frosh to read and write.

Dave Drake also spoke on the language program. He had interviewed numerous professors (13 of them, anyway), and found that they thought Caltech should offer languages, and that credit

Continued on Page Eight

Continued on Page Eight



ALAN WATTS, author/philosopher, speaking in Winnett Lounge. Photo by Feeny

Thoughts

No Unhappy Customers?

by Steve Edwards

A feeling of confidence filled me as I drove into the Robert H. Loud Ford service department and saw the shiny sign declaring "no unhappy Ford owners."

The predicament started a half hour earlier when an automatic car wash knocked off the movable part of my outside rear view mirror.

Back to Ph 1

The service manager inspected the mirror promptly and told me it could not be repaired. Then he made out the replacement order bill for ten dollars.

After my car sat for about ten minutes, a worker drove the car out back, where I followed. The car was shortly blocked in by other cars and moved around to allow other cars to leave.

B&G Trained

He told me to return to my car, which indeed was being looked at by a mechanic with a

Waterfall?

by Bergthorne

The present status of the Throop Site development involves two plans which have been submitted by Quincy Jones, the outside architect responsible for the project.

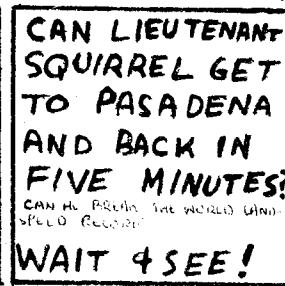
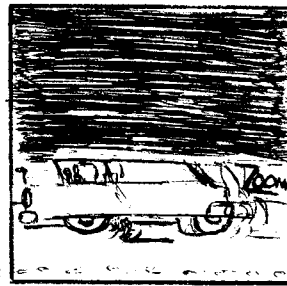
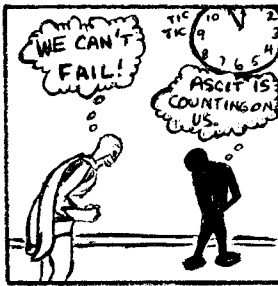
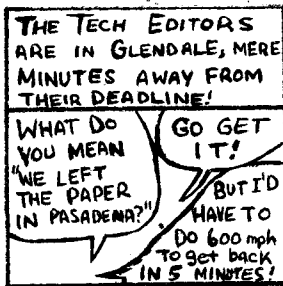
Meanwhile, there is a growing group of students still dissatisfied with the alternate plan presented by the architect; there will be a plan forthcoming involving more grass, less ground cover, and a cascading waterfall into a natural pond.

mirror in his hand. But alas, the mirror in his hand was not like the old one, in fact they would have to drill new holes and even then it would not cover the marks left by the old mirror.

I left the Ford dealer and went to an auto parts store which had an exact replacement. I screwed it on in about two minutes (I am not very good with a screwdriver) and returned to the car wash where I was reimbursed.

Now my family has owned seven Fords that I can remember, and all of us drive a Ford now.

The Adventures of the Tech Trio



by H. Wink and D. O'Malley

CIT Receives

'Gift' from ITT

The California Institute of Technology has received a \$10,000 gift from the International Telephone and Telegraph Corp., part of a \$30,000 pledge.

"Caltech places a high value on such gifts because they provide a foundation for all of the Institute's programs. They enable us to plan on a long-range basis, to meet unforeseen needs, and to take advantage of unexpected opportunities," Brown said.

According to an ITT spokesman, the corporation recognizes the responsibility it has to the schools from which it recruits, and the need to enlarge the number of trained graduates from which it may draw qualified employees.

Oliver in Runoff

by Etaoin Schroedlu

Caltech Economics Professor Robert Oliver, candidate for the Pasadena City Board of Directors in eastern Pasadena, gained entry into a runoff with Mayor Donald Yokaitis in the local election Tuesday.

But I think that the next time I need a new car, I will remember all those catchy phrases like "back to basics" and "no unhappy Ford owners" and go buy some other brand.

Letters

Students Wanted

People at Caltech have recently become re-interested in the possibilities of using air filtration systems to clean up the air indoors, where many of us spend a good part of our time.

Krueger, Denker Elected; Bylaws Change Fails

by Gavin Claypool

Rick Krueger was elected to the BOD as Director of Student Life in last Friday's special ASCIT election. Krueger, who ran unopposed, will fill the vacancy created when Howie Dickerman left these hallowed halls.

John Denker was elected Athletic Manager for the second year in a row. A number of students (and other personalities) received write-in votes for Social Chairman, which had no nominated candidates.

The proposed deletion in the bylaws of Activities Chairman and Social Chairman from the list of elected offices failed to get the two-thirds vote necessary for adoption. One hundred and five votes were cast in favor of the change, and 94 votes were against the proposal.

The problem is that this knowledge has not been translated in a widespread application of such systems, even here at Caltech. Some commercial charcoal filter systems can be applied to buildings to actually clean up the air to meet ambient air quality standards (currently violated over 200 days per year for oxidant in the L.A. Basin).

I would like to start a small summer project in this area involving one or two interested students. At present, several people have promised help in or are actively seeking funds to work in this area. However, I think it is important that the student(s) involved begin now, so they can work on seeking the funding for the project, and, as much as possible, direct the project themselves.

