

# THE (AllFORNIA TECH ESTATE

**VOLUME LXXXVIII** NUMBER 31 PASADENA, CALIFORNIA

FRIDAY 5 JUNE 1987

### Justice lunger

[CNB]-Edwin S. Munger, professor of geography at Caltech, is the recipient of the Southern Sector California State Conference award of the National Association for the Advancement of Colored People (NAACP). The award is given for his contributions to the "continuing struggle for justice and equality.

Munger has been a member of the NAACP for 40 years and has been a delegate from California to the last three annual meetings. He brought Ronald McNair, the black astronaut who later was killed in the Challenger space shuttle disaster, to Pasadena to speak to children in the local schools.

Munger teaches African politics at Caltech where his personal library of more than 40,000 books on sub-Saharan Africa is housed. He has made 71 trips to Africa since 1947, and has published eight books and 250 articles.

He served fourteen years as president of the Leakey Foundation and he is currently president of the Cape of Good Hope Foundation devoted to enhancing the quality of education at the predominately Black but racially integrated University of the Western Cape outside of Cape Town. Munger received his Ph.D. from the University of Chicago and was the first Fulbright Scholar to Africa.

# Nagler On Techers

Jonathon Nagler

In February of this year 600 Caltech students (300 grad students and 300 undergraduates) were selected at random and sent "The Caltech Poll on Defense Issues". Some highlights of the poll: over one-third of Caltech students DID NOT know that the Soviets just concluded an 18 month moratorium on nuclear testing; Techers thought that a Star Wars defense could by overwhelmed by the Soviets by almost a 5:1 margin over those who felt that such a system could protect the US from a nuclear attack by the year 2000; nuclear freeze supporters outnumbered opponents 54.4% to 21.8%; and sizable numbers of Techers (from 26% to 57%) felt that it would not be socially productive to take a defense related job depending upon the work involved. This article summarizes those and some of the other key results of the poll.

Given the common argument that "we can destroy the Soviets many times over, and they can do the same to us," we wanted to find out if Caltech students knew how many weapons both sides actually have. So we asked how many strategic nuclear warheads the U.S. and USSR have, giving choices of 500, 2000, 10000, and 25000. The correct answer is about 10,000 for each side. Given these choices, as well as the ever present "don't know" option, a plurality were able to give the right answer for the United States: 38.3% respondents answered 10,000. This time the US born and European born converged, but the Far Asian born still lagged behind with only 23.7% giving the correct answer. Results for the USSR were comparable, though here only 32.0% gave the correct answer, with 24.2% thinking the USSR had 25,000 strategic nuclear warheads continued on page 5

# Harwood's Space Design

by Steinn Sigurdsson

Last Tuesday the Caltech SEDS chapter had its last meeting of the term. The guest speaker at the meeting was Oliver Harwood, Senior Engineer at Rockwell International, whose proposal for a modified space station design has been the subject of some controversy following a series of articles in the Los Angeles Times last month. Mr. Harwood, who has been working in the aerospace industry for 43 years, and is due to retire this year, came up with a novel basic design four years ago, and has since then sought to have it evaluated in detail by NASA and its various contractors. This task has not been easy.

The design was presented in some detail during an hour-long lecture, with scale models demonstrating the critical features of the design. During a two-hour question period the design was subject to further scrutiny, as were the internal politics through which the design has come to be ignored. It was interesting to note that the concept now appears to have diffused into the set of officially plausible Station designs and may yet emerge as the approved way to go, although not necessarily by the United States.

The fundamental idea behind the design is tetrahedron as the optimal unit cell for a stable three dimensional structure. Mr. Harwood's idea involves just six basic structural elements forming the unit cell, each standard and, in principle, cheap. The initial closedunit cell could be built in orbit in just four shuttle flights and, as it is self-similar and scale-invariant, can be infinitely extended and easily reconfigured, as a few minutes experimenting with the scale models readily shows. Unlike the currently favored design based on cubic unit cells, it is inherently stable and requires essentially no internal bracing, maximising ease of construction and operational utilization. The design was developed by Mr. Harwood, working at Rockwell and in his own time, on a minimal budget. It is not complete; a considerable amount of detailed engineering would be required to get a workable full size design, but in my opinion the basic concept is far superior to any other proposed.

Mr. Harwood and some JPL employees at the meeting pointed out that at this stage in the design there are a lot of design details and possible configurations that need serious study, and suggested that this would make a very good research project for interested students. Anyone interested in contacting Mr. Harwood for suggestions and information on outstanding design difficulties can get in touch with Mark Adler (mail code 103-33), who can get you in touch with Mr. Harwood and relevant people at JPL.

# **Hutchings Quits** California Tech

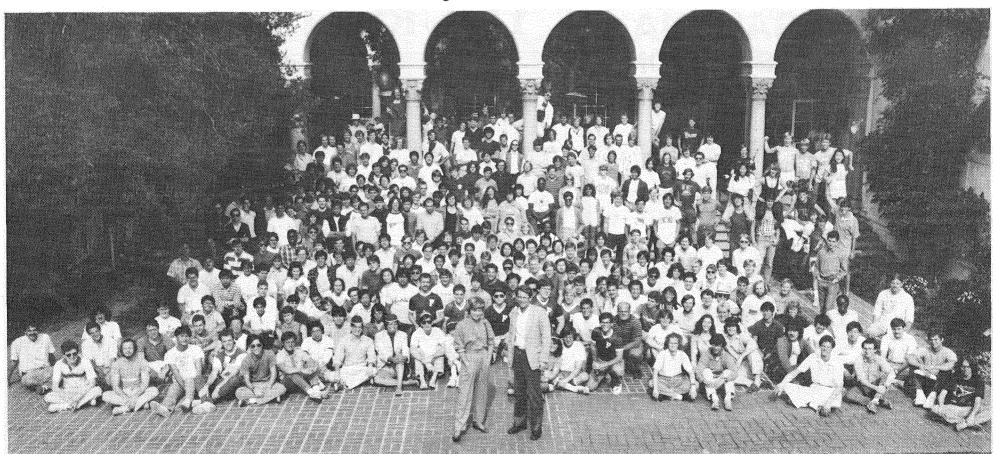
bid farewell to our advisor, Mr Ed Hutchings. Hutchings has advised the editors and reporters of the Tech since the fall of 1952. Back when the ASCIT budget was \$10,000, the Dean's office offered advice on draft deferment, the basketball team took second place in the conference, and 87% of the sophomores who were polled said that they benefited from "the exchange dance system."

Mr Hutchings, an alumnus of

The staff of the California Tech Dartmouth University, came to Caltech in 1948 to edit Engineering & Science. In 1952 he took over from George MacMinn as Tech advisor and has held that coveted position continuously for the past 35 years. No replacement has yet been found.

