The CALIFORNIA Tech

Try to follow the IHC !!!!

olume LXXVII

Number 15

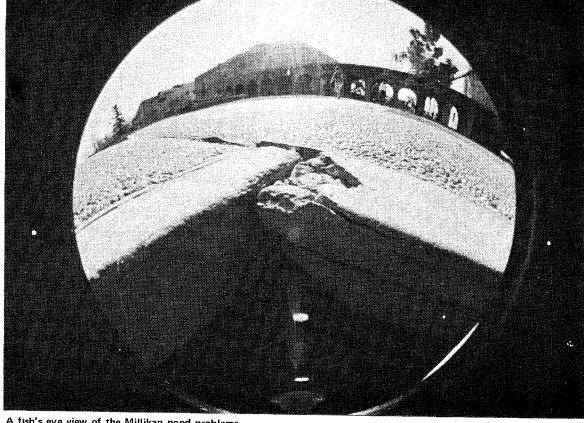
Millikan Cracking Into Crumbs

by Carl Lydick

Yes, the Earthquake Pressure Relief Valve has been reinstalled, but apparently not in time. During the absence of the valve, Millikan pond was drained in order to remove the remnants of the Mudeo Pit from it and to perform other routine maintenance, but an inspection of the previously submerged areas of the pond revealed that important areas near the bridge were crumbling and that the floor of the pond was virtually laced with cracks.

The cracks can be ascribed to normal settling of the pond, a natural and practically unavoidable occurrance. On the other hand, engineering technology has long been available for preventing the sort of crumbling that is occurring around the bridge. A quick inspection of the bridge by myone from a place that freezes n the winter will reveal the paring absence of any expansion oints. Yet the expansion joints can be found on the original blueprints. The necessity of expansion joints has been recognized at least since the advent of the modern highway. The crum bling at the bridge was predictable and unavoidable once the expansion joints were deleted.

There are, fortunately, simple though costly solutions to the problem: one is to use a concrete aw and cut expansion joints now, if the sidewalks at either



A fish's eye view of the Millikan pond problems. Photo by D. Wheeler

end still have sufficient integrity to merit this operation; the other solution is to rip out the sidewalks and replace them, this time putting in the expansion joints.

The real question in this matter, however, is that if for the sake of cost-cutting, expansion joints (very cheap) were omitted, what else was left out of the library? Why do the elevators break down so often? Are the electrical systems adequate? How firm and strong is the foundation? Does Millikan Library really have a sufficient margin of safety in its construc-

HC Finally Gets It On

Minutes of the IHC Meeting, 1-21-76

1. Atwater called the meeting to order at 10:39 pm in the presence of Hunt (Bl), Melch (Da), Naecker (F1), Maurice "Killer" Zwass (new Lloyd chieftain), Wakai (Pa), Grams (Ri), Munro (Ru), and Atwater.

2. Melch complained about having to come to the IHC meeting because his appointed representative didn't show up.

3. Carmella wanted it known that they have two sewing machines in the Master's office for the use of students.

4. Next week the Housing Committee will meet to consider board contract next year, and the IHC should know something about student opinion on the matter. Melch suggested "it be got up to get some kind of Kwestionnaire (sic)." Possible questions include i) is 10 meals a

week appropriate-perhaps more or less?; ii) Are students satisfied with the present contractor? Should we seek a new one, or at least look at some bids? iii) Would students pay more for more/better food? iv) actually a refinement of i), should we have breakfast? meals on weekends?

5. Naecker talked to Lee Chapman, chief of Security, about the PPD. See the California Tech No. 13 for details.

6. Jon Ziegler, Melch's appointed representative, came in.

7. Fleming still wants their plaque back, also the old Interhouse trophy. Blacker wants their comic books back before Midterms. Fleming is prepared to offer a reward for the return of their stuff. "Like killing?"

8. Adjourned 10:52 pm Respectively submitted,

Rich Feldman

GRB on Line

by Greenie

"No member of the Caltech community shall take unfair advantage of any other member."

-- Caltech Honor System

Caltech's Honor System is one of the most impressive parts of life here. It is essentially a contract among the various people connected with Caltech to throw away codified rules and restrictions and to replace them with common sense, personal responsibility, and mature understanding of the give-and-take necessary for a functioning society. But, due to its nature, the Honor System cannot operate unless it is observed by all members of the community that it serves. Its effectiveness is based on trust and cooperation; unless everyone takes it equally seriously, it will cease to operate.

A constant question ever since the system's institution has been, how well is the system working, and does it work for all segments of the community?

Today, the general current of opinion seems to be that the system works admirably well for undergraduates, especially in academic matters; Steve Grennan, secretary of the Board of Control, and John Fuhrman, chairman of the Graduate Reveiw Board seem agreed on this, as are several professors, graduate students, and undergraduates.

But what of graduate students? Many undergraduates are uneasy as to how seriously graduate students take the Honor System. Certainly, there are problems. Graduate students receive little orientation; they have no equivalent of frosh camp or of the closely knit community of the student houses. Many of them live off campus and have little social contact with other members of the community. Some come from schools where cheating is a way of life.

Continued on Page Five

Swashbucklers Foiled

by Ed Bielecki

In its second match of the season, the Caltech Fencing Team met up with the Cal State LA team, and went down dashing. For the first time in years there were matches in foil and saber. (A match consists of all possible combinations of the 3 people on each team.)

The foil team went down 9-0, as a result of having its best men (sorry, but we do need more women on the team) siphoned off onto the saber team, which went down 5-4 in a close match.

The turnout of frosh for the team is indeed impressive, but we can always use more people (especially female types). There will be matches every Thursday night, starting about 7:30, for the next several weeks, alternating between Cal State LA and PCC. Cal State LA will be here on the 4th of February.

Elephant Stomps Beckman Auditorium!

The fifth almost annual Caltech Circus is this Saturday and Sunday, featuring aerialists, jugglers, acrobats, clowns, a bear, a lion, and a baby elephant, all to be contained within Beckman Auditorium (oh, that poor stage). The Caltech Glee Club and the Wind Ensemble make up part of

the circus performers. Thirteen fanciful floats especially designed for the circus will be used in celebrating the Fourth of July, Christmas, and the coronation of Mother Goose. All this can be seen at 1 and 8 p.m on Saturday and at 2 and 6 p.m on Sunday. Tickets for Techers: \$2.10 worth of green stuff.

Greater Displacement

Last week's naval game was sufficiently popular as to warrant a repeat performance with a larger displacement available to each player. For those uninformed, last week's game involved each player designing a ship. This week the displacement formula will be based on 36K tons instead of 25K, and a maximum of three ships per player will be permitted. A few ships already designed will be available. The game as usual will be at 1:30 Saturday afternoon in Dabney Hall Lounge. Also, D&D and other games on Friday night in Clubroom 1.

Frosh

CIT Frosh Party The tonight from 8:30 to whenever in Dabney Lounge. All frosh and their professors, R.A.s and guests are invited. (This means no uninvited upperclassmen.) Come to socialize, dance, drink and eat. A CITFC Production.

Gnop Gnip!

Caltech has challenged UCLA to a ping-pong tournament to be held within the next two weeks. If you're interested in playing, contact Jim Backus or Jacob Ng in Dabney House, immediately if not sooner.

A New Victim

The Big T has finally gotten its new editor, Young-il Choo, and he is recruiting an elite staff of assistant editors, photographers, and any other persons willing to contribute in the agonizing, but in the end, highly rewarding creation of the '76 issue.

No previous experience required. There are four assistant editorships which pay \$\$\$. There ill be a short meeting this hernoon (Jan. 30) at 4 p.m in abroom 1. Another meeting will be held at 12 noon Monday (Feb. 2) in Clubroom 1 for those not able to make it to the Friday

human hatred, "my belief"

Golden Belt Won't Subdue Enemy

Wheat. Earl Butz's paradise on Earth has lately been considered as a diplomatic weapon to crack the cartels and kick Russia further along the road of detente. Elementary analysis reveals that the staff of life is not a viable weapon in long-term economic warfare. Cracking tough totalitarian tyrannies cannot be accomplished by starvation as the government will turn famine to its own good and insure starvation of the "correct" people while tightening holds on the rest of the population with the vise of hunger. Weaker nations will teeter on the brink of collapse, their countrysides rife with swollen-belly-induced civil strife.

Pretty scenarios if these countries are our enemies, but totally transient. Millions may starve in the streets of the world's great cities, but after one or two years these populations will have spread down to levels of self-sufficiency. An excellent physical debilitation, a terrible morale builder. Paring populations creates a starvation-hardened cadre of survivors with morale and determination which will exceed that of U.S. soldiers-whose greatest inconvenience in an economic war may be gas rationing. Living with bone-jutting, flesh-distending death has a greater emotional impact than running out of gas coupons. Suburbia softened U.S. soldiers will never have a chance.

Those golden plains may make a pretty robe, but they will never defend those purple mountains' majesty. We must find a more direct path to our opponents' jugulars, lest our next confrontation with the cartels turn into a belly-flop.