-Ken Heitner Research Engineer

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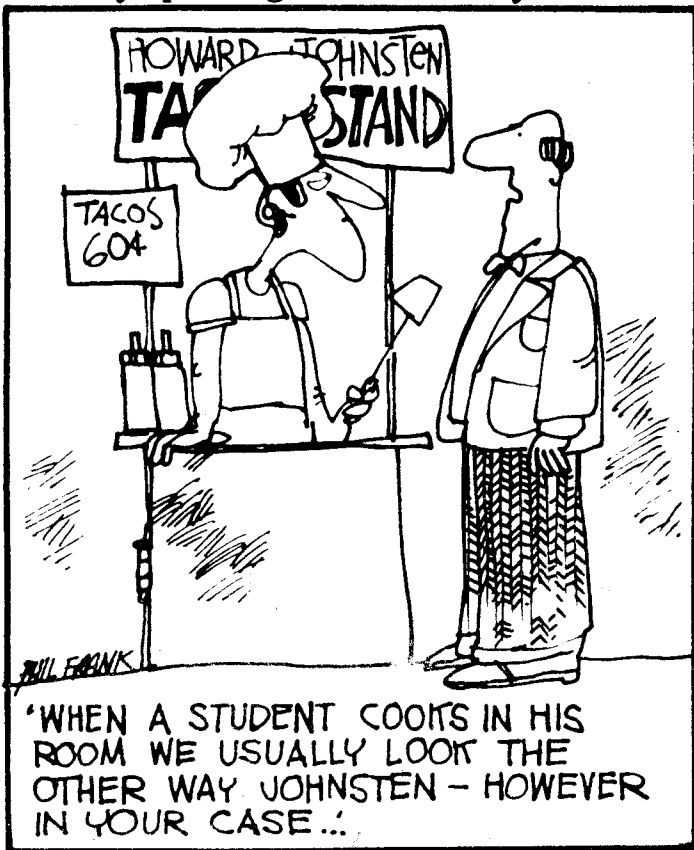
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"Frankly Speaking"

by Phil Frank



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THE GANG THAT COULDN'T SHOOT STRAIGHT

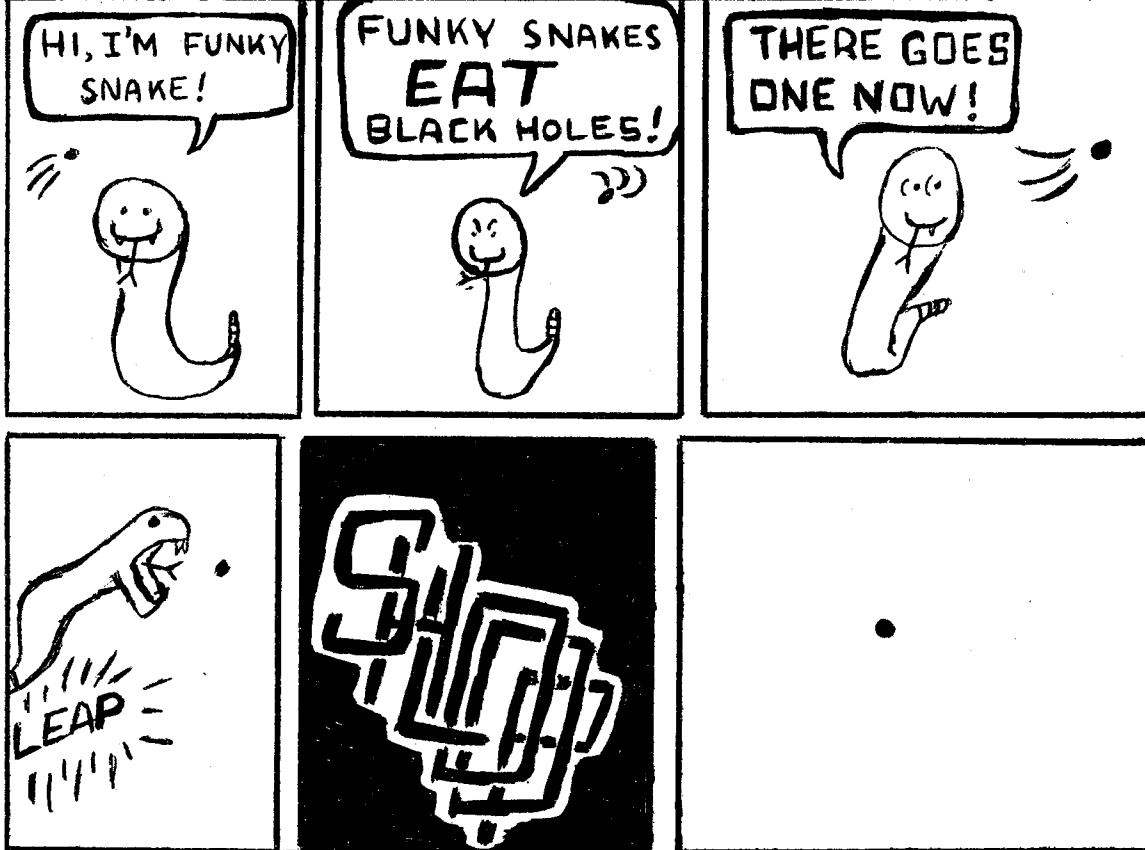
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THE ADVENTURES OF FUNKY SNAKE BY **DICK O'MALLEY**