> Hutchings is fondly remembered by his advisees for his gentle sense of humor and his sly wit. We give thanks and appreciation to our consummately ept advisor.





The undergraduate community gather on the steps of the Athenaeum to wish Dr Chris Brennen a happy retirement from his position as MOSH. Clockwise from top-left are....

# **LETTERS**

# **Affirmative Action Response**

### MIT's Success

To the Editors:

Huy Cao's opinion piece ("Down With Affirmative Action") in the May 22 California Tech proceeds from some erroneous premises. The assumption that "improvement of the social life for the men" is the main reason for admitting more women is just too silly to bother to address here. But I would like to set the record straight on MIT's alleged "lowering of standards" for women, which was responsible for a freshman class last year that was 38 percent female. Annette Smith mentioned this at the OWC panel discussion, and it was subsequently reported in Tech without any particulars.

According to the November-December 1986 issue of Technology Review, MIT had used since the 1950s a complicated formula for weighing applicants' scholastic index (SATs, grades, class standing) with other less quantifiable attributes (motivation, creativity, etc.). The formula. which broke down the scholastic index into ten subdivisions, allowed a statistically insignificant difference in test scores to rule out a potential student. Since women applicants on average have slightly lower test scores than men, the system worked against them.

Last year MIT (which is planning a greater overhaul of its admissions procedures in the future) subdivided applicants into only three groups by scholastic index instead of ten, thus giving small differences in scores much less impact on chances for admission. In addition, a study of the relationship between an entering student's scholastic index and his or her performance at MIT showed that women with lower indices did as well as men with higher scores. For whatever reason this happens (perhaps women are not pushed as much to excel in science and math in high school), MIT decided it could admit women with slightly lower test scores than men "and still retain undiminished the very high standards of its graduates.'

And in response to Heidi Anderson's report in the same issue of her traumatic identity crisis because the word "girl" was no longer acceptable, I would like to advise her not to rip up her dictionary so hastily. She is, no doubt, still a girl and may remain one as long as she likes. The remark (falsely attributed by Tech to President Goldberger, by the way. Our reporter Theron Stanford was witness to Goldberger's remark. -Ed.) that elicited boos and hisses at the OWC panel discussion referred to "the girls in the front office," who are probably somewhat older than Ms. Anderson. The use of the word "girl" to refer to secretaries of any age is generally perceived as demeaning ("I'll have my girl make a copy of that for you"). It's akin to calling adult black males "boy." Sensitivity to such small points might go a long way toward making Caltech a more hospitable place for wonders to work and study.

-Jane Dietrich place for women (and even girls)

Engineering & Science

### SSP's Success

To the editors,

This is in response to Huy Cao's letter of May 22, 1987 titled "Down with Affirmative Action." We don't understand how he could present many of the opinions in his article as facts.

Mr. Cao uses Allan Bloom's book The Closing of the American Mind as his sole source of information on the status of black students. We think the only closed American mind in this book is Mr. Bloom's! It is quite obvious from his example of the "segregated dining hall" that Bloom (or Cao) confuses the differences.

because differences in culture, col- Some favor. or, religion, language, eye shape,

white Americans with darker skin. As Dion sez, "White people should not expect blacks to attend the Tanning Invitational, anymore than blacks should expect whites to get rhythm and learn how to dance.'

Sr. Cao insinuates that we (and prospective employers) will believe that our Caltech degrees are "tainted" because we were not judged by the same standards as whites (or Asians). BULL!! We work just as hard, if not harder, than any other student, and we know it! Those of us in the Student Support Program (SSP) were admitted as affirmative action students, whether the Institute will admit it or not. We know we ain't bein' judged by lower standards, look at all the F's we got! Our degree is just as valuable as anyone

Cao (or Bloom) says that we "have been done a 'favor' by wellfailure to assimilate with cultural meaning whites, the favor of being judged by a lower standard." This Thirty years ago, affirmative favor wasn't done only by wellaction meant using the United meaning whites, but also by those States Army to make it safe for that felt guilty and wanted to clear blacks to attend "white" univer- their consciences. Is it a favor to sities. The situation seems to have be told things like, "You are here improved some since then. Affirm- to add 'color' " and "This is your ative action was never meant to big chance, don't blow it." Is it a dissolve racial differences, but is an favor to be told, by members of the attempt to make amends for past Administration, when you are takdiscriminatory practices and ensure ing a leave, "You shouldn't feel bad that equal opportunities in educa- because your kind isn't expected to tion and employment exist graduate anyway," or be told. Members of every ethnic group "There is no use holding onto will not be treated "just as persons" something that is unrealistic."

There are 12 black and 23 family size, or length of reproduc- Hispanic undergraduate students at tive organs will always exist. Caltech. That is 1.5% and 2.8% of Affirmative action isn't designed to the student population respectivemake non-white Americans into ly. Women constitute about 13% of

the undergraduate population. (How many full-blood American Indians are here?) If a comment is made to the effect that the number of black or Hispanic students should be increased, it is called racist. Why isn't a comment on increasing the number of women called sexist? The argument for increasing the number of women includes the idea that it would make life more comfortable for the women already here. Doesn't this also hold true if we would increase the number of blacks and Hispanics, or any other ethnic minority? We believe it would.

If a couple of girls say, "Life for women here sucks," everyone agrees and tries to come up with ways to increase the number of women here. If a couple of blacks or Hispanics say, "Life for blacks/Hispanics here sucks," a few people listen and try to help, but it otherwise falls on deaf ears. Imagine if you were a black woman or hispana and said, "Life

### THE CALIFORNIA TECH

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### **LETTERS**

here really sucks." Who's listening? Returning to Cao's "integrated dining rooms," he says that if the male-female ratio improved we would have men and women integrated in the dining room. Does he believe that the girls will not sit together at lunch in all-girl groups to rag on the guys. He is showing us his lack of experience or understanding of the female of our species if he does. Has he never seen groups of Asians eating together in a dining hall? If we fill a dining hall full of rednecks from Amarillo in red T-shirts and surfers from Huntington Beach in blue Tshirts, does he expect to see alternating red and blue shirts at the table? One would seriously doubt it. He goes on to say that integration would not happen if the number of blacks or Hispanics was increased. Translation: (Let's keep out the spics and niggers)? We fail to understand why increasing the number of minorities, including women, is such a bad thing. Lowering admission standards for qualified (showing academic potential, but does not have the "right numbers") minorities does not imply a lowering of standards for graduation. It means more work, and possibly more years. If someone is not motivated enough to do the work, he will not graduate, no matter how impressive he is on

Affirmative action works for the SSP students. Many of us would not have been admitted if SSP did not exist. Admission requirements may, or may not, have been lowered, but we haven't noticed any lowering of graduation requirements. We believe that the program should be expanded to admit more ethnic minorities and women. It would probably make Caltech a better place to live and learn for everybody.

paper when he is admitted.