Sandy McCorquodale

Interlibrary Loan is Not Scandal

There is nothing scandalous about the interlibrary loan service provided by the Millikan Library. (Has "Greenie" looked up the definition of "scandal"?) [Ed. Note: Headlines are the responsibility of the editorial staff, not the writers.] The question is not "whom do you trust?" but "What are you borrowing, and from which li-

The availability of interlibrary loans depends on the policies of

the libraries which do the lending. Over the years such libraries have adopted a national Interlibrary Loan Code which states that requests for individuals with academic affiliation should be limited to those unusual and special materials needed for faculty and staff research, and the thesis and dissertation research of graduate students. Undergraduate students are not eligible for two basic

Continued on Page Three

THE ASCIT FRIDAY NIGHT MOVIE

THE NEW **CENTURIONS**

7:30 p.m. & 9:30 p.m. in Baxter Lecture Hall

Admission: 50c-ASCIT members and their guests; \$1.00-anyone else

NEXT WEEK:

DR. STRANGELOVE

Think Free!

I have read recently in the Tech several articles on Christianity and its missionary movement. In reading, I could not help being impressed by the immensity and drive of this movement-the tremendous amount of money, millions of followers, and the energetic organization moving forward every day. And this powerful drive has been going on for century upon century and has reached into almost every corner of the world.

I could not help asking myself, what is behind this tremendous effort, what is the driving force? I believe one article mentioned the "concern for people based on the overwhelming love of God," which, if I have understood correctly, is the heart of the missionary movement. Is it possible to consider what is the implication, the feeling, of this movement, with its drive and organization? Personally, I have a very deep concern for people. I don't love man's wars and brutality, ancient or modern, civilized or barbaric, but I feel very strongly that the human mind was meant to be very much alive, active sharp and profound, not imprisoned, old before its time, and dull. It is like when you find a young bird killed on the road, its life cut off by a speeding ton of machinery, when you were used to seeing that bird soaring through the treetops. If you ever notice such things, you cannot help feeling a cry from inside that says the world was not meant to be this way, human beings were meant to keep the life in the eyes of children, not to become old and dead, feverishly pursuing their ambitions, self-concerned and insensitive.

So please consider what the feeling of this missionary movement is. If one's concern for people is based on love of God, doesn't that mean (if vou consider it very carefully) that the God comes first? That is, the God, the movement, the organization, the religion comes first and the people you are helping are secondary. A politician who wants to become rich and influential may do so by saying he wants to help the people, that he will pass laws to help the poor and to reform society, so that he gets votes. Is he helping the people or exploiting them? Isn't he exploiting them for his own ends? And is the missionary concerned with his own ends, his organization, his achievements, his beliefs, the furtherance of his movement (perhaps because it gives him his feeling of security, feeling of importance, and maybe even his job)? Or does he act out of a real love for people-not sentimentally, but as a fact? If he has real concern for people, will he want to spread his own beliefs and prejudices to others? Doesn't the conditioning of belief and prejudice, however ancient, idealistic, or in whoever's name, make the mind dull, conforming, repetitive, and imperceptive? Unfortunately we do not really love people, or we would consider these questions.

In the phenomenon of belief, based on the promise of reward or punishment, ambition and greed, isn't there the seed of all

gainst "your belief", all huma wars, misery, and destruction? does not matter what the idea are, as these are never attained fact, but attachment to a belief imprisons the mind an prevents learning. Please consider this very carefully, because spend one's life pursuing som thing false is to waste one's life as well as to spread destruction Please do not just sit back an say, "All of history and million of people say I'm right." One life is precious; it only happen once, you cannot waste it, it much too serious a matter. you feel the seriousness of then you are immediately com pletely honest, and you cannot even unconsciously deceive you self. Please consider these thing Don't bother to write a defense anyone, as I'm not trying make a point or an argument What I've said may be total wrong and crazy. But consider for yourself and reply to your self. To have the feeling that the human mind must be really totally free-not chained to som belief, dogma, or superstition that is the real love of God, which the God is not differen from the love, in which there no phony emotionalism, ar which has nothing to do with books, histories, and theories. you do not have this lo yourself, then talking about bringing it to someone else pure hypocrisy.

–Douglas Earl

The california 1'ech

Friday, January 30, 1976 Volume LXXVII Number 15 Published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Incorporated. The opinions ex pressed in all articles are strictly those of the authors and do not necessarily reflect the views of the editors or of the corporation. All contributions become the property

of The California Tech. **Editors-in-Chief** Ed Bielecki Sandy McCrocodile

Ken Yoshida ManagingKen Kroll Features Morris Jones Movies Lewis Hashimoto

Writing Staff Richard Ackermann, Dick Beatty, Flora Boyer, David Callaway, Eric (My-Set-is-On) Carter, Gavin Claypool, Pam Crane, Alvin Drehman, Carol Freinkel, Judith (Rose-of-Sharon) Greengard, Carl (Layout) Lydick, Paul Mason Steve Oualline, Alan Silverstein Dave Sivertsen, Nick Smith, Robert Thornton, Gregory White

Cartoonists Blue Pathe, Guy Miller **Photographers**

Don Bacon, Gregg Bone, Bobby Bus, Rich Feldman, Al Kellner, Gerry Laib, Ken Li, Brian Lockett, Barry Nakazono, Chiu Yuen Ng, David Weinshenker, Chris (Mach-1) Wheeler, Dave Wheeler,

Book Editor Koleen Matsuda Syndication Matt Weinstein Business Manager . . Becky Winter Assistant . . . "Pasteup?" Revnolds Circulation Wayne Dickenson The California Tech publications offices are located in Winnett Center (105-51), California Institute of Technology, Pasadena CA 91125. Telephone: 795-6811. x2154. Printed by News-Type Service, 1506 Gardena Avenue, Glendale CA 91209. Second Class, postage paid at Pasadena) California.

Subscriptions \$1.50 per term Life Subscription \$100 ©1976. The California Tech All Rights Reserved

19th Century Defended

our system of criminal justice last week was absurd. He first complained that President Ford has "hauled the 19th century concepts of penal systems into his State of the Union address." How terrible! Old ideas are always bad. We certainly do not want a penal system which had a far lower crime rate associated with it. How archaic.

Instead we must spend billions of tax payers' dollars to rehabilitate criminals. Shorter prison terms, vocational training, a comfortable atmosphere, television, etc. If I did not "know better" I might say that many people may not mind being in such an environment. Come to think of it, I am paying over five thousand dollars each year to be in such an environment.

Mr. McCorquodale talks about Russia's "supremely sadistic penal system." At best such a term can only be applied to political criminals. Many of whom were only trying to exercise "their inalienable rights" (which do not include murder, robbery, rape, etc.). Returning to reality we find that the crime rate (for nonpolitical crimes) in Russia is considerably lower than in the United States. This is true despite the fact that their penal

Mr. McCorquodale's attack on system is harsher than ours.

I agree with Mr. McCorquodale, that our system of justice fails all too often. I do not agree that pouring money into rehabilitation programs is the answer. Perhaps more judges and more jails are not the answer either, but they worked before and maybe, just maybe, they will work again.

"To keep convicted criminals from committing more crimes, we must put him in prison so he cannot harm more law abiding citizens." (Quoted from President Ford's State of the Union address in Mr. McCorquodale's editorial.) This is horrendous. If we keep him in prison how can he ever get a chance to commit the over three-fourths of all crimes which are attributed to repeaters?

No, we can not fall back on our archaic ideas of justice. We must thrust forward with rehabilitation instead of punishment. After all, we can not damage a criminal's self respect? he might change.

I guess that I am too cold hearted. I should worry more about the rehabilitation of those who have hurt others, than in protecting those who are willing to obey the laws.

–Al Drehman

Book Loan

Continued from Page Two

reasons: (a) their normal needs are not for unusual research materials at the dissertation level, and (b) libraries cannot afford to be swamped with a heavy load of interlibrary loans. Some libraries are already handling as many as 35,000 requests per year. Many borrowing libraries require the signature of a faculty member for each request, including those for staff and graduate students. Some librarians feel that certain requests by undergraduate students are for the kind of advanced research material held by research libraries, material which in the past had been required only by graduate researchers or faculty members. Caltech's library, in cooperation with several local academic libraries, has been attempting to serve the needs of this type of high caliber undergraduate for

Considering the demands of our CIT faculty and graduate students for loans from other "have" institutions like UCLA, USC and UC Berkeley, there has to be a screening process to limit requests to those meriting advanced research status. Contrary to the implications in Greenie's article, the Undergraduate Interlibrary Loan Request Form has almost always been used for only a single research project by any student. There has been little continuing multiple usage. She does have a point in that an advisor may not be "abreast enough of each of his advisee's courses to make a logical decision as to how essential a particular request is." We will probably switch to getting the o.k. of the faculty member for the course that is involved in each request for interlibrary loan

Charges for interlibrary lending transactions are going up. For example, Yale University has just announced a minimum of \$5.00 per loan or \$5.00 minimum for photocopying. If the interlibrary lending charges are to be paid for by some campus account other than the student's personal account, the approval to use that account must be ob-

Interlibrary loans for Institute employees, whether students or not, are normally limited to employees with research titles who are borrowing special research materials.