Mini-Computers Key to Man's Better Future

A glimpse into the future was offered by Carver A. Mead, professor of electrical engineering, in a Monday night lecture on February 26 in Beckman Auditorium. "Because of the phenomenal growth in microelectronics technology, we can hope for a future in which machines understand human beings, rather than where people must think like machines in order to survive. And we can look forward to miniature computers — manufactured for as little as \$25 — that will free us from routine, mundane chores, make us more efficient at our jobs, and put more power at our fingertips."

The tremendous growth in the electronics industry made possible by microelectronics eventually will dwarf the Industrial

Revolution in its technical, economic, and social consequences, Mead predicted. "In the past 200 years we have improved our ability to manufacture goods and move people by a factor of 100," Mead said. "But during the last 20 years there has been a millionfold increase in the rate at which we process and retrieve information. In each of the past 13 years the cost of performing an elementary logic problem — adding two numbers, for example — has been cut in half. This means operations can be performed electronically for about one ten thousandth of the cost of 13 years ago."

The change has resulted from the development of integrated circuit technology, a development that has made individual transistors obsolete, Mead said. It is now possible to put 10,000 transistors on a miniature chip that would have held only one transistor 10 years ago. Soon, using an electron beam for generating the tiny patterns, it will be possible to put ten million transistors on the same tiny chip that now holds 10,000 Mead said. Thus an entire computer, built at a cost of about \$25, could consist of a single chip.

"Smaller, more economically priced, highly talented machines, gifted at search out and sorting data, can be developed to do special jobs," Mead added. "We can look forward to having small computing devices in our automobiles, our telephones, our washing machines, or our typewriters. This is the kind of machine needed by the average man keeping track of his bank account — or the engineer or scientist working on a typical problem," Mead said. "The individual using these machines won't have to know anything about computing or electronics ... We'll have a user-oriented machine, not a machine-oriented user."

The fast-growing microelectronics technology will make possible another kind of development, Mead explained: the use of single purpose electronic machines that have nothing to do with computing — for example, a machine in ovens to regulate cooking times and temperatures.

Mead pictured a medicine dispensing system enabling a

Continued on Page Five

We'll meet with college seniors and graduate students on some 67 campuses this spring.

We're listening. To what new engineers and computer science graduates have to say. About their goals. About their professional responsibility to Spaceship Earth.

We're also talking. About the opportunities at Boeing this year. And the years that follow.

Frankly, we want the brightest graduates in the country to be inspired by our work and the Boeing environment. To feel a compatibility. And to rank Boeing as No. 1 job choice.

Before we get together, you should know a little about us.

Naturally, much of our business is related to the airline industry.

Jetliner orders have come faster than we ever predicted. Orders from the 727-200 have passed the 1000 mark. We've sold ten 707s to China. The 747 continues to be queen of the sky. And we're looking into a brand new jetliner now labeled the 7X7.

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We have also started programs on: 1) people movers to help unclog traffic problems in cities; 2) hydrofoils to move people and freight over water faster; 3) reduction of aircraft noise; and 4) pollution control processes that

have application in desalination and as treatment of industrial waste. We are also at work on programs that can lead to better understanding of this planet's natural resources.

If this sounds like the kind of equal opportunity employer you're looking for, let's get together at the Placement Office.

Our interviewer will be on campus next week interviewing AE graduates.

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*A California Tech Interview***Huttenback Gives View on HSS**

by Dennis Mallonee

Suddenly, as I returned from the Ad Hoc Committee meeting (and before the uncanny copy multiplication that occurred Tuesday evening, when we went from 30 inches of standing copy to a remarkable 250) I received word that Dr. Huttenback would like to be interviewed. Sensing an opportunity for a newsworthy item, plus the fact that there are many people who will be interested in what Dr. Huttenback has to say, plus the fact that it appeared that we might be short on copy... well, here it is.

Tech: Okay, Dr. Huttenback. The tape recorder's on.

Dr. Robert A. Huttenback: All right. Now, let's see, what are the issues at hand? I'll make an outline: languages, 108 units of Humanities, creative art.

Starting with the languages, when I came here, I was dedicated to the idea of having six professorial appointments in languages. That was in the days before there were constraints on professorial appointments, and there were not as many constraints on money.

I think it's undoubtedly true that, had this been a well-established, productive language program, it wouldn't be as vulnerable as it is now. It is, however, vulnerable, and what it has essentially been is a program that teaches the first two years of language to undergraduates and graduates. The third year and the language in translation courses were more a hope for the future than anything that had been greatly developed. And also, in those cases, the enrollment, certainly in the third year languages, were very, very meagre.

Tech: And the language in translation courses?

Hback: I don't have the figures for those, but last year was the first year we offered those courses. As I recall, they ran about five or six.