Sincerely, -Manuel Aranda, Jr. Jonathan Brown Amy Callaway Kleber Camacho Francisco Javier Castillero Joseph M. Fierro David Garza Stephen Gomez Darryl Dion Hawkins Kevin Hernandez Laura Hernandez Jarita Holbrook Derek Holland Clifton J. Kiser Joy Mendoza Andrew Van Miller, II Brian Patterson Earl Taylor, II P.S. SSP: We aimz ta grajiate!!!

## Cao Is Wrong

To the editors:

I thought that after Huy Cao had spent a year writing for the Tech and exchanged many heated letters with people on his pieces, he would have learned a couple of things: to check simple facts before printing them, and not to let his personal biases distort his stories too badly. Judging from several recent pieces appearing in the Tech, he has not learned this lesson. He is still willing to print lies because he is too sure of his warped ideas to bother checking them, and he is definitely willing to let his own views grossly distort coverage of stories. Because I don't want to level charges without backing them up, let me elaborate with a couple of recent examples.

Huy Cao starts by launching an attack on Scheer's credibility by devoting the first four paragraphs of the article to Scheer's introduction to the talk, repeating Scheer's statement that he is not an expert on the Soviet Union, but leaving out Scheer's point that anyone who believes he is suspicious because of the rapid changes in the USSR. Huy Cao continues by generously spending ten of the total 27 column-inches of the story describing what Scheer said in his talk, leaving out many good points and several of the funny and insightful anecdotes which makes Scheer's talks so enjoyable.

Having fufilled his minimum duties to cover the talk, he then indulges himself in 7 1/2 columninches, over a quarter of the story, on a question about Soviet disinformation that he personally raised at the talk. Instead of just printing the text of his question, Huy Cao elaborates in the article with a little sermon about Soviet disinformation campaigns. Then, instead of just printing Scheer's response that the United States also sponsors disinformation campaigns, he slips in the comment, "Mr. Scheer's position on alleged US disinformation ... directly contradicts that of State Department research." In this case, the audacity of him inserting his own editorial comments is overshadowed by the ludicrousness of citing State Department sources to refute disinformation by the

State Department!

The entire article provides a sharp contrast to an earlier article written by Huy Cao about a talk given by someone he admires, Dennis Prager. In this article, he did not question anything Prager said, printed several long anecdotes verbatim, and did not mention one word about the extensive question period in which serious challenges to the subject matter of the talk were raised.

In a separate article appearing on the same day as the Scheer article, Huy Cao again let his blatant disregard for facts show through. On talking about affirmative action in relation to recruitment of women to Caltech, he makes the point, "Like other schools, Caltech is not obligated to follow what in the business world is called 'affirmative action.' "This is a another lie. According to Nadia Dubins, the staff person in charge of affirmative action at Caltech, "This simply is not true. Although Caltech and other schools file a different affirmative action report than that for businesses, the guidelines that it must follow are essentially the same." Once again, a simple check of the facts would have prevented this mistake.

He then defends the low number of women admitted to Caltech by referring to the use of test scores in admissions, stating, "SAT's are weighed relatively more here because they are a better indicator for Caltech than most other schools...there is a core math/science curriculum which every student goes through, and the SAT is a good measure of math skill." However, MIT, which undeniably has a core math/science curriculum, has found that women admitted there with test scores in the low ranges tend to perform better than male counterparts with equivalent test scores. They do not speculate as to why, they simply accept this and are reflecting it by changing their admissions policy for all students by weighting test scores differently.

As I stated in an earlier letter to the *Tech*, the editors have a certain responsibility to check that their reporters do not make gross misstatements. At minimum, they should print retractions of statements which are written in articles that are untrue. Given Huy Cao's previous track record, I think that his articles should be printed as opinion unless the editors want to

take on the monumentous task of verifying the various 'facts' that he alleges. This would save me the trouble of having to spend so much time writing nasty letters about his allegations, and allow me to write about more important issues such as ending the arms race which threatens to destroy all life on this planet.

-Ann Terese Heil ChE Grad 206-41

# The Gift

To the Editors,

As the end of the term draws closer, you may notice that the seniors have become somewhat nostalgic. The pains inflicted by the long nights of studying, the frustrating social situations, and that famed Pasadena smog are starting to fade away, or perhaps even being recalled with some masochistic fondness. It is natural to miss the antics, the challenges, and the camaraderie, and some of us seniors want to do something for Caltech in return. Thus we have seen the organization of a Senior Class Gift so that we could easily show our gratitude to the school.

Our gift, a Video Cassette Recorder will entertain many people. Somehow though, to us a VCR seems too mundane. After all, VCR's are now common household items which are even owned by many students. By the time we received our third letter asking for a contribution to The Gift, some of us began to feel that there must be a more significant way to improve Caltech.

We figured that we probably couldn't change any of the really big problems, but maybe we could undo some of the damage that has taken place in our four years. One of the nice things which is now missing from Caltech is the Baxter Art Gallery. Walking up the stairwell in Baxter, one can see from the posters for the old exhibits just how many different things Bax-Art had shown. There was a wide variety of exhibits ranging from architectural studies of Pasadena bungalows to spectacular space photographs.

Perhaps the most remarkable thing about the Gallery was the low

cost to Caltech. The Art Gallery was a collaboration between Caltech and the Pasadena Art Alliance. Furthermore, the costs of the exhibits was heavily subsidized by outside donors. According to reporters for the California Tech Caltech's expenses consisted of the donation of space, and the salary of the director.

With the beginning of a new administration this fall, we felt that the new president might consider reviving the Art Gallery if there was a clear demonstration of interest. We realized that as graduating students we are incapable of providing a large amount of financial support now, so it would be foolish to try to raise money for the art gallery. However, we also realized that over the next several years, our contributions as alumni would amount to several thousand dollars. We found out that a typical class will donate \$18,000 to Caltech in its tenth year.

Thus we decided that the best way we could show our support for an Art Gallery, given our meager resources would be to openly withhold support from Caltech. Those of us who have signed this letter have decided that Caltech will receive no contributions from us until Caltech declares that it will construct an art gallery.

After all, given the choice of donating money for a bench or a VCR, or of making a statement about what we could do to improve Caltech, the choice was clear.

-Lots of Seniors

# Gratitude For Hollywood

To the Editors:

Speaking on behalf of most, if not all, parents, alumni, and faculty of Caltech, we want to express our gratitude for the many laughs and constant smiles received from the CALTECH/HOLLYWOOD caper.