It is sad that many requests to borrow are for materials which were at one time in the Millikan Library collection, but which have been ripped off by persons who are not honoring the Honor Code tradition. We are also now getting requests for journals which have been cancelled due to budget limitations or for books which we should have but do not have the money to buy.

In summary, it is the library's policy to try to obtain advanced research materials not available at Caltech from other research libraries through standard interlibrary loan procedures. If the need warrants it, we will do our best to borrow for undergraduate students, hoping that the lending institution will not reject the request. However, some institutions, such as the University of California, Berkeley, state flatly; "We regret that we are unable to process undergraduate requests." If the lending library does not want to handle a request we cannot force it. The interlibrary network is based on mutual cooperation and respect.

-Johanna E. Tallman Director of Libraries

Previous Attempts of the IHC Brought to Public's Eye **Amid Flat Fanfare**

The following are excerpts from the minutes of the IHC, meetings of January 7 and 14 of this year.

The pool table is still in Fleming, and apparently the IHC has no authority to order it removed. See minutes, 12-10-75.

There is a rumor to the effect that the old Fleming gameroom may be converted to some other use and possibly a new gameroom will be built under Blacker.

Motion (Naecker/Grams): that Feldman should bring donuts to IHC meetings. Passed (6-0-1).

Motion (Naecker/Grams) that Doug Tally may play Interhouse.

Fleming is missing the old Interhouse Trophy and their plaque of Arthur Fleming. According to Naecker these are both important parts of the Fleming tradition and should be returned immediately if somebody ripped them off as a joke. Everyone else denied any knowledge of such activity. Then it came to light that Blacker is missing their comic book collection and 10 bottles of wine and Fleming is also missing some fire extinguishers.

The policy of the Pasadena police with respect to the Caltech campus was discussed. See The Tech, Jan. 16 issue.

Lloyd protested a call by Atwater in their Interhouse Tennis match against Page. It was generally agreed that the call was

Ricketts protested that Lloyd had assigned a better player to 2nd singles than to 1st singles. This is not allowed; within one category (singles or doubles) the players or teams must be properly ranked. Lloyd will forfeit the match. By the way, no house can make substitutions after their list of players has been turned in to Coach Lamb.

Dabney hasn't paid their \$22.50 for Interhouse referee's fees. Melch said to send them a

The possibility of having a farewell dinner for Melch was discussed.



by Carl Lydick Early in its life christened

"Throop Swamp", the Throop pond complex is showing less evidence of swamphood these days. The water, though still green, is no longer murky, and macroscopic life forms abound. The first life noticed will most likely be either the goldfish in the bottom pond or the algae growing elsewhere. A closer inspection of pond three (the southernmost pond) will reveal myriads of creatures resembling small brine shrimp (perhaps a bio-troll could identify them) swimming and crawling about the algae-covered rocks. There are, in addition, mosquito rafts, waterskimmers, and yes, even dragon-

No longer a swamp, the system is beginning to take on the appearance of a real stream, (concrete rocks not withstanding) and lacks only a few things to give it a natural appearance and a chance of long-term survival. Notable items in these categories are real plants (B&G can surely do better than the ground cover that they're now using) and scavengers such as carp or catfish respectively.

The transformation took place as a result of a temporary change in the complex's plumbing. Originally two pumps were in use: one to circulate the water, and one to filter it. Unfortunately, due to the peculiar geometry of the bottom two pools, this proved to be unsatisfactory, since the filtering pump didn't get enough of the water. Presently, one pump is being used to route all of the circulating water through the filter. Plans are in progress to redo the plumbing to incorporate both pumps and gain a higher flow rate which may eliminate much of the algae. Who knows? Maybe someday Throop Pond will be as clean as Baxter.



Hashimoto Critiques Himself, Reviewer in Sweet and Sour Sauce

By Lewis Hashimoto

Sweaty people in darkened rooms will project motion pictures onto the backscattering surface of Baxter Lecture Hall's screen this weekend. Tonight, the ASCIT public servants will show The New Centurions at 7:30 and 9:30; tomorrow the Cinematech another audience with The Man Who Knew Too Much and Psycho.

The fate of the hack film reviewer is two-fold; one must write hack reviews, and one must also inure oneself to hack films. This is not to say that all the motion pictures which studentrun film groups rent for on-cam pus showings are mediocre. Indeed, the ASCIT activities director has arranged to present a , relatively excellent menu of generally Hollywood-bourgeois, flashy, recent, lowbrow films this term, some running to superlatives (Dr. Strangelove), and most providing fair popular entertain-

years of gross mediocrity and poor business economics. Cinematech has, by indirection, aspired to a rather esoteric selection of highbrow art-house films, mostly foreign-this term's English major! Though I often series and that of next term may freaks will shock and disgust yet have exoticized themselves out of a paying audience. Still, the films seen on campus are of necessity older productions, as recent films are either inaccessible by reason of theatrical release, or otherwise bloody expensive (which hasn't stopped ASCIT in the past). Further, this reviewer finds himself at an intellectual loss to churn out truly literate critiques of films. The difference between critiques and reviews is that critics of the cinema must be knowledgeable in the fields of literature and art which mold the development of film-books, theater, ballet, opera, music, artand that critics must be even more familiar with the vast set of

ment value, compared to past good films produced by the international cinema for the last several decades. Clearly, an engineering student cannot do this. (Despite the allegations of the Caltech News, I am not an wish I were . . .)

One luxury which honest-togosh film critics allow themselves is the ability to summarize past reviews in little capsule blurbs, as in the Los Angeles Times "Calensection. Ah, to be the reviewer for the L.A. Times! A noble ambition, a path for Oxy, Pomona, and UCLA media majors to pursue. Today's ASCIT and Cinematech reviews will be encapsulated, for there are bigger and better flicks in town: the newest Bergman and Truffaut releases. So let us all pretend that this dog meat is the L.A. Times and that I am Charles Champlin, for a few paragraphs, anyway.

The New Centurions. George

C. Scott is a fine old cop, and Stacy Keach plays an excellent younger one, in this recruiting film for the LAPD, wherein the barbaric hordes of hippies, drug addicts, mobsters, youth gangs, and corrupt slumlords are held back for another few hours by a few devoted men in blue.

The Man Who Knew Much. Not the later version with Doris Day and James Stewart, but the 1935 one with Peter Lorre as the well-known player of an unknown cast. An obscure between-World-Wars political intrigue Hitchcock thriller with no

Psycho. Janet Leigh steals a bundle of moola for her lover John Gavin, who scarcely restrains himself from getting into her pants. On the lam she encounters a really sick young man, Anthony Perkins, and his even sicker mother. A thoroughly sick film which Hitchcock fans

Hurricane Headlines Dandy New Dylan Disc

Rock and roll music is now approximately 20 years old. Even the so-called progressive sound extends back about 10 or 12 years. During this time span tons of good music have been produced. Thus many rock fans already have extensive collections. With hundreds of hours of good music on their shelves, these folks may be reluctant to keep up with the latest releases. This is unfortunate since new techniques and new talents have emerged to produce high quality music in stunning quantities. For instance:

Desire by Bob Dylan, Columbia Records.

Choosing a Dylan album as the first album I will ever review is about like asking a brand new baseball umpire with no experience to call the seventh game of the World Series. Fortunately my task is made easier by the fact that if you are a true Dylan fan, there is absolutely no doubt that you will love this album.

If you are not a Dylan fan, you may argue that the first cut, "Hurricane", is overlong and not worth listening to more than once, agreed. You may also complain about Dylan's harmonica and wandering voice in the second song, "Isis." Also, there is no denying that this song has some mighty strange lyrics

She said, "Where you been?" I said, "No place special."

She said, "You look different." I said, "Well, I guess."

She said, "You been gone." I said, "It's only natural." She said, "You gonna stay?" I

said, "If you want me to, yeah." Dylan fans will love this stuff, but non-fans will cringe.

It is at this point in the record that Emmy Lou Harris joins Dylan to help sing the next six songs. If you aren't immediately captivated by her voice, then this album's trump card will have failed to win you over. Miss Harris' singing is amazingly rich and emotional.

Incredibly, it fits Dylan's voice like a hand in a glove. In my favorite cut, "Joey", the voices combine with such impact that a lump forms in my throat when I hear the chorus. Without a doubt it is her contribution that makes this an extra special record.

Also very notable throughout the album is the fine violin work by Scarlet Rivera. The sounds she provides add a touch of class to every song. By now it may seem that I am completely neglecting Mr. Dylan. Of course, all you true believers know who the real star of the album is. I find it simply amazing that a man who ten years ago was a folk hero and five years ago became a legend, can still make new music that ranks with the best he has ever done.

Struttin' My Stuff by Elvin Bishop, Capricorn Records.