You can't do everything. We never have. Everyone specializes in something. We do much less of that than any other division. But if we're stuck with a money squeeze, and a limit to what we can do... I suppose, in a sense, the reason part of the languages went (I don't think very much really did) was due to budgetary stringency, and the fact that we just didn't have the necessary professorial appointments available. If we had to choose, I'm sure that language would not be where we would choose to put our money.

Tech: It seems that the reason the language program was cut was that it was not an entrenched program.

Hback: I'm sure there's some truth in that. This is a place that's terribly research-conscious. And here's a program which is purely a teaching program, and was only developing into manhood one or two years ago. It's too bad that we had to truncate it. I think anyone thinks it's too bad, and hopefully things will get better. But it's true that around here, without the research component, it's very difficult.

I think I could also say that having had the president guarantee two years of languages goes a very long way to satisfying the needs of the undergraduates and graduates as I see them.

Creative Arts

Hback: I might go to the creative arts next. We now offer three courses in music, and two courses in art history. They will get humanities credit (I'm not sure the first course in music does, however. If it doesn't, it soon may). I might add that I certainly don't feel very adamant about first year language. I think it's quite possible that on the basis of an awful lot of agitation we'd be prepared to give credit for the first year of foreign languages. This is only my personal opinion.

In the creative arts, I think we

would like to do more. In fact, I hope to use some of the money we have to get some people to help with the encouragement of instrumental music. I don't think we should only do things in terms of cost, but in terms of student activity and such. The division should do what it has the possibility of doing. And it may have the possibility of doing it now.

We may be able to do more in art. I think we want to add a third course in art history next term. What we will do in the area of actual, practical art I don't know. Probably not a great deal in the immediate future. However, we are prepared now to give credit for courses taken at Oxy, to the degree Oxy itself does. If Oxy (or Scripps) gives credit for a course toward graduation, we will do the same thing.

I think there's a whole area of activities that we'd like to support, even though it may not be in the area of formal courses. In contradiction to your editorial, I believe that credit very often kills good things. Especially creative things.

The Evil 108

Hback: The 108 units business is sort of a can of worms we kick around endlessly. I think that one of the problems is that 108 units is really not a very

large amount of time. Everyone's got an idea of what should be in it. I went to the Faculty Board Meeting Monday, and there were people there who said science writing's essential, English is essential, etc. We had the problem of deciding: "What the hell do you do? What does the faculty want?"

Well, they want, we figured, courses which have some breadth, are not too parochial, are not too professional, and give a world view which looks different from that given the students in the physical sciences. So my inclination was, "Alright, we'll not give credit to some courses (which are very good courses and which students will get graduation and institute credit for) which do not meet those criteria I mentioned." So we took off some really good social science courses, plus some courses in business economics and management, plus things like debate and science writing because we felt they were sometimes narrower, sometimes professional, and taught particular things which we didn't feel should belong in a Humanities and Social Sciences requirement. Which didn't mean students couldn't take them, or they didn't get credit for them, or they weren't good courses. It was merely our interpretation of what we felt Humanities and Social Science requirement meant.

Other Stuff

Tech: There is a basic strife within the division, conflict


between humanities and social sciences. Do you feel that the division should one day be split?

Hback: No, I think strife isn't altogether bad. You're going to get intellectual conflict with any group of people. I think that both the humanities and the social sciences would suffer by being split. The conflict between them when they go up against each other is intellectually stimulating. Disagreement between them doesn't really run along the lines of humanities vs. social sciences. Not at all. It runs on quite different lines. So I think the union is a very good one.

Let's take something like history. Is history a humanity or a social science? I know at places like MIT, where they have divided them, it's been to the discredit of both— particularly the humanities group.

Tech: At the Ad Hoc Committee meeting Tuesday, a point was brought to the attention of those present. When the goals of the Institute were set up sixty years ago, they included three designs: to build a superb science program, to set up graduate studies, and to build a Humanities division on a par with the science program. How close do you think the present-day Humanities division is to that?

Hback: In some areas we're close, in others, no. All of the divisions, especially the diffuse ones, have their strong spots and their not-so-strong spots. I think in the last few years, we've made immeasurable strides. And I think it is now an excellent



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division which has a number of areas which are just as strong as any of the other areas in the Institute.

Tech: *How much do you think that cutting back now will hinder the program?*

Hback: Well, I don't think we are cutting back. I mean, we've got to make some choices. We're probably in better shape than some of the other divisions in regard to the number of tenure appointments we can make in the next ten years. But we can't do everything, so we've got to pick our spots.

Tech: *Would you say that, right now, the division is following paths of lesser evils?*

Hback: No. We're following just the path we want to follow. I think we're on the whole in pretty good shape. Let's put it this way: if time permitted, there are more things we would do. Given the constraints that exist, we're doing pretty much what we want to do. And we've had good co-operation from the Administration and the rest of the faculty. I'm quite happy to defend the position we're in.