It was a classic prank seen by millions around the world. Call us, we would be glad to make a contribution to the Defense Fund if needed.

-Marty & Peggy O'Brien Houston, Texas



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# he Inside World

**HELP WANTED:** Blacker Hovse is in need of a new Gardener. No experience necessary. The pay sucks and the food sucks, but the hours are decent and the fringe benefits are pretty good. See Mike in 5A for job description. See Brad to set up an appointment for an interview.

Intense week. "The maids are going to shit their pants," says Andrew. As I said, intense week. Blood and glass taint the lounge as a foot attempting to escape justice plummets through the Womb ceiling to uncover piles of yellowed notes, AM 1 homework assignments and physics quizzes dating back to World War II. Scott riding through frosh alleys at odd hours, though not the same "riding" that has all of Ricketts flying through our transoms, breaking our windows, making death threats at dinner, and strolling through the frosh alleys at ten minute intervals. Didn't think you'd take it so personally. But hey, we're paranoid too. One frosh, who refused to be identified, said "I hope they don't fill my room up with feces." In general, complete entropy in the finest of hovse tradition. We may never have any money, but at least we don't have Tylus.

#### Song for the week

Life is a waste of time Time is a waste of life

So let's have the time of our lives and get wasted.

It needed to be said. Best of luck to the class of '87. I'm going to miss most of you.

Dabney: In the beginning, there was God. And God said, "Let there be Bob," and there was Bob and God saw it was good. And Bob said, "Where in hell's the light switch?" There was a click and there was light. God handed Bob a folded, stapled piece of paper which read "Time limit: 7 days. Closed book, closed notes. No collaboration. Must be done in one sitting. Calculators and periodic tables may be used. Here are some useful constants: 42, 69.

Bob flicked for six days. On the seventh day, he opened the paper: (100) 1. Create the universe and call it Dabney.

And Bob pulled an all-nighter. Bob first formed a white powder and called it methamphetamine, and ingested a large amount. Bob noticed the pressing silence and then there were compact discs. And Bob said, "I need a drink," and made himself a Bud. Then Bob said, "I want women," and there was Nancy-Bob. And Bob gave her a Bud. And it was good.

The next morning, Bob awakened to loud pounding noises. He yelled out the window, "Shut the hell up!" then realized he had a hangover. And there was aspirin. He ran to God and showed him his work, and God gave up all hope and said, "Never mind. I'll do it myself."

-The High Priestess' Ghost

#### Fleming: Fleming House End-of-the-Year Crossword Puzzle

#### Down:

- burden (4)
- gov't bureau of standards (4) NY baseball team (4)
- woody (8)
- 5. implement (6)
- 6. Nigerian Capital (5) 7. not oral (4)
- 8. donut (5)
- 9. after "i", except "c" (1)
  10. Greek goddess (6)
  11. e.g. cess & football (4)

- 12. love god (4)
- 13. symbol (4)
- 16. South Carolina abbv. (2)
- 21. welcome sight in Egypt (5) 22. Thor and Chris had one (4)
- 26. Lloyd abbv. (2)

- 27. von Richtoven was one (5)
- 28. ankles or drinks (5) 29. shaken or stirred (5)
- 31. e.g. Wayne (5)
- 32. evaluates (5) 33. graze (4)
- 34. wife of Zeus (4)
- 35. Adam's bitch (3)
- 35 down didn't have one (3)
- 40. Brian and Clark's pop out (5) 41. standard comedy hangout (8)
- 43. his jeans (4)
- 46. director (6)
- 47. Sodium (2)
- 49. attendant (6)
- 51. done before you leave (5)
  - \_ Donna (5)
    - continued on page 5

# A BILL THE CAT UPPATE : ROCK'S NEWEST AND RICHEST WILD GUY REMAINS SECLUDED IN HIS HOLLYWOOD HILLS HOME







# ${f BLOOM}$

# COUNTY















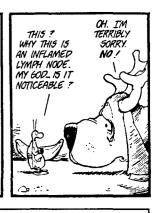


### by Berke Breathed









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# from page 1

(only 19.1% thought the US had that many warheads).

In addition to testing peoples' knowledge of some basic facts, we also wanted to see what people thought about some current issues. We had two particular questions about SDI: a) will it work, and b) is it a good idea. Our first question was "What effectiveness (i.e., percentage of warheads launched that would be stopped) do you think a defensive shield could have against a large attack if deployed by the year 2000?" 69.3% of respondents thought SDI would stop 75% or fewer of the warheads launched against it. Only 1.1% of respondents thought SDI could stop over 99% of incoming warheads if deployed by the year 2000, and only 7.7% thought it could stop over 90%. There weren't any clear differences between grads & undergrads here, except that grad students were more willing to say

that they didn't know. There were no differences between US born and foreign born.

As the military is a major employer in high tech careers, we also wanted to know what people thought about working for companies involved in defense work. We pointed out that "many Caltech students take defense related jobs upon graduating." We then asked which statement people most agreed with: "a) (some people argue) against this because they feel that defense related work is not socially productive" or "b) (some people argue) that accepting a defense-related job helps to contribute to the nation's security and promote scientific progress." Undergrads opted for the second answer 44.8% to 24.3%; while grad students were almost evenly split: 30.5% to 28.5%. 26.5% of undergrads and 33.9% of grad students chose neither.

This represents a pretty radical difference in thinking about such jobs. When the words "defense

related work" were replaced with "work on the Strategic Defense Initiative" the split became even more pronounced: undergrads still opted for the second answer 37.0% to 31.7%; and grad students overwhelmingly chose the first answer (being against it because it is not socially productive) 42.3% to 18.4%. The percentage of grad students choosing neither answer dropped to 25.1% on this question, while for undergrads it remained absolutely identical at 26.5%. The question was also asked regarding weapons systems used to deliver nuclear weapons" and "work on design and development of nuclear weapons". The graduates students remained substantially more willing to disapprove of such work; but on both questions a majority of respondents chose the first answer (being against it because it is not socially productive). The "don't knows" dropped to 20% for these last two versions of the question.