I'm from the South, so naturally southern rock is important to me. I decided to make the next review a bit special by calling a friend back home for his opinions. Unfortunately, the recording didn't pick up my friend's voice and somehow I can't remember what he said.

"Howdy, Chester, this here's

"How ya'll been doin'?"

"That's real fine. Listen up. I

called to find out how you figure Elvin Bishop's new album "

"Haven't heard it! Whatcha been doin' the last month?"

"Really! And you didn't send me none?" * * * *

"Oh, I see. Anyway it's a good album but-"

"No Elvin ain't turned yankee. I mean "Struttin' My Stuff" and "Have a Good Time" are such good boot stompers and "Fooled" Around and Fell in Love" is such a pretty little tune. It's just that most of them songs have a bit of this here soul sound injected in 'em. You know like Smokey Rob'son and the Miracles.'

"No, no Chester! Smokin rubber ain't no miracle! Anyway, most of this soul sound blends right in with Elvin's guitar pickin', I mean the south has got a lot of soul, don't it?"

"Hell, yea!"

"Well, I'm not sure you'll like this album straight off, but I gave it a couple of listens and now I like it okay. One thing's sure, it sho' is different from what brother Elvin's done before."

-Rock

Frosh Suck Last \$

From ESC by Paul Mason

The Executive Social Committee (ESC) appropriated the last of its budget for this term at a meeting on Tuesday. Three expenditures were approved.

First, \$300 was put towards a Graduate-Undergraduate party featuring a live band in Dabney Hall on February 20 or 21. The GSC is contributing a like amount.

Second, the Frosh received "up to \$300" for their party tonight in Dabney Hall. The exact amount hinges on whether they have a live band or not.

The third item was \$100 to Lloyd House for their party last weekend. The party went considerably over its budget due to the cost of extra liquor for the large number of non-House members present who had the mistaken idea that it was an open party because ESC had given Lloyd financial support (\$75) for the party. The additional \$100 helped defray the cost of the general undergraduate participation in the party.

SALES AND SERVICE DIRECTORY

MEXICAN CUISINE DONUTS AUTO BODY REPAIR GOLF

Student and Faculty Headquarters for Auto Repair Since 1925

FAIRWEATHER'S Like Our Climate Collision Repairs

796-6149 or 681-5512 1200 E. Colorado, Pasadena

AWARDS - TROPHIES

Trophies - Awards

Medals

Ribbons - Badges

793-6960 or call 681-4007 55 Fulton - Pasadena

BAKERY

"Quality Has No Substitute"

NORTH STAR BAKERY

Cakes for all Occasions

Weddings * Parties *

* Birthdays * Anniversaries *

School Discounts Limpa-- Princess Cakes

(Scandinavian Gift Items)

Open 6 days 7:30 A.M. 798-0156 798-7011 1780 E. Washington, Pasadena

Engraving
DEBCO MFG. CO.

MR. GOODS DONUTS Fresh donuts 2 times a day -Over 50 varieties always 1 DOZ. FOR \$1.25

Months January and February Every Monday through Friday 1840 E. Colorado Blvd., Pasadena (Warner Plaza) 796-7356 Student and Faculty Headquarters

Golf Apparel and Equipment HAWKEYE GOLF SHOP

Graphite \$39.95 🐷 . 1612 Mission - So. Pasadena - 799-0463

FABRICS

MAGDALENO'S Fabric and Upholstery Supplies Huge Discounts Close-Outs Compare our prices

Specializing in the finest fabrics Foam cut to size - Free estimates 796-6276 2636 E. Colorado Bivd., Pasadena Master Charge

FINE JEWELRY

HARDWARE

OSLER HARDWARE 1243 N. Lake Ave. Pasadena Hardware * Garden Supplies

Plumbing * Screens Glass * Window Shades * Keys

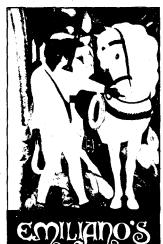
Call 798-0539

INSURANCE

PASADENA INSURANCE AGENCY Fire - Homeowners Renters

Auto - Boat Motorevele Motorhomes – Trailers

Life - Accident - Health Casualty - Life - Disability P.O. Box 5515, Pasadena



served in the style of Maximilian and Carlotta 10:30 AM to 3:00 PM

Lunch and Dinner

Dancing Thurs-- Sat nights

Happy Hour Mon.-Fri. 5 to 7 78 W. Colorado Boulevard at De Lacy Telephone 796-0274

NEEDLEWORK

OPTOMETRIST

Optometrist Campus Headquarters Eyes examined and new glasses in one day * Contact Lenses

Dr. Steven Groubert, O.D. (Successor to Dr. William Linden, O.D.) 352 E. Colorado Blvd., Pasadena (corner-Euclid Ave.) 796-1191 * 681-5678 Student Terms Available

REALTY

WHIPPLE REALTY Ettelene Whipple & Associates 3838 E. Foothill Blvd. Pasadena 798-3166 928 E. Altadena Drive Altadena 798-- 0527 Big Bear City

(714) 585 - 2487 TOY COLLECTOR

SPOT CASHS For Older LIONEL TRAINS

IVES, JUMBO WIDE TRACK AMERICAN FLYER, OLD IRON at TIN TOYS, etc. Collections Appraised (no HO or N Gauge Pleat Phone collect for Top Reliable Cash Offer, giving descriptions details The Train Collector, Phone (213) 682-19



CAR RENTAL

Campus Headquarters Rent a Budget Vega Rent a Cer

Pinto For as little as \$7.00 a day & mileage 424 E. Green St. Pasadena 449-0221

SINCE 1926

FLOYD S

FIREPLACE FURNISHINGS

PASADENA: 1215 EAST WALNUT ST. (213) 792-2136 • 681-8067

JULIETS-MANICURES "SHE DOES NAILS"

* Porcelains

* Juliets * Manicures

* Pedicures

225 South Los Robles Avenue Cottage No. 2 Pasadena, CA

Call Gigi (213) 795-0551

THE FRIEND SHIP

Needlework Classes and Supplies Stitchery Kits and Yarns Handcrafted Gifts & Toys

465 E. Green, Pasadena Call 796-1596

TRAVEL

Over 40 years experience H.B. BENNETT TRAVEL AGENCY

★ Airline tickets ★ Steamship * Tours & Cruises Information & Reservations Campus Ext. 2226

795-0291 690 E. Green St. Pasadena

DONUTS

Open 24 Hours Order Now For Your Parties **DISCOUNTS**

FOSTER'S DONUTS

798-0664 1515 N. Lake Ave., Pasadena **FLOWERS**

Complete Floral & Designing Service
Weddings Parties

Gifts. Since 1932 Call 793 -7167 L.A. 681-1860 120 S. Robles --

Banquets

Hospitals

LIQUOR

Downtown Pasadena JOHN CHANG'S KOVAL LIAWOR

For Parties & Gifts All Brands Liquor * Fine Wines, Champagnes Open 7 Days Call 796-4263 1930 E. Colorado, Pasadena

OPTICAL EUE OPTICAL COMPANY

Dispensing Opticians

Contact Lenses Finishing Laboratory

Prescriptions promptly & accurately filled Hours: 9 am - 5:30 pm

Sat. 9 am - 1 pm 793-2295 681-9935 643 E. Colorado Blvd.

room in the house ★Executive array of tasteful gifts & decorator lamps

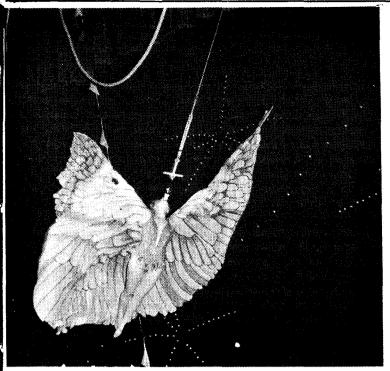
≭Contemporary furniture designed to blend with any decorating scheme

WALL SYSTEMS - GIFTS

★Modular Wall Sÿstems for every

INTERIOR SYSTEMS

'500 South Lake Ave., Pasadena Tel: 796-2564



the Caltech Family Fun Series presents The Circus in Beckman Auditorium

Sick Musicians Create Crappy Coleman Concert

Recently, it seems to have become a rule at Caltech Chamber Music Concerts that one of the players (and, to make things worse, usually the most important one of the ensemble) falls ill for the occasion.

In contrast to the Last Dabney Lounge Concert, for which excellent substitutes could be found, the quality of the recent Coleman Concert suffered strongly from the fact that the first violinist as well as the hornist had to be replaced.

The program consisted of two seemingly "easy" pieces: Beethoven's popular Septet in E Flat Major (Op. 20; 1800), and Schubert's Octet in F Major (Op. 166: 1824). However, as is the case in many of his compositions, Beethoven includes fairly difficult sequences for the horn in his septet. Unfortunately these parts were not performed with the necessary skill, and-maybe as a result-different elements of the presentation fell somewhat apart. In addition, as the first violin dominates the entire septet. it was unfortunate that a replacement had had to be found for this role. It resulted, I believe, in a lack of coherence and "musical enthusiasm" that is very much necessary in this work of Beethoven's, as it is a very typical chamber music piece, in which each instrument has a very well-defined responsibility within the ensemble.