Tech: *Is there anything you'd like to add?*

Hback: I might add, that in last week's newspaper, an article

Computers

Continued from Page Three
nurse to punch a patient's name into a machine and then wait for the right medicine to appear. As close to zero error as possible, the system would free her from filling prescriptions manually, which she must do for 50 to 100 people three to four times a day. "This would be a small, powerful, special-purpose device designed to meet the specific needs of the nurse. It would relieve her of inhuman kinds of activity that machines can do better and free her to do her real job: to care for people," Mead said.

Mead believes large computers with elaborate software systems will continue for the handling of complex problems.

said that we would be teaching two years of instruction possibly in just German. That's not true. We guarantee everybody who signs up at least two years of instruction.

Tech: *Even if you have to go outside looking for faculty?*

Hback: Yes. And I expect that at least in German, maybe in Russian, we'll have to do just that.

Three Artists on Display March 15

by Gavin Claypool

A new exhibit will be presented in the Baxter Art Gallery beginning March 15, featuring the work of three Southern Californian artists: Walt Askins, Ben Sakaguchi, and Max Finkenstein. A reception will be held Friday evening, March 16, from 7:30 to 11 p.m. to which all Techers are invited. Champagne and music will be included, a great way to celebrate the end of finals week.

The gallery's hours are 10 a.m. to 5 p.m. Tuesday through Saturday, and noon to 5 p.m. on Sunday. The current exhibit will be on display through March 10, after which the triple exhibition will be on display until April 12.

NEWS BRIEFS

Coffeehouse Closes Darbs Can't Eat It

The coffee house will close for finals and vacation starting Saturday March 10. Friday will be the last night of operation.

Get Acquainted With Flora

Coffee and doughnuts will be served in the Winnett Center Office from 4 to 6 p.m. Friday, March 9. Flora says "Please come."

Last Chance Fibonacci Club

The last meeting of the Fibonacci Club this term will be held in Clubroom One Saturday at 1:00 p.m. The continually nonperiodic "S" Function will be demonstrated for members only.

Swords & Starships

Nebula Nominees

by Nick Smith

In case the column title didn't tip you off, this is a column about fantasy, science fiction, and other bits of speculative fiction. For those of you whose only contact with speculative fiction is reading monster comics at the coffeehouse, go read Mallonee's column [*I hate monster comics—Ed.*] or something. You others follow me.

The Nebula awards are the SF and fantasy equivalent of the Oscar, only a bit more logically awarded. The Nebula is voted on by members of the Science Fiction Writers of America, and awarded to the best writing in four classes: Novel, Novellette, Novella, and Short Story, in order of increasing shortness. In case you are interested in what SF writers consider good, this is the list of nominees.

Novels

The Iron Dream
When Harlie Was One
The Gods Themselves
Dying Inside
Book of Skulls
The Sheep Look Up
What Entropy Means to Me

Norman Spinrad
David Gerrold
Isaac Asimov
Robert Silverberg
Silverberg
John Brunner
George Alec Effinger

Novellettes

Goat Song
Animal Fair
Kingdom by the Sea
Bastlisk
In the Dead Lands
Patron of the Arts
The Funeral

Poul Anderson
Alfred Bester
Gerdren Dozois
Harlan Ellison
Gerrold
Wm Rosler
Kate Wilhelm

Novella

A Meeting with Medusa
Son of the Morning
The Word for World Is Forest
With the Bentfin Boomer Boys on
Little Old New Alabama
Gold at Starbow's End
The Fifth Head of Cerberus

Arthur Clarke
Phyllis Gottlieb
Ursula H. LeGuin
Richard Lupoff

Frederik Pohl
Gene Wolfe

Short Story

On the Downhill Side
Shafery Among the Immortals
When It Changed
When We Went to See the End of the World
I Awoke and Found Me Here on the Cold Hillside
Against the Lafayette Escadrille

Ellison
Pohl
Joanna Russ
Silverberg
James Tiptree, Jr.
Wolfe

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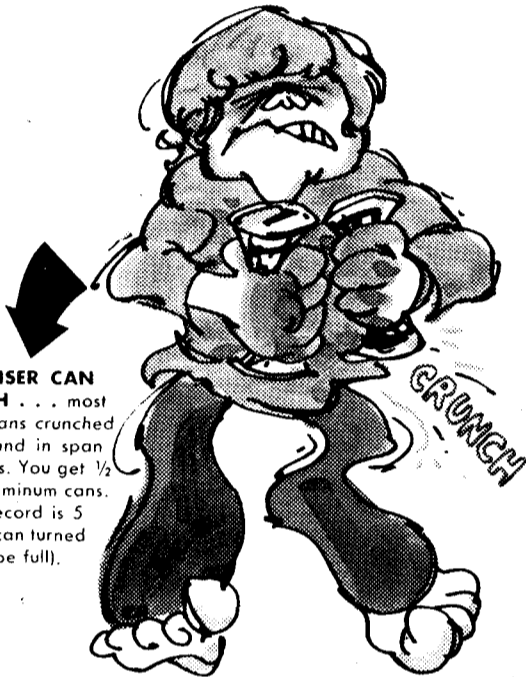
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3 BUDWEISER CAN TOTE . . . most empty Bud cans balanced atop one, another and toted without mishap for 25 feet. Record to beat is 4 (don't laugh till you try it).