Sticking to the upbeat tone of continued on page 6

# More Inside World

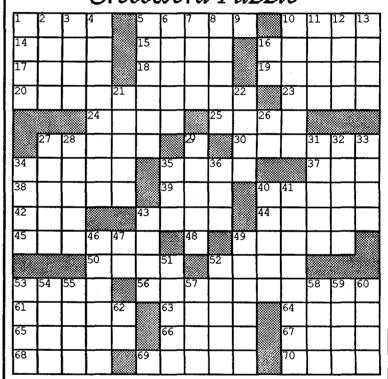
- 53. joint (4)
- 54. Dr. Zhivago heroine (4)
- 55. consumer (4)
- 57. yarn (4)
- 58. Russian mountain range (4)
- 59. fabric made by worms (4)
- 60. to be, to cato (4) 62. here (2)
- 69. little- and Big- (1)

#### Across:

- 1. this puzzle (4)
- 2. happify (5)
- 10. mimics (4)
- 14. one who oppresses (4) \_\_\_ second (4)
- 16. accumulate (5)
- \_\_ -Spumante (4)
- 18. grows fungus better than Ed's shoes (4)
- 19. obs. sland for "dude" (5)
- 20. Fleming's by divine right (10) 23. "the cow" in Housing (4)
- 24. valleys (Ger.) (4)
- 25. Solution abbv. (4) 27. Idaho capital (5)
- 29. "above average" (1)

- 30. UASH's "favorite" (6)
- 34. Vietnam capital (5)
- 35. Isle of exile (4) \_ Gardner (3)
- 37. \_\_\_ Gard 38. pl. Erin (5)
- 39. how "V" sounds (1)
- 40. belongs to Tina (5)
- 42. \_ \_ of the 80's (3) 43. to let borrow (4)
- 44. school (Fr.) (5)
- 46. "you find one in every puzzle
- you see" (6)
- 48. "below average" (1) 49. deviates (5)
- 50. below the gutter (4)
- 52. shower alternative (4) 53. snail's kin (4)
- 56. perennial possession (10)61. painter's stand (5)
- 63. Ann Lewis, for example (4)
- 64. author Leon (4)
- 65. site of athletic competition (5)
- 66. fashion magazine (4)
- 67. belonging to Sal (4)
- 68. mini- \_ \_ (4) 69. heal (5)
- 70. brigid (4)

### Fleming End-of-the-Year Crossword Puzzle



-Wayne Manor

Lloyd: Well here's the last one we have to do this year... we want to end on a constructive note before summer. Then we'll just LEAVE.

Anyway here are our creative and unsarcastic ideas for how some close friends should spend their summers.

Earl Taylor: Try to work on overcoming that shyness problem. Jim Roberts: Get a haircut.

Oren Bergman: Maybe learn something about the Israeli military. Keith Miyake: Try to be more like Phil Lin.

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PRICK UP YOUR EARS



# More Inside World

Phil Lin: Try to be more like Raleigh Chiu. Raleigh Chiu: Try to be more like Anh-Tuan Le.

Anh-Tuan Le: Try to be more like Keith Miyake.

Ken Chaney: Learn another instrument to entertain us with next year; perhaps the accordion would be nice.

Fleming House: Just go straight to Hell.

Carol Choy: Don't let Phil Lee push you around so much. Rob Grothe: Stay out of the sun! You're so tan you look like Earl.

Khan-Ren Lim: Give some of those extra clothes to charity Doug Chang: Stop being so mad 'cause you didn't get LAID!

Hung Nguyen: Get a job as an Evil Lawn Gnome. Rob Jarecki: Oh, just try to be more like the Pope, eh?

Sho Kuwamoto: Party down every night with your animal roommate. Jimbob Coykendall: Just checking to see if you still read this.

Carol Mullenax: Convince people that Snuffie is real.

Garrett Choi: Learn a new imitation. Kaaaaa!

Well that's it for us and we'd just like to say: YEAH!! IT'S OVER!! WE DON'T HAVE TO WRITE IT ANYMORE!! LET'S GET DRUNK!! LET'S OFFEND PEOPLE IN PERSON NOW!!

-Enos, Skeeter, and Jethro

Page: It's that time of year again when Page House confronts the issue of how to fit in the most parties between now and finals. Too bad Vito won't be joining us, he says he has to do all the work he's blown off for the last four years in one short week. It shouldn't be hard for a guy who likes drinking too much and repeatedly slamming himself into a cement wall-sounds like he and masochism are already well acquainted.

Speaking of pain, the best thing about this time of year is that we will NEVER AGAIN have to listen to John Beck say "Ditch Day is tomorrow... In fact, soon we won't have to listen to John Beck say ANYTHING AT ALL...boggles the mind, doesn't it...maybe that's what the extra case of

House Champagne is for!
IN THE NEWS:

In the spring, the swallows go back to Capistrano, the slugs go back to Tacoma (that's for you, Kate and Lade), and the Page Boys migrate off campus to escape the creeping living horror of B.C. food..

Meanwhile, on campus, the triple goes to Tony the Prez, Larry Flint, and John Henry "I carry a pocket size periodic table in my wallet" Scott.

Mega's remake of the Beatles classis "Dr. Roberts" has made its debut in Beast Alley as of late. If he's kicked out of Caltech, Mega plans to pursue a lucrative career in music - either as a car alarm or a fog horn. Really guys,

it's not rabbit season yet so no picking on the bunnies...
Hey! Another doctor in the House! Congratulations to RA Cheryl Schmitt for successfully conning her thesis committee into accepting the latest issue of Time-Life home repair books (just kidding, it was *Science Today*).

Rumor has it Doug took the direct approach: Porsches and a condo in Malibu for his thesis advisor (I'm charging 10% on that loan, Doug).

Fishbone was...well, you know...Fishbone. Funny thing about fishbones, sometimes they get caught in your throat-is that what happened to you, Bob??

Thought for the Day: if eggs are more fragile than freshmen, then couldn't we drop freshmen off Firestone on Ditch Day?

Remember Boys: Nancy Reagan says JUST SAY NO!!!

- Cynthia LePage. P.S. A message from the House: Vince, we really want you to graduate. If you have any problems in math, Ed Ratner says he'll help you. Chemistry: Scott Virgil. Physics: John Scott "Keeping Up With James" Koo. Good luck

Ricketts Hovse: The Year In Review

Sunday, Sept. 28, 1986

6:00 pm: Dinner begins. Rotation begins.

8:00 pm: Rotation continues, and we are sick of it.

Monday, Sept. 29

1:00 pm: Registration begins.

Tuesday, Sept. 30

9:00 am: Frosh wake up for classes.

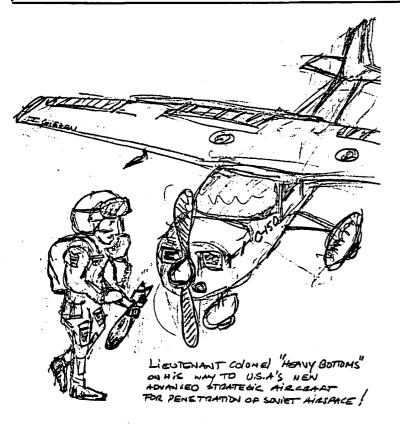
12 noon: Upperclassmen wake up for lunch.

11:00 am: Frosh attend last physics lecture of the term. Sunday, Oct. 5

7:00 pm: Frosh are showered into the house. There is much rejoicing.