Schubert's octet, on the other hand, turned out to be a fair success. Although the structure of the piece resembles to a very great extent that of Beethoven's septet, it is laid out on orchestral lines and permits somewhat more freedom in interpretation.

The Cassenti Playerssupposedly among the best Canaբո Chamber Music groups hse an interpretation that didn't necessarily consider those forceful themes and dramatic sequences so typical of Schubert's chamber music (to be

found in an absolutely superb way in his quartet Der Tod und das Maedchen). Nonetheless, it was an enjoyable presentation that certainly did consider the intricate instrumental detail that characterizes Schubert's work.

In the end, we must keep in mind one thing; "La critique est aisee et l'art est difficile."

-Richard Ackermann

Honor System Analysis

Continued from Page One

However, there is less temptation for graduate students. They are under less pressure to receive good grades; most options examine only research performed in granting degrees, as opposed to course grades. Most take few courses, and audit many of these.

According to John Fuhrman, the GRB was created in 1970. Little information is available on the reason for its institution. It has been charged that it was formed in response to undergraduate protest over massive cheating by graduate students; evidence for or against this claim could not be obtained.

A comparison of the BOC and GRB records is in order. The BOC has nine or ten "serious cases" (cases where investigation warrants formal charges) per vear: the GRB between one and two. Both Steve Grennan and John Fuhrman estimate that their cases are evenly divided between academic and nonacademic. The figures must be evaluated with the thought in mind that graduate students take fewer courses than undergraduates (allowing less opportunity for academic violations), and have freer legal access to labs and professors' offices (allowing less opportunity for nonacademic violations). Alternative explanations for the disparity in the figures are, of course, that undergraduates violate the Honor System more often, or that graduate students' report fewer violations.

These figures have been relatively constant for the past few vears for academic cases; the BOC has had an increasing number of nonacademic cases. Steve Grennan cautions that conclusions drawn from these facts must take into account the fact that the relationship between BOC and Master of Student Houses jurisdiction in nonacademic matters has been changing over the same period, with the BOC accepting more kinds of nonacademic cases.

Figures are not of much help in evaluating the situation. What do the people involved say? Interviews with several graduate students indicate that they feel that most graduate students uphold the system, although opinion varies as to whether graduate students take it as seriously as undergraduates. Undergraduates show a definite prediliction toward mistrust of the graduate students. The most illuminating information comes from professors themselves. A number of professors who received their PhD's at Caltech gave their views on the subject. Collectively, they knew of only one example from their student days here of a graduate student who was as flagrantly cynical of the Honor System as undergraduates suspect. They themselves observed no cheating either by graduates or undergraduates. As professors, they feel that the Honor System does indeed work, but are disagreed as to whether it

works better for undergraduates or for graduate students. They feel that the academic side of the system is a good thing for Caltech. They are split, however, on the nonacademic side of it, between the view that master keys held by the student body is a convenience for one and all, and the view that undergraduate possession of masters is trusting the system a bit too far.

How far does the Honor System extend? Theoretically, it includes all members of the Caltech community. However, there have been problems with certain library and administrative personnel, who feel themselves exempt, an opinion which has lead to several altercations with the BOC on the matter. The faculty forms another gray area. Some faculty members have stated that they do not consider themselves bound by "student rules"; others feel that the system is in essence reciprocal and that the faculty is as bound as the students. No mechanism exists for examining alleged faculty Honor System violations, or for enforcing penalties imposed by a faculty equivalent of the BOC or GRB. It would be interesting to see an in-depth study of faculty attitudes on the subject.

And Harold Brown? Is he too bound by the Honor System? Theoretically, the answer is affirmative-but neither the BOC nor the GRB is anxious for a

You Overlook, You Die

by David Callaway

Tsutomu Ohshima is a man who has devoted his life to the study of the martial arts. For the past eight years he has also taught Karate at Caltech. Last Thursday, he gave his listeners in Baxter an idea of what the martial arts mean to him.

"I began my training in the martial arts almost forty years ago in Japan. When I was very young, I started to learn wrestling, what we call cumo, then judo and fencing. My parents forced me to get up at 5:00 am to start practicing. This kept up until the American occupation in Japan, when MacArthur prohibited all practicing but karate.

people went to play poker or Mah Jongg, but I didn't have enough money. Also, not many beautiful girls were interested in me, so I had lots of time to practice. Everyone else began to quit.

"It's kind of a funny thingwhen I was forced to practice, I hated it. When they stopped, I found I liked karate. I know my English isn't good, but I think people have the power to understand with simple words.

"In any part of the earth, where people have societies they start to protect themselves. A human being is not a weak

animal. A human being is a very strong animal-tougher and stronger than most of the animals. A good example is a cat. People might think a cat is very stronghe can always land on his feet, and so on. But a human being can copy a cat, and a cat cannot copy a human being.

"Not today, but maybe 20 centuries ago, people were really strong physically, strong mentally. Leaders had to be smart and

"Sometimes people only thing they understand how to defend themselves-maybe they take a two week course in karate. Say they meet some drunk in an alley-their knees start to quake, their voice, their 'feeling' goes up, and they cannot do anything.

"The martial arts is based upon this killing--I am sorry to tell you. But when a warrior attacks, he'll never stop-he'll come to kill you.

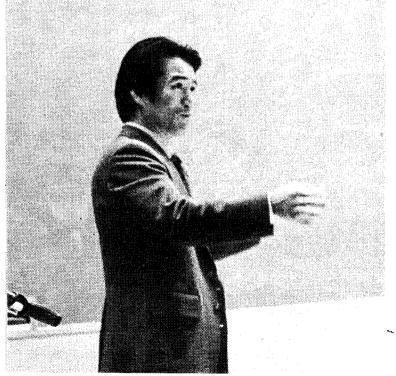
"Facing death is a serious business. We have to be honest when we face death. In Japan, some people could not be samurais, or warriors, and had to shave their heads and be monks. Otherwise, they would have to face themselves.

"Today people think karate is something you put in your head, something you want to see.

"If somebody talks big, and they're not tough, they die. If you have weapons, they become part of the body. If not, hands become weapons. Your body and mind become one.

"What is human strength? We look deeper and deeper into our minds, look at the selfishness, the weakness. In martial arts, you overlook, you have to die.

"Strength comes from insideif you eliminate the minus elements, its like peeling an onion. Take out some parts of the mind, and out come strength, beauty The martial arts are a connection with harmony, with great human spirits. It's really a beautiful thing."



I sutomu Ohshima spoke out on the underlying philosophy of the martial arts at last week's Spotlight Series lecture.

Photo by B. Lockett

Pechies HEY, I HEARD THAT I KNEW THEY'D YES, YES. SAD BUT oh, yeah? TRUE, MY GOOD MAN. JEFF (NOT HIS REAL NAME) GET HIM ONE how? IS TAKING A LEAVE ! OF THESE DAYS. oh, WOW! oh, MAN! YOU SHOULDA AN' HE WAS no SMILING! poor guy SEEN HIM ON TUESDAY. kiddin'? HE WAS COUNTING THE BRICKS IN THE OLIVE WALK. STILL, IT ALL SEEMED TO HAPPEN SO SUDDENLY ... WHAT SEEMED TO HAPPEN SUDDENLY? FAR OUT. really ...

The *Original* Pantry

The Original Pantry, Ninth & Figueroa, Los Angeles.

The Pantry Cafe opened 51 years ago and has not closed since; it has been under family ownership the entire time. Such credentials demand what turns out to be worthwhile investigation.

At most times of the day one must wait to be seated in this small (15 tables plus 15-seat counter) establishment. The seating process is very straightforward: one waits in line until a table frees up. There is none of the bothersome name recording business followed by an earsplitting "Steinkopf party of four" repeated eight times when someone else could have been

The interior decor requires little commentary. There isn't any. The walls, tables, etc. are completely devoid of any decorations (save a plaque near the front door with photos of employees with 20 years service). The atmosphere is generated by the constant hustle and bustle of the waiters and diners, not to mention the rest of the people at your table. While this is different from many restaurants, it is immensely satisfactory not being distracted from your friends by the interior decorating.

The raison d'etre of the Pantry is the food. When seated one is presented with an enormous relish bowl filled with carrots, radishes, and somewhat tired celery all topped with ice. There are no individual menus passed out; the carte is written

on strategically placed chalk boards. At first the prices may seem a bit high: hamburgers are \$2.95 and top sirloin \$5.25. Soon, though, the diner is boggled at the value.

After the order is taken by a waiter who looks certainly like an ex-con, a mammoth plate of fresh bread appears, along with thoughtful individual butter cups. The dinner also includes a generous portion of fresh cole slaw which satisfies even dyedin-the-wool cole slaw haters (like this writer). The entree then appears in great quantity: the hamburger steak a good eight inches long, is described by a collaborator as "tasty and bountiful." It is accompanied by a generous portion of hashedbrown potatoes, which are also served with the steaks. Among their variable daily specials is stewed chicken, which features three tender pieces with loads of gravy along with mashed potatoes and green beans.