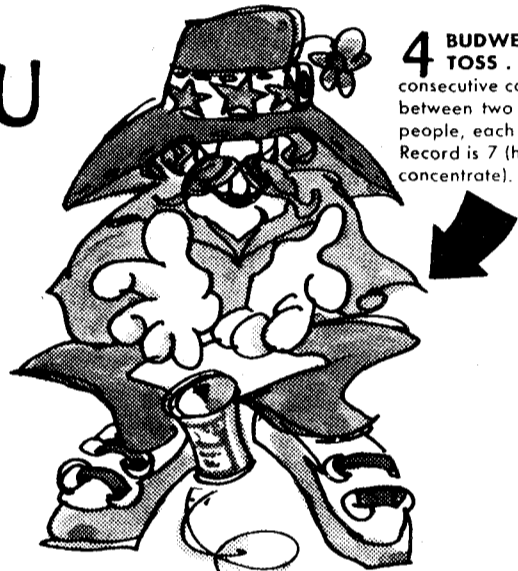


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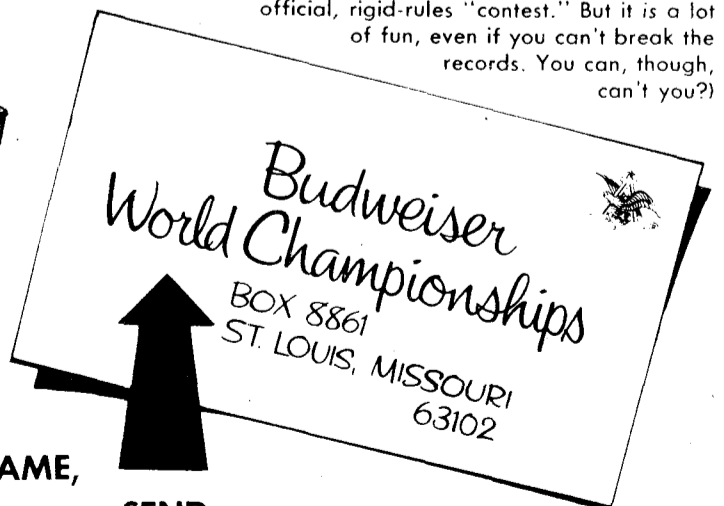
These may not be the ultimate sporting activities on campus. But they are the *only* ones in which we'll recognize record-breaking performances . . . Sure, it's easy to get a patch by claiming a fictitious record. But then you wouldn't be able to inscribe your specialty beneath the words "World Champion." (Or would you?) . . . Where do you get all the empty Budweiser cans you'll need to win a World Championship? Really, now!



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The Secret's Out

Wett Unmasked

by Bob Kieckhefer

Caltech swimmers finished their season last Friday with a fourth-place finish in the SCIAC Tournament, behind Claremont-Mudd, Occidental, and Pomona-Pitzer. Combined with a 2-3 record in conference dual meets, this placed the Techers fourth in the conference standings, an improvement over last year's tie for last.

Claremont and Oxy dominated the conference meet, taking first through eighth places in many events. Howard Bubb was

the only Tech swimmer to place in the top six in an individual event, with a fourth place in the 200-yard backstroke. Bubb also placed tenth in the 200-yard freestyle and, after a couple of poor excuses for false starts, eleventh in the 500 free. [The 500 free was held immediately after the 200 back, and the false starts gave Howard a little rest.]

Beat Redlands!

Jim Rowson was Tech's leading scorer in this meet, with sixth places in 1- and 3-meter diving. Tech's fourth places in

the two relays provided almost half of the team's points, however. Clyde Scandrett, Max Kay, Dave Clark, and Ron Horn teamed up to beat Redlands in the medley relay, and later Scandrett, Clark, Horn, and Steve Bitondo beat Redlands in the freestyle relay.

Tom Stoughton was the only Tech swimmer except for Bubb to place in three individual events, with a tenth in the 200-yard individual medley, a ninth in the 200-yard butterfly, and a tenth in the 200-yard breaststroke. I. M. Wett was the only other swimmer to score in two individual events, with tenth places in the 1000- and (after a couple of poor excuses for false starts) 500-yard freestyles.

The Big Hand Is on The . . .

Dave Clark placed eighth in the 200-yard butterfly, despite the fact that his time in the prelims qualified him in the top six (until someone decided that the timers had read their watches wrong, that is). Other Techers to place in individual events were Bitondo (eleventh in the 50 free), Wilson Ho (twelfth in the 200 free), Horn (twelfth in the 50 free), and Max Kay (twelfth in the 200-yard butterfly).

The final score of the conference meet was:

Claremont-Mudd473
Occidental419
Pomona-Pitzer161
Caltech102
Redlands55

No Caltech swimmers qualified for the NAIA national meet this year, but if you plan to be in Pittsburg, Missouri, next week you will have a chance to watch Claremont and Oxy battle for the national championship.

Y Sponsors Decompression Chambers

The Caltech Y and Health Center will once again sponsor the *Finals Decompression Chambers* on March 9 (Friday), 10 (Saturday), and 11 (Sunday).