Wednesday, Oct. 8 10:30 pm: On Dave Lee's advice, Sam holds Hovse meeting early.

10:00 pm-11:00 pm: Dave Lee watches Hill Street Blues.



Saturday, Oct. 18

12:04 am: Future famous writer turns 20.

9:00 pm: Sophomores begin Ma2 midterm, kill any Frosh that uses the expression "It's only pass/fail."

Wednesday, Nov. 12

7:00 pm: Joe's favorite toy is hung from the tree.

Saturday, Nov. 15

All day: It rains in the basement under Ricketts. Meteorologists are baffled. Sunday, Nov. 16

5:45 pm: Stottlemeyer's favorite pair of eyes turns 20.

Wednesday, Dec. 3

2:00 pm: Tom Brinck forgets to leave tip at local whorehovse. Thursday, Dec. 25

2:00 am: Santa Claus comes to Ricketts Hovse. Leaves coal. Monday, Jan. 5, 1987

1:00 pm: Registration for second term begins.

Friday, Jan. 23

4:00 pm: First term ends. Wednesday, Feb. 4

10:00 am: George becomes ancient. Wednesday, Feb. 11

10:30 pm: Fishy makes Shroom "rue the day he was born." Saturday, Feb. 21

5:30 pm: Danny restyles Shroom's hair. There is little rejoicing. 10:00 pm: Buddy and Melissa find Ricketts parties mild.

Sunday, Feb. 22 12:10 am: Sam and Gaby put on a wonderful performance.

12:20 am: Lisa undresses Jerry.

12:21 am: Heidi flosses her teeth with Jerry's leg hairs. 3:30 pm: Cookie tosses his cookies on the 110. 3 times.

Tuesday, Feb. 24

10:30 pm: Diamond Dave seizes power.

Monday, Mar. 2

7:00 am: Windsor has sex for the second time, first time with a partner.

Monday, Mar. 30 1:00 pm: Registration begins.

Wednesday, April 1 6:00 am: Calder Arches are turned upside down.

Sunday, April 5

7:00 pm: Craig rents three sheep from Fleming, returns them three hours later, slightly soiled.

Friday, April 17 4:30 pm: Social team replaces Add Day with a Faculty Cocktail Party, allowing Diamond Dave to extend second term until Drop Day.

Thursday, April 23
3:00 pm: Glomming little girls begins. Brian's method is by spitting milk on them.

Friday, April 24

All day: The Glom goes on.

Saturday, April 25

11:00 pm: Vito propositions Shroom, but gets cold feet when Shroom Friday, May 1

11:45 pm: Lisa discovers she enjoys the same things as a certain Tech

Thursday, May 7 2:00 pm: Dave Nice buys 100 wire hangers for personal reasons.

11:30 pm: Inside World writer tries to get lucky, finds out why Washington

12 noon: Woodland nymphs shudder at the sight of Steve's eight-footlong snake.

4:00 am: The Hollywood Chamber of Commerce bestows its greatest honor on Caltech.

continued on page 7

# Nagler

from page 5

the survey, we asked people for their "best estimate of the likelihood of a nuclear war within the next 10 years." Choices were: less than 1%, 5%, 25%, 50%, greater than 90%, and the ubiquitous "don't know". Over a third of respondents (39.6%) chose the lowest probability offered ("less than 1%"): 34.8% of undergrads and 44.4% of grads chose this answer. Thus more grads than undergrads are willing to assign a very low likelihood to a nuclear war. (Of course this makes sense if we believe the self-selection problem: it would be stupid to blow 5 years in grad school if you thought the world was about to end.) Another 30.3% went with the slightly more conservative 5%: 32.6% of the undergrads and 28.0% of the grad students. The remaining numbers were 10.2%, 4.2%, and 0.6% corresponding to likelihoods of 25%, 50%, and greater than 90% respectively. 14.2% of respondents chose "don't know". The foreign born students' answers were indistinguishable from US born students' answers.

We were interested in determining whether or not how much people knew affected what they thought. In other words; does reading the paper make people more likely to think SDI will work or not work? It turns out that it does. Those respondents who did not read the paper were twice as likely as those who did read the paper to think that SDI would work: 25.4% of non-readers thinking SDI would "protect the US from a nuclear attack", while only 11.2% of the paper readers believed this. Roughly the same was true of people who thought the U.S. had tested more weapons than the USSR compared to those who thought the USSR had (24.4% to 12.2%). And in fact not only reading the paper; but actually knowing something mattered. People's knowledge was scored as the sum of correct answers over 3 factual questions; and people who

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knew more were significantly more likely to say that SDI would be overwhelmed.

#### **Conclusions**

There were significant numbers of students who felt that working for defense related industries was not socially productive. This seems to explain the success of the Alternative Jobs Fair sponsored by Strive on campus this past Spring which 200 people attended. Interpreting the level of knowledge of the group is impossible to do. If one doesn't think it's important for Caltech students to be aware of world events: then there is no problem. But if people think that scientists have some obligation to be aware of the practical consequences of their work; then it is troublesome that so many Techers were unaware of the Soviet test ban, or do not really know how much we spend on the military each year.
The poll was a collaborative

effort suggested by the members of STRIVE (Society To Reduce International Violence on Earth) and funded by the Caltech Y. I designed the poll and the survey method (with the advice of Professors Bruce Cain and Rod Kiewiet), and supervised the execution of it, which was carried out by the members of STRIVE. About 300 students responded within a few weeks; then, a second round of polls was sent to the remaining

# **More Inside World**

from page 6

Wednesday, May 20

8:00 am: Tomorrow begins.

5:00 pm: Tomorrow ends. 7:45 pm: Yo, Buttstar! And a legend was born.

Friday, May 22

4:00 pm: Diamond Dave and Lisa L. extend second term to mid-June. Tuesday, May 26

7:00 pm: Fuzzy buys \$400 sex toy for Hovse.

Thursday, May 28

3:00 pm: Diamond Dave extends second term until Sept. 23, 1987. Friday, May 29

7:00 pm: Vivian shows the MOSH what no Caucasian man has ever seen. Saturday, May 30

11:15 pm: 4 Hovse and 3 House party. Doggy dreams of a Lloyd girl dancing nude in the street. Monday, June 1

7:00 am: Sprigs of toast garnish the doors of Ricketts Hovse.

5:30 pm: The Big Maroon Machine grinds to a halt, leaving intact an 8-vear tradition.

5:45 pm: Brian drinks punch at Murph and Mildred's going away party. Wednesday, June 3

1:15 am: Andrew enthralls Inside World writers with tales of latest conquest. He makes them promise not to mention Christina's name. They cross their fingers.