The Pantry is an odd place; it is both high-priced and a bargain at the same time. The atmosphere is non-existent, but rather consists of what one makes of it. The service is adequate, not slow nor rushed nor in any way out of the ordinary. The quality of the food is good but the quantity enormous. All things considered it is a good bit for the weekend Techer who "saves up" for one big meal on Saturday or Sunday. Try it; you'll leave satisfied.

-Dick Beatty

Research Lamented

by Carol Freinkel

Many moons ago, back in the days when men were men and giants walked the earth (that is, in 1968), undergraduates at Caltech designed and carried out "The ASCIT Air Pollution Project: An Educational Experiment in Self-Directed Research." This summer program involved 70 students from colleges all over the country-Swarthmore, Sarah Lawtence, Harvard, Occidental, Wellesley, Immaculate Heart, and many others, as well as a few high schools. The research included work on computer modeling of d(concentration)/dt of various chemicals in photochemical smog, an extended survey of Pasadena residents' attitudes toward air pollution research on biological and economic effects of ozone, a study of the feasibility of car pools, and investigation of the history of air pollution legislation.

All of this was written up in a large, blue-gray paperback which is even now languishing in student house libraries and other locations. The book includes an evaluation of the project itself. Most of the research was com petent though not outstanding. This project was a first (and in many ways an only) instance of student-directed research, and this caused a great deal of anxiety over the possibility of

failure. The main problems were lack of organization and experience. Also, the students were testing too many new ideas at

It is unfortunate that there was no sequel to this project. Continuity of leadership would have eased administrative difficulties, and it is possible that some really significant student-run research would have been done. My guess is that financial circum stances prevented this. I have written this article to revive the idea or to at least let people know that such things were once

Study? Work!

funds a College Work/Study sang about Yoko being, oh, so Program at many schools and Tech began to participate in this program last summer. The Graduate Office now wishes to announce that this program will continue during the school year and that work/study funds are available for some graduate students who require financial aid. It appears that the only students who will be eligible are United States citizens or permanent resident holding graduate teaching assistantships, but any graduate student who is in need of funds to continue his graduate work may apply at the Graduate Office.

No Simple Opera Night

The Magic Flute, amazingly, is a transcription of a staged opera onto film done with utter expertise by bigname Swedish director Ingmar Bergman. The foregoing is deceptive; those fanatics who trot town to Westwood to see a Bergman-ish film will surely gasp with incredulity. The melancholy Swede has for most of his cinematic life been generating message movies (even the comedies), laden with deep perceptions and loaded with implications for man and God and the nature of the spiritual universe, and heavy stuff like that. In short, Bergman usually turns out really heavy films, and The Federal Government not in the sense that Lennon heavy. In February, the Monica Twin Theater southwest of us nigh on twenty miles or so will show all of Bergman's "religious trilogy" in one night: Through A Glass Darkly, Winter Light, and The Silence. After an evening of that, an audience will probably feel like drowning itself collectively in the blue Pacific. But this is actually The Magic Flute, a Mozart opera on film; a comic opera. Bergman's previous "comedies" are certainly comic in nature; still they've seemed to be rather somberly comic, with no lack of melancholy views of life, as in Smiles of A Summer

Night is comic.

Opera, of the formal sense, is a stagy sort of art form, with limited motion from the viewer's field of vision and a formalistic, invariant sense of depth. Film is above all a plastic art based on changing focus and viewpoints, on moving perspectives. Hence; opera doesn't translate to film, and only a turkey would attempt to present a flat opera filmed from one viewer's eye. Certainly the very clever fiddlers-about have failed ignominiously in bringing "rock opera" to the screen; Jesus Christ Superstar and Ken Russell's Tommy are utter abortions. Efforts such as these tend to produce works which are neither good cinema nor good opera. The Magic Flute is one of these-but it is technically superlative cinema, well staged opera, and most successful comedy. Its shortcomings are only those which devolve from the nature of the presentation. Bergman is a cunning fox, and the result of his efforts is pleasurable.

What most viewers don't know is that Bergman is deeply into opera, and has done staging of such works in the Stockholm Opera on occasion. In one of his heavier films. Hour of the Wolf. he portrayed a portion of "The Magic Flute" as puppet show Bergman married a pianist-in

fact their own daughter appears in The Magic Flute; she's the cute little blond chicklet in the audience, repeatedly seen listen ing to Mozart's overture with rapt attention. Anyway, opera has always been important to Bergman. Here he has directed his efforts to an eighteenth century comic opera. One cannot very well criticize Mozart at this late date; he towers along with Newton and Gauss as a giant of long ago times. This is a film

I am told by opera-type people that this film is a rotten opera, that the vocal talents are third-rate, that the musical direction (by Eric Ericson) is rot, and so on. Surely serious operation critics can't compare this to a staged work; the sound quality of the filmic medium doesn't cut the mustard. Besides, as a film the players must be actors, esthetic figures available for close shots and face-to-face pans, for expressions and gazes rather than just poses. Bergman's Prince Tamino (Josef Kostlinger) is therefore a "Beautiful youth" on camera as well as in the text of the Swedish libretto, although he may foresake the high standards of the staged art. The heroine Pamina (Irma Urrila) is a thoroughly foxy Nordic princess,

Continued on Page Eight

Club Brothers, Faculty, and OPE

Come to think of it, what more appropriate place for a circus than Caltech? Didn't you always feel that you were just part of some circus? Well, even if you didn't, Caltech is having a circus. We two bottom classes (frosh and sophomores) haven't had any experience with the four (yes, four) previous circuses, because OPE skipped a year last year. But the demand was so great that OPE scheduled one for this year. The previous circuses have all played to sellout houses.

This thing is really going to be big, too. OPE has hired some world famous circus acts, including "The Cycledelic Cyclists" unicyclists, Ken Willer and his one-finger stand, The Great Mayo (magician), to mention a few Plus there will be over a hundred of our very own students and staff involved as spectacle performers. Should be quite a show Saturday, 1 and 8 p.m., and Sunday, 2 and 8.

Pull Up An Armchair

It's too bad I missed seeing Capt. Irving Johnson tell about Cape Horn, or I might know something about the Armchair Adventures. The next one is in two weeks on February 13. William Madsen will tell about Wonderful Mexico." Somehow I think I'd rather go to a EE4 lecture. I guess I'm just a Techer at heart.

Bach to Bach

get a real treat. Professor Schickele brings "The Intimate

My God! A circus at Caltech? P.D.Q. Bach" to Beckman, bringing with him John Ferrante, "the noted bargain-counter tenor." The real problem is that this one will probably sell out, which means that rush tickets will not be available. There will be comments on the life and times of P.D.Q. Bach, illustrated by Professor Schiekele's collection of rare slides, manuscripts, etc. The Professor will also play and demonstrate the unusual musical instruments he has mastered: the Worm, the Snake, the Windbreaker, and a Baroque Caliope Need I say more?

Of course for the J.S. Bach freaks, there will be a Coleman Chamber Music Concert featuring the Bach Aria Group playing selections from the Cantatas of J.S. Bach. That's February 22 in Beckman.

Ah! Manson

Theater buffs are getting quite a season at the Ahmanson theater in the Music Center. Tonight and tomorrow night are closing nights of "The Night of the Iguana", starring Richard Chamberlain and Dorothy McGuire, but don't despair. Next week opens the west coast premiere of a comedy that has been a real hit in New York, "Same Time, Next Year." You can get reasonable student discounts on reasonable seats. Or if you are a peanut gallery addict, you pay only \$3.00 on any weekend night performance. I The next week, though, we think I talked myself into going to a show

FR50N5 HØ. 되니 TOTAL VHLID **SURVEYS** EZ NUMBER ZØ MDN WEEK OF DEC. 12-19 -20 DFILLY FVERHGE .10 5

PARTIAL RESULTS OF SURVEY TAKEN AT THE END OF FIRST TERM: Histogram of number of students

taking finals.

<u>My-Set-is-On</u>

Lear Sunnyside Up

-Mojo

Norman Lear has enjoyed a virtually incomparable measure of success when it comes to contemporary television program development. It is his production company along with MTM (Mary Tyler Moore) Enterprises, who dominate the current television scene.

It all started when Lear adapted the British program Till Death Do Us Part to American TV, giving us that perennial CBS hit All In the Family and launching an era of topical. sobering serio-comedy. Lear then transformed the British Steptoe and Son into a now perennial NBC hit Sanford and Son. Well, one great thing lead to another good thing and a few more OK things, etc. Bea Arthur guest starred on Family as Archie Bunker's cousin Maude, who subsequently received her own CBS hit. Maude's maid Florida (Esther Rolle) moved to Chicago, her assumed family materialized and so did another CBS "top-tenner," Good Times. The Bunkers' next-door neighbors made it big financially, moved to a Manhathn penthouse (probably called the Neilsen Arms), with yet another (yawn) very successful CBS vehicle, The Jeffersons. In a move not to be outdone too severely, over on NBC Sanford recently gave birth to Grady (his longtime friend?), which, contrary to the now famous Lear tradition, is not faring well at all. (You can't fight City Hall or John-Boy) Norman Lear's new syndicated pseudo-soap Mary Hartman Mary Hartman enjoys great success. (It is No. 1 in the 8pm time slot is Washington, D.C.!)