The Decompression Chambers were created to give students a place to get away from their studies and tests, to relax and relieve that built up tension before going on, and to talk with faculty and staff members who will be hanging around for doing just that.

This term the Chambers will be held in the Y lounge and offices from 8:30 p.m. to 1:30 a.m. There will be coffee and donuts. On Saturday and Sunday nights films will be shown in Clubroom 2 beginning about 10:00 p.m.

Beckman Still Functioning

by Marc Donner

With Finals (excuse the obsequy) coming up there's little time to go to the various productions that Beckman Auditorium will be hosting. Nevertheless the more stolid flickers in the reading public will be happy to know that Paul Chihara will preside over a performance of his *Tree Music Cycle* this evening at 8:00 in Ramo.

On Saturday Yong Uck Kim, a young violinist called by Eugene Ormany "One of the great talents of this generation," will present a recital in Beckman Auditorium.

On Thursday of Finals Week (unholy day!) Julian Bream will present a classical guitar concert in Beckman as the second in the *Art of The Guitar Series*.

Good Luck!!!!!!



Track

Record for Robinson

Haywood Robinson ran himself into the record books with authority that has not been seen in the past at Caltech. The Beaver sprinter had his first assault on the record book in the 100-yard dash last Saturday on the Redlands track with a 9.7 clocking. This mark tied a 46-year-old record. The 1927 mark had stood the years unchallenged until Robinson stepped on the crushed brick track at Redlands University. With a near perfect start he sped to a yard victory.

An hour later, Robinson lined up for the start of the 220-yard dash and again with an excellent start he won the race with a time of 22.0, breaking the old mark of 22.4. Robinson barely edged out the Redlands runner with his new Caltech mark. The Caltech runner had the best performances ever by a Caltech sprinter. The Haywood Robinson fashion show will next be seen in action on March 31 in the Claremont Relays.

In the double dual competition, Caltech defeated La Verne 83-57 while losing to Redlands 85-59. Tech's season record is now 2-2. Overall it was not a good day for the Beaver tracksters, however. On a cold and windy afternoon, with a number of runners suffering from various afflictions, there were few significant marks.

Al Kleinsasser, suffering from the effects of the flu, suffered his first defeat of the year in the mile with a time of 4:14.5 to take the race, which Kleinsasser had led for 3/4 of a mile. In the

880 Kleinsasser won in a time of 2:02.5 After running the first lap in 57.5, the Caltech runner just ran hard enough to win. Tom Herman also ran the half for Caltech. Kleinsasser ran an outstanding anchor lap in the mile relay to lead the Caltech team from behind to a victory. His time was 51.4 in a hard-fought race.

Sweitzer Jumps and Throws

Brent Sweitzer enjoyed another good afternoon, winning the shot put with a mark of 44'9". He also had his best long jump mark of the season with a 19'10 1/4". He also finished third in the discus with a throw of 119'10".

Doug Herbert won the discus competition with a throw of 135'7". He also finished third in the shot with a mark of 40'7 1/2" and competed in the javelin. Brad Page scored a third in the javelin.

Terry Mills cleared 6 feet in the high jump to finish second on the fewest misses rule. Mills continues to show improvement in this event.

John Steubs had a fine day, running on both the 440 and mile relay teams and placing second in the 440-yard dash. Steubs had his best mark of the year with his third place in the 220 with a time of 23.2.

The relay teams had marks of 44.8 in the 440 relay and 3:31.5 for the 4-lap event. Greg Hoit ran his best-ever relay leg with a time of 51.4.

Faster When He's Sick?

Charles Almquist, suffering Continued on Page Eight

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Enrollment

Continued from Page One

lation courses and a couple of reading courses, which use the course title En. I have included those courses with languages because they are taught by foreign language instructors.)

Some You Lose,

This total student load in the language program compares very favorably with other HSS Division departments. Only English Literature courses, with a total enrollment of over 1300 for the four terms, outdoes the language program enrollment. The English lit enrollment does not include such 'En' courses as En 15, En 21, En 102, and En 151, which I placed elsewhere, but this department benefits from the general Institute requirement that every Caltech undergrad must take 27 units of English. (At a rough calculation, the Institute English requirement might be expected to account for some 800 term-courses in English over four terms, but this still leaves around 500 genuinely 'elective' English lit courses taken, about the same number as in the language program and more than any other department.)

Two of Caltech's well-established HSS departments fared rather poorly by comparison with English lit and languages. History totaled only 410 terms of student-courses, even though Tech has had more history instructors than language instructors during the period, and there was less uncertainty concerning future offerings in history. Non-business economics contributed only 390 student-terms (business economics classes added another 242).

There's More to H-back

Other enrollments totaled 130 for the fine arts classes (the Art Classes, En 21, and the Music classes), 31 for special tutorials in HSS 99 or ISP, 394 for the standard philosophy courses, 176 in the standard psychology courses, and 380 in other sorts of social science courses and those classes which don't easily fit any of the above descriptions.