Friday, June 5 8:30 am: Longest Ricketts Hovse Inside World to date is available for your reading pleasure.

300 or so. Approximately 100 of these people responded within another 2 weeks. After this we attempted to call the remaining 200 non-respondents, and also put an announcement in the Tech asking people to return the polls. Seventytwo of these people were convinced to return their polls, for a total response rate of 472/600. Taking into account that several of the sample of 600 had moved and

never got the poll: this is an effective response rate of over 80%. During phoning very few people admitted to not filling out the poll for any substantive reason (i.e., did not believe in polls, felt the poll was biased, etc.). Most nonrespondents apparently simply had better things to do with their time. Hence we are very confident that we have a random sample of student opinion.

12:37 pm: Ricketts Hovse Inside World reporters receive tenth death threat

Sunday, June 7 4:00 pm: Josh bets Meera she can't get laid five times in two hours.

6:15 pm: Peter Lindstrom and Meera finish proving Josh wrong. 6:17 pm: Peter collapses due to exhaustion.

Friday, June 12

10:00 am: Ricketts Hovse finally gets rid of the Senior class. Well...most. Okay, some.

Wednesday, Sept. 23, 1987

4:00 pm: Diamond Dave extends second term until Hell freezes over. -The Great Neck Strangler and The Lil' Cook-Man

Ruddock: Good morning campers, I'm you're uncle Ernie and...

Well, school is almost over for the year, and we're all broke. We're also fifth in interhouse, so this week's saying is "We're fifth, so have a fifth!" Not much is new around here except that Jeff Hartt is a fuck-up, but we already knew that. I heard a couple of good jokes lately:

So this guy from Ricketts and this guy from Page are talking. The Ricketts guy says, "How come we have bare feet and long hair and everyone looks down on us and calls us Scurves and looks down on us, and all you guys got is Vito?" Then the Page guy said, "Because you got first choice.

How many Flems does it take to screw in a light bulb?

One, he just holds the bulb up and the universe revolves around him. Did you hear about the new Lloyd-Dabney cultural exchange program? Just the other day I saw John Haba and Earl Taylor walking hand in hand down the olive walk with bare feet, paisley bandanas, and waving peace signs to everyone. Andrew Huntington missed all of this because he was in the computer room playing rogue.

Finally, there is the best joke of them all: Blacker.

So long, have a good summer, and always keep a trash bag in your car.

# Happy Hiking, Friends

The Santa Monica Mountains National Recreation Area, a unit of the National Park Service, sent the Tech a set of tips for summertime hiking in the Santa Monica Mountains. Even if you don't plan to do your hiking there, the tips are the

same ones that should be followed in the San Gabriels or any other of the chapparal-covered foothills and mountains in Southern California. Here goes:

WATER IS LIFE. Carry plenty of water and drink it. One quart for short walks, more for longer hikes.

Wear sunscreen, hat and sunglasses.

Never hike alone. Use the buddy system. That leaves someone to go for help if you encounter trouble.

Wear sturdy footwear: hiking boots or sneakers.

State parks close during periods of extreme fire danger; call (213) 454-2372 for 24-hour recorded fire condition message.

Don't build fires and don't smoke

Carry a well-equipped first aid kit.

Remember, high summer temperatures can reduce a person's efficiency. Travel light. The heaviest item in your pack should be water.

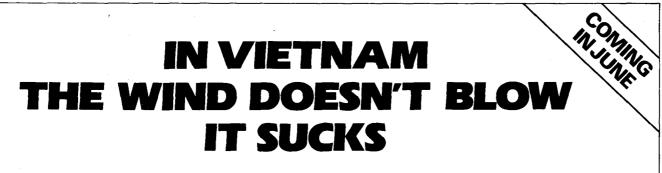
### **Trail Cautions**

Be aware that the southern Pacific rattlesnake makes the mountains his home; stay away from him and he won't bother you. Some things to know and remember are: DO NOT make an incision in order to draw out venom, no matter what they taught you in ninth grade; there are too many ways to cause more harm than good by doing this. TREAT-MENT: Splint the extremity and transport to an Emergency Room!

Poison oak grows in shady moist areas. Learn to recognize it. Wearing long pants (I know, it's hot, but sweating for hours is better than itching for days) and staying on trails will help you avoid it.

Be aware that ticks are out this time of year. Some ticks do carry disease (Lyme disease as an example). Check your clothing and exposed skin after hiking.

"Hiking in the chapparal covered hills, oak woodlands and canyons can be a rewarding experience if these safety tips are followed," said Daniel R. Kuehn, Superintendent of the Santa Monica Mountains National Recreation Area. "We encourage visitors to enjoy all the natural and cultural resources of this nearby 'urban wilderness' area. Remember, you can minimize your water needs and prevent heat related problems by planning your hiking trip in the early mornings and evenings to avoid the heat of the day. ENJOY!"





Stanley Kubrick's

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### WHAT GOES

Announcements for What Goes On must be submitted on an announcement form (available outside 107 Winnett) or on a plain piece of paper. Please indicate the date(s) you want the announcement to run. Send announcements to 107-51, or put them in the mail slot in the door of 107 Winnett.

Announcements must be received by the Tuesday prior to publication.

#### **Fall Contracts**

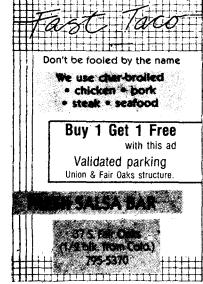
Fall housing contracts for 87/88 are now in the MOSH's office. Deadline is Monday,

### Clubs! Want GSC Money?

The GSC will complete its budget for FY 1987-88 over the summer. Campus organizations wishing to request funding from the GSC must submit proposals by June 12th! Proposal forms are available from the GSC Treasurer, Lionel Laroche (mail code 206-41, x4634).

#### Club Information Due

Club representatives, we need information from you in order to update the club section of the little t. Send a brief description (50-100 words) of the activities of your club along with the name, mail code and phone number of a contact person to little t, 107-51. Remember, 200 new freshmen will consult the *little t* for information about clubs. If we do not receive a response from your club then we will not repeat the entry



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### CALTECH BOOKSTORE -

CASH FOR YOUR BOOKS. Book buyback Tuesday June 9, and Wednesday June 10, 9-12 & 1-4. At the Caltech Bookstore in front of main enterance.

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### Tune Up Your Air Bands!

Decompression, that amazing weekend of food and fun sponsored each term by The Caltech Y just before finals week, will be moving in a new (and possibly dangerous) direction in June. This term, in response to student requests for more active participation, we will be having an air band contest, complete with faculty judges and monetary

Providing enough bands sign up, the preliminary contest will be Saturday night, June 6, and the finals Sunday night, June 7. Prizes of \$100, \$75, \$50 and \$25 will be awarded to the top four bands. Judging will be based on originality, costume, and overall performance. Interested people should sign up in the Y by Thursday, June 4, and leave the name of the group, the contact person, and a phone number where the person can be reached.