Lear has just come out with a new half-hour sitcom One Day at a Time (Tuesdays, 9:30pm CBS) which is blessed with a comfortable time slot - sandwiched between M*A*S*H and Switch. The show concerns a very contemporary family of three, in the sense that the mother has been recently divorced. Ann Romano (Bonnie Franklin) is the mother of two adolescents, Julie (Mackenzie Phillips) and Barbara (Valerie Bertinelli), who provide a lot of the fireworks.

The trio has moved away from their long-time home into an apartment in Indianapolis, complete with meddlesome superintendent Dwayne Schneider (Pat Harrington). Harrington is fine and amusing as Schneider, replete with cigarettes tucked into the T-Shirt sleeve (Remember that, greasers?). Schneider, who views himself as a cross between Don Juan and Rudolph Valentino, has taken an interest in Ann, who does not reciprocate, leaving him in the position of using his pass key as some professors use chalk.

Ann: Schneider, don't you ever think of knocking?

Dwayne: Not when I'm already inside.

Ann faces the problems of unemployment, romance, and two growing daughters. Miss Franklin is a very good, although obscure, choice for the role. She really seems to me like a house wife in her late thirties. Ann's attorney David (Richard Masur), has also taken a romantic interest laughs? at times, in fact, hysteriin Ann. Her side of the bargain is cal. The show as with all a half-hearted one at best, largely because of social conditioning, he being seven years younger than Ann

The older daughter Julie suffers almost weekly from growing pains, boy friends, and high school life. Envious of a wealthy friend's private education, Julie comments on how her high school history book ends in "If it weren't for M*A*S*H, I would have never heard of the Korean War." Mackenzie Phillips is very accomplished in this role and melds in beautifully.

In an episode where Ann has been grocery shopping and brings home \$23 worth of food that hardly fills the bag, David subsequently carts in \$110 worth of food that he wishes to give to the Romenos, against Ann's head-strong will. Julie: "Fig Newtons! Ding Dongs! Mom David is a gourmet shopper!" Hugging a very nice cut of meat, "Ah, a rib roast! So that's what meat looks like before it turns into hamburger." The younger daughter Barbara generally plays second fiddle to Julie, although a contemporary one, for she is on the school's basketball team.

During the first couple of programs, the cast was obviously getting the feel of the production and their roles and at times during the half-hour it has fallen a bit flat, but things are running very smoothly now and One Day at a Time is good for a few Norman Lear creations, does not hesitate to present controversial topics, such as pre-marital sex, job discrimination, and divorce.

All factors considered, Norman Lear should have another success on his hands, if not critically, then certainly where it counts; on Madison Avenue. One might ask what Lear's next project is. Well, he hasn't taken over ABC-yet.

P.S. After flopping on her own, will Sonny and Cher make it together again? What do Greg and Chastity think about this? Find out Sunday at 8 on CBS.

-Eric Carter

Wednes **Morning**

by Alan Silverstein

At the end of last term the Caltech Y took a survey of the undergraduate student body. 350 forms were deposited in house mailboxes and an astounding total of 94 valid replies were returned. The results of the second section are the only ones that are of general interest. (They have to do with when Techers take their finals.) As promised, we are making those results public for the information of all concerned.

Somewhere nearby this article the editors have probably placed two histograms. These two (of many) sum up our findings most concisely. Allow me to explain what they represent. The format of the second section of the survey was an array of numbers representing every hour of the eight days from Friday, Dec. 12, thru Friday, Dec. 19. Students were asked to circle every hour which they spent more than half an hour working on a final with a designated time limit of less than five hours. The number of circles for each particular hour of

Continued on Page Eleven

It's Time for ASCIT BOD Procreation, Etc.

by Jim Backus

Long ago and oh, not so far way, in the corner of the ampus where new Mudd now tands, stood Culbertson Hall. At nat time Culbertson served nuch the function that Baxter auditorium now serves, although rchitecturally it had much in ommon with Dabney Lounge. lach year during second term, 'ulbertson was the site of the nuch heralded "Erection Lally" eld before ASCIT elections.

The "Erection Lally" took lace on a Friday evening. During the preceding afternoon he candidates were assiduously olied with alcohol in preparation or the coming debauch, and hat evening the also-drunk specators were ushered, or rather steered, to their seats to view the orthcoming spectacle. The canlidates were then in turn given in opportunity to voice their political views ("If nominated I will not run, if elected I will not erve.") and to present an inlightened veiw of their oppoients ("His sister is a kleptonaniac; you oughtta see her match"), and were rewarded with eggs and tomatoes in proportion to their abilities. Nowadays, alas and alack, the "Erection Lally", like Culbertson Hall, is no more. One might hope that this is an indication of a more serious milieu.

ASCIT was incorporated in 1934, I have heard, in order to protect someone (I'm not sure who) from liability for bankruptcy, a then-common phenomenon. Surprisingly enough, ASCIT did not declare bankruptcy, but did and still does benefit financially from its non-profit corporate status.

Far and away ASCIT's most important and visible function is financial. Each year ASCIT gets about \$15,000 in dues and spends it on a variety of activities in ways which it feels will benefit as large a segment of the community as possible. It's never clear exactly what this entails, and for this reason, ASCIT is always open to a good deal of criticism. People often ask me how ASCIT spends its money, and this is as good a place as any to explain what goes

on. About 1/3 of the dues go toward necessary upkeep of the business affairs, including the Tech, the ASCITBUS, salaries for the editors and business managers and coffeehouse managers, and general overhead. Another half goes toward things which are marginally necessary, like the movies and the ESC. The rest goes to other organizations, e.g. the Glee Clubs, the Shop, the MUN, etc. With the exception of the Tech editors, none of the elected officials are paid a salary. It is easy to say "Well I don't read the paper (obviously not true) so I won't pay for it", or "I don't go to the movies" but it is very hard to be a student here without benefitting from ASCIT programs in one way or another. In the long run, even though many of the better ASCIT programs are financially self-supporting, it is necessary to have a guarantor in case of insolvency, and in the past few years, almost every program ASCIT operates which bills itself as self-supporting has needed financial assistance, and without those extra bucks floating around on rainy days, neither the coffeehouse, nor the movies, nor the Big T, the little t, nor the California Tech would be with us today.

Formerly ASCIT membership brought with it many exciting benefits such as free admission to athletic events, and the right to represent the school in scholastic and athletic competitions. ASCIT members were awarded "Honor Keys" for outstanding service to the community. Lately, however, I haven't heard of anyone being denied entry to a football game, or being kicked off the team for not paying his dues, and I haven't heard any clamor over the lack of Honor Keys, which were like trophies than anything else. Instead ASCIT members sit on faculty committees, go to movies, and get good service at the coffeehouse. Which would

Although ASCIT always looks like it's not doing anything, in reality a little progress is made each year. The ASCITBUS is of course a recent addition to the campus, and within the past ten years ASCIT has started publishing the TQFR and showing movies, has opened the coffeehouse, and has gained representation on all the faculty standing committees, as well as a few presidential committees. This may not be much, but it beats the hell out of anything we had

Finally, you've probably wondered what we've done in the year since you elected us. As Confucius says, "The journey of a thousand miles begins with one step." I will say what we are doing now.

a) A ride board will soon go up in Winnett Center across from Flora's office mostly through the efforts of Chen Sun and Marc Donner.

b) A new scholarship program is being developed with the Alumni Association, wherein students actively participate in raising funds, mostly through the efforts of Phil Naecker and

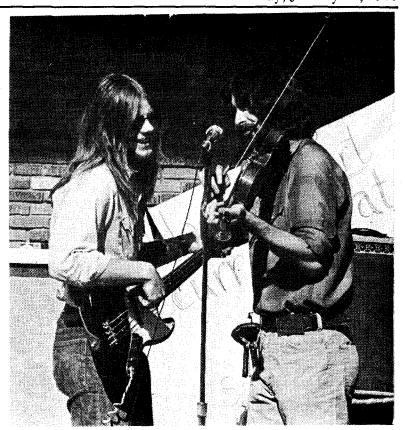
c) The faculty now seek new student input on all promotion and tenure decisions, mostly through the efforts of Karen Greif (of the GSC) and myself.

We encourage all of you to carry on the work in the coming

As for myself, I've gone to meetings of the Board of Trustees, the Faculty Board, and the Alumni Board, and I've served on committees which helped choose the new psychologist, which have written the new Student Grievance Procedures (which will be printed shortly), and are working on choosing a new Associate Dean of Students. All of this I've found highly rewarding.