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Study of the language instructors' teaching loads in more detail brings up some interesting points. During this four-term period, there were a total of nine language instructors, including two who were at Caltech for 1971-72 only, one who was here for first term 1972 only, and one who only taught one class in this period and concerning whom the Institute Bulletins are vague. We might consider then that the languages program in this period has had seven slots, one of these was part-time all four terms, and another was part-time in three. This gives an average enrollment per slot (counting part-time) of about 73. (This number, I might add, is larger than the teaching load for any non-business economist, for all but two historians, and for most other persons in the Division. In fact, only 14 of 56 non-language instructors in the Division taught as many as 73 students in these four terms.)

Than Pizza and Booze.

Most of the students in languages, unsurprisingly, tend to be found in the early years of the language program. Introductory French, German, and

Wrestling

Continued from Page Seven

from the flu, had another grueling day. Wanting to compete, he finished third in the 100 relay, finished second in the intermediate hurdles, and ran the 120 high hurdles with a time of 16.8. Greg Hoit won the 440 hurdle race in spite of a few problems with some of the hurdles. Hoit continues to look stronger and run better each week.

Greg Griffin, suffering from a cold, finished second in the three mile with a time of 15:00.5 and second in the mile against La Verne with a 4:35.6 clocking.

The team now takes a break for finals with the next meet

Russian accounted for 68, 111, and 92 student-terms, respectively, for a total of 271. These courses are presumably not endangered by the cutback. On the other hand, it is far from clear that the instructors in these courses can handle any of the second-year load in addition to the above. Second-year enrollments in the three languages for the four terms totaled 39, 95, and 30 respectively, for a total of 164. The remaining 75 students were in third year courses, reading courses, or literature in translation courses (which totaled 29).

Burma-Shave

Also significant is the increased enrollment in languages over the past couple of years. The introductory enrollments were up by 3 in German and 7 in Russian this year (down by 5 in French). Intermediate enrollments went from 7 to 11 in Russian, 26 to 38 in German, and 8 to 19 in French. Perhaps if the program had been granted some measure of stability, increases would have been noted in even the third-year programs.

Obviously criteria such as the above cannot be the only ones used for evaluating programs and making tenure decisions. It does seem, however, that data such as the above could be used as one factor in such decisions. When some of the above data were presented at the Ad Hoc meeting on Tuesday, one historian plaintively requested that such data be made available for divisions other than his. (Maybe some day.)

scheduled for March 31. Kleinsasser will see competition on March 25 in UCLA's Meet of Champions.

Coach Bert La Brucherie commented that "Haywood Robinson exceeded all our predictions and deserves a great deal of credit for his outstanding per-

Ad Hoc

Continued from Page One

should be given. (One slight exception: Richard P. Feynman, an obscure physics lecturer(?), said that they were just plain silly.)

More Interesting Topics

Dr. Eric Storm spoke on the general topics of reform in the Caltech undergrad programs. He offered several suggestions to the Committee and threw out several questions for possible discussion. Among these were the possibilities of bringing in more Junior transfer students, and to somehow change freshman admissions policies with the object in mind of bringing about a change for the better in campus social life, and psychological atmosphere, "Even the students who get through it are a little strange sometimes."

Also, Dr. Storm offered suggestions on the structures presently prevailing adademics-wise (such as A-B-C-noncredit, encouragement of independent research, fewer freshman requirements, credit for creative efforts...). These were met with wistful eyes by the students present.

Back to Kevles

After Dr. Kevles commented on the purposes of the Humanities Division (which seemed to be incidental to his main topic), he went on to general stuff. Dr. Kevles told the sad story of a Humanities division in a science-oriented school. There is little left over after science is fitted into a student's schedule. Therefore the remainder should be chosen very carefully—preferably the courses should be "liberal" in nature. At the same time, there

formances. By careful training he has broken the school's oldest record plus lowering the 220 mark by a significant amount."

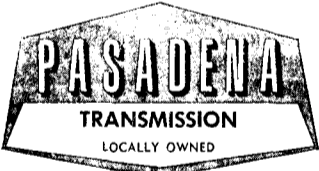
is somehow plenty of room in the various options for any vocational training or economics a student might wish to take). Hmm.

Back to the schedule. According to Kevles, the great myth at Tech is as follows: "The students here are encouraged to cram every possible math, science, and engineering course possible into his schedule." Dr. Kevles would like to see students explore something other than the sciences, and to proceed at his own rate, allowing five-year, three-year, or whatever-year it took to finish.

Ex-Tech Editor Speaks

Phil Neches's speech was concerned primarily with keeping Caltech number one. He said that the excitement prevalent on campus during his frosh year coinciding with the steps forward taken at the time (co-eds, academic reforms, even the two Nobel laureates). Tech has remained fairly static since that time, while other schools have been forging ahead. Neches felt that new barriers should be breached (a separate study indicates that grad schools will take Tech grads no matter what their label) such as decreasing competition for grades by effectively eliminating them, splitting humanities and social sciences in two divisions, increasing the number of paying jobs open to undergrads, encouraging sophomore and junior transfers, encouraging a liberal arts school to locate next door, creating more projects like JPL and EQL, and slightly increasing the undergraduate population (by 300, which will make an even thousand. 43% is slight?).

Although this meeting was officially the last open to the public, Dr. Knowles (chairman of the Committee) has indicated that this might be changed in the future.



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