For more information, contact The Caltech Y, 218-51, x6163, or Mike Goedecke, 1-53, 578-9368.

### Club Information Needed

The GSC is updating its graduate student handbook, The Technique. Information is needed from campus organizations in order to update and expand the handbook's list of on-campus organizations. Please send the name of your organization, a short description (about 50 words) of its aims and activities, and the name, address and phone number of a contact person to GSC Techique Editor, mail code 218-51, by June 12th. It's worth the effort involved-over 900 graduate students will receive copies of The Technique!!

Learn Karate

The Caltech Karate Club, the oldest karate club in the United States, is starting beginners classes in the traditional Japanese martial art of Karate on Monday, June 22 1987. Classes will meet MWF 5:30-6:30 either in the gym or just outside. Classes are free, but you must join the Athletic Department's summer program to use the gym. Through Karate one can learn to develop great physical and mental strength. Students, staff, spouses and faculty are all encouraged to join this club or diverse community members. For more information contact Sean Callahan (x6695), Johnson Chung (x9389), David Gabai (x4382) or Evan Bak

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### Penetrate Soviet Airspace 🚜

Yes, you too can work your way up to Caltech's stealthy Cessna 172. To begin, just contact Kevin Baines, JPL 183–301, phone 354–0481 or Jim Kaufman, CIA 264–33, phone 356-3807. They will fill you in on how to go about joining the Caltech Flying Club and earning your wings.

The Caltech Medieval/Renaissance Society is having a meeting and potluck on Sunday, 14 June. The meeting will be followed by a costuming workshop...bring ideas and fabric! For further information, call Amy at 794-2812, or Doug at x6830.

MacMeeting
The MacValley Users Group's June
general meeting will be held Tuesday, June
16, 1987, at 7:30 рм in the cafeteria of Burbank High School at Burbank Blvd. and Third St. in Burbank. Adobe will introduce its new graphics program, Illustrator. For further information please contact Ruth Stever, (818) 848-1277, or write MacValley Users Group, P.O. Box 4297, Burbank, CA

#### Mabel Beckman Prize

The second annual Mabel Beckman Prize has been awarded to Pamela Feldman. This award was established by Caltech in honor of Mabel Beckman, who, with her husband, Dr. Arnold Beckman, has supported Caltech as a faculty member, friend and benefactor for over fifty years. The prize bearing Mrs. Beckman's name is awarded annually to a woman student, upon completion of her junior or senior year. It is made in recognition to demonstrated academic and personal excellence, contribution to the Institute Community and outstanding qualities of character and leadership.

Pam will receive the 1987 Mabel Beckman Award and a check for \$3,000 at Commencement on June 12.

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#### Chance of a Lifetime

Wanted: Persons who want a nice place to live, good food, and don't mind pitching in to make this co-op housing project work. We're looking for undergrads and grads, male and female, for the coming school year. Interested? Please contact Jennifer Low or Ralph Wolf at x6830.

### Deans' and Masters' Cups

The second annual Deans' and Masters' Cup Awards will be presented at the Senior Party this evening. These awards, selected by the Deans and Masters respectively, are presented to students whose concern for their fellow students has been demonstrated by persistent efforts to improve the quality of undergraduate life.

David Bruning and Clea Bures are the recipients of the Deans' Cup, and Chris Meisl and Ralph Wolf will receive the Masters' Cup at the Master's Party for Seniors tonight.

#### French Film Series Continues

The French Film Series will go on during the summer, every Thursday night at 8 pm in Baxter Lecture Hall. Open to the public, free admission, sponsored by the Francophile Club.

Next Thursday, June 11, will feature an hilarious comedy, Les Ripoux ("My New Partner"), a film by Caude Zidi, 1985. So come and enjoy the movies with the Francophiles.

### **Summer Research At Hughes**

A SPECIAL summer job opportunity has been made available for a Caltech undergraduate. Work with top scientists at the Hughes Research Laboratories in Malibu, California. The research activities at the laboratories are largely experimental, with an emphasis on microelectronics, sensors, electro-optics, plasmas, and information sciences.

A highly competitive salary will be provided, and housing will be arranged. Students in physics and engineering who plan to pursue graduate school will be the strongest candidates. For more information, come by the Career Development Center, 08 Parsons-Gates.

### Job Openings at TRW

TRW Operations and Support Group in Redondo Beach has 20 immediate openings available for recent graduates. Graduates in computer science and mechanical, chemical and electrical engineering are encouraged to apply. Come by the Career Development Center, 08 Parsons-Gates, for more information.

### Backpacking

Interested in the upcoming Y-sponsored backpack in the Sierra Nevada? The Caltech Y is looking for upperclassmen interested in joining the four or perhaps five groups. We would like to hear from those interested in leading or co-leading one of the groups. The program begins Monday afternoon, September 14, and we depart the following morning. We return to the cars the following Monday at noon and plan to arrive at Caltech on the night of the 21st. The cost is \$70. If interested, sign up without obligation in the Y office and leave your summer address. We will send you further information in early July.

### Summer Campers In Need

The Friends in Deed Summer Camp Assistance Program is again collecting items to help local young people attend camp. The following items are suggested:

Clothing (Ages/Sizes 6-14) - bathing suits (1-piece preferred), jackets, sweaters, jeans, slacks, pajamas, shorts, socks (new

or used), sweat shirts & pants, T-shirts. Equipment such as flashlights, flight bags, small overnight cases, sleeping bags,

backpacks, hats, etc. Personal hygiene items such as chapsticks, combs (regular or afro), brushes, toothbrushes, towels, washcloths, etc.

Small sample sizes of deodorant, sham-

poo, soap, sun screen, toothpaste, etc.

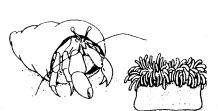
Please bring your donated items to Jo Wilson, x4735 in the Physical Plant Bldg. (across the street from Chandler), Rm. 10 from June 1 to June 26. Some child(ren) will really thank you!

#### **Summer Games?**

For those of you too busy during the academic year, the Caltech Gamers will continue to meet during the summer. Various games commonly played range from various SF and fantasy role-playing to grand-scale miniatures games, if enough people are interested. Anyway, stop by Clubroom 1 on any Friday night at 8:00 pm and meet people, plan things, and have fun. Beginners always welcome.

### Don't Leave Home Without It

Travelling abroad? Don't leave home without an International Student ID Card. You can obtain it from Ingrid, International Desk, 105 Winnett Student Center, x6330.



## Rag Time RESALE CLOTHING

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