What we'd really like to say, is that this past year has been one of our best. Thanks for electing us.

Nominations are now open. If you feel you'd enjoy working with others, and if you feel you can make this campus a better place, we'd like to hear from you. If you can get it up, we've got an opening for you. [The California Tech an independent subsidiary of ASCIT, denies all responsibility for puns made by the ASCIT President.]



Occurence at Owl Creek Occurred last Friday on the Quad. Photo by Ken Li

Bergman --Sylvan Comedy, **Obligatory Ducks**

Continued from Page Six simple and pure, willing to perish for her divine love. As comic relief, Papageno (Hakan Hagegard) is quite effective. The mechanics of opera are neatly done by stage manager Bergman; a sort of deus ex machina for transporting the Three Genii (Friendly spirits-not unlike the three option advisors for ISP majors) through the skies is fabricated to resemble the Mad Magazine Zeppelin of years past.

The mastery of cinematic technique under Bergman's direction is obvious; from the beginning (the obligatory ducks on a lake) the shots are composed with care towards their desired effect. The drama of this film (and, yes, there are tragic aspects therein of suicide, of ugliness, of motherhood betrayal) is gripping and dynamic, despite the omnipresent comic elements. The photography is fantastically good. Bergman grew up as a black-and-white composer

form and motion, but his use of color as a theme-unifier and as a dramatic element is superb, though this may also be the influence of the opera's traditions and refinement. The camerawork by Sven Nykvist portrays a woman with the icy stare of a Fury, the sylvan comedy of young lovers in a strip-tease, and a bizarre vision Hell (the "ordeal by fire and water" from a Masonic theme); this is versatile material for a movie. Powerful emotions are tapped. It is surprising that so much can be distilled from a set consisting almost entirely of what would appear on the opera stage. The film is also limited by its condition as an eighteenth century piece; its anachronistic views and language can be ludicrously funny, as so can the English and occasional Swedish subtitling, so out of place on the screen. The translation is freaky. This is a comedy of exagerration, of romance, and of appreciation for some of the values of opera. The Magic Flute is no film for proletarians. -Lewis Hashimoto

Francois Truffaut Turkies Adele H

an astonishing new phenomenon. One might think that an artist such as he would mellow out, become laid back, transform himself into an institution, as artists do. So perhaps it is not surprising that his most recent release, The Story of Adele H.. is a relatively subdued, conventional, plodding sort of historical vignette which one might expect of a matured craftsman. Which is not to say that his other works have not been mature, nor that this little tangle is a masterwork.

Truffaut has aimed towards a purism of style. The action of this film has been whittled down

Francois Truffaut is a young to an expostulation of life's where the cows originate, ironidirector becoming old; it's been values by a single player. Unfor- cally) to be near Lt. Pinson when more than a decade since he was tunately, Truffaut ties this frame his battalion transfered to duty work, of what might have been a cosmic play on the meaning of love and obsession, down to a limiting sketch of historical facts, perhaps to verify the authenticity of this slice of life, perhaps to avert the exercise of artistic license. The story is indeed a true one, of the unrequited passion of Adele Hugo (daughter of Victor), who fell in love with a certain Lieutenant Pinson of the British army. Adele defied her parents by running away from home (home being Guernsey, the Channel Island where old man Hugo resided in political exile for decades; the place

in Nova Scotia. For years Adele tried to win the heart of her uncaring beloved, by means fair and foul. The film traces her descent into madness and degradation from the immensely idealistic view of the Romantic love which she espoused at the beginning of her trans-atlantic quest. If this sounds depressing, then it is, if one considers pointless love to be a melancholy phenomenon, alas.

A one-man (woman) show whether theatrical, musical, or cinematic, is bound to rely most heavily on the diversity of the player and his/her ability to

make an interesting two hours of displays of thought and emotion. The role of fair, doomed Adele, the poor little rich girl, is here assumed by Isabelle Adjani, a gifted young lady who is both expressive and diverting in her portrayal. Unfortunately, she is foxy and young-less than twenty years old when the footage was shot-and the maturity of this tragic soul gone astray is not depicted (Adele was actually in her thirties when she left Guernsev for a life of hopeless desire). Thus, dimensions of this drama are absent or not emphasized; viewers find on the screen the concise tale of a truly obsessed chick without much depth or feeling applied to making visible

the motivations and reasons for such an all-encompassing love. Adele is most gung ho in her pursuit of the dashing lieutenant; she threatens, lies, begs, wheedles, she sends false marriage announcements to her folds, she tries to have Pinson hypnotized, she sends him a paid prostitute, she prays to an altar with his photograph. . . all this frenetic activity fails to instill in the viewer an understanding of the nature of fanaticism in love. If anything, one can only feel a dubious empathy for such a mad, sick creature, so lost in dreams. Adele recognizes her madness and admits her fatal error, but what case one do about insane passion? Passion is indirectable and arbi-

Continued on Page Twelve

Early Coleman Connoisseur Quality Throughout

by Richard O. Ackermann

Probably one of the greatest successes any group-of musicians can achieve is to let the listener get the feeling of intimate contact with the music that is being presented.

An excellent example of this was given in a recent Sunday's Dabney Lounge Concert: In an unusual and remarkable performance, the Chamber Players of the L.A. Radio Orchestra proved that it was still possible to come up to the baroque ideal of a sort of ad hoc concert for a small and distinguished audience.

The setting for this was given by the fact that only two days before the concert it became apparent that due to illness the violinist would not be able to perform. As the decision was made to not cancel the concert. a new program was set up for Sunday, when an ensemble that included two new artists met in the afternoon to rehearse for the evening performance. (The two new artists were B. Karp, harpsichord, and B. Neidlinger, double bass-both well known musicians in their own rights.)

Now as is well known,

Chamber Music is most often composed for a small group, of which each member is assigned a different part. As a result, the music is confined to a specific clarity of texture that enables the listener to "look within the music", as he rarely has many tonal lines to follow. Naturally, this quality-often called 'transparence'-demands the utmost precision from every single performer, as he is entirely responsible for a particular element of the music.

That the Sunday evening's performers were wholly up to that highly demanding sincerity necessary in good chamber music soon became evident:

The first piece was one of the two Trio Sonatas by Johann Sebastian Bach (1685-1750). In comparison to the number of his other works, Bach's chamber music is relatively small in quantity. Nonetheless, we find the two masterpieces Das Musikalische Opfer and Die

Kunst der Fuge in this category, the latter of which has inspired musicians to write new transcriptions right up into this century.

Bach's love for intricately interwoven music becomes evident even in the Trio Sonata in G-major (S. 1038) performed in the concert: the last of the four movements which, by the way, are written in the usual sequence with the third movement in the relative minor key, is in contrapuntal style appearing as complete fugues.

In Telemann's Duet for Oboe and Flute (op. 2), the two artists, Jill Shires and Allan Vogel, proved their supremacy in a flawless play that showed real musical compatibility. With only two instruments-and wind instruments, at that-the concept of 'transparence' becomes clearly such a dominant factor that the interpretation of such a piece can stand or fall with the precision and technical ability of the performers. On the other hand, once that condition is fulfilled, it is a delightful experience to be carried away into a light and somewhat undisturbed world that may well be pictured as that of those rosy little baroque angels whisking around in beautiful surroundings.

Appropriately, a piece of Handel's-a colleague and friend of the composer of the Tafelmusik, was the next to have been selected for the program. As with Bach, Handel wrote much less chamber music than operatic and choral works. The Trio Sonata in G-minor (probably Op.2) is one of the outstanding sonatas of Handel's in that one feels a relieving spontaneity that leaves the form perfectly well-balanced, however.

In an informal but most edifying way, the individual pieces were introduced by the oboist, Allan Vogel. Thus a bridge was set between two presentations-a method that is to be recommended for any chamber music concert. In the case of Handel, one learnt that he was born the same year-1685-as Bach and Scarlatti. Although his father wanted him to be a lawyer, Handel quickly became interested in music when he went to Hamburg in 1703. After staying four years in Italy, where he wrote several operas and oratorios, he returned briefly to Germany before moving permanently to England. Handel died in 1759 in London.

Returning to the Germanic culture, the Lounge Concert continued with another Trio Sonata, this time in C-minor, and by the Berlin composer Quantz (1697-1773). Quantz, Allan Vogel related, was a well-known and fashionable composer in his time, and his name had become less known these days-unlike the fate of many other composers who didn't reach much fame during their life times.

Sunday's enjoyable performance was concluded with the only piece that survived the program change made because Kathleen Lenski, the violinist, had fallen ill. The Quartet in D-Major (No. 5) by Johann Christian Bach (1735-1782) formed a beautiful end to this all-baroque tour d'horizon.

Incidentally, it may seem almost amusing today to note that J.C. Bach was the eighteenth child and eleventh son of Johann Sebastian. He was known as the 'English Bach' because (after a period as organist of the Milan Cathedral) he settled in London, where he became opera and concert director as well as music master to the family of George

It was at a social gathering in London that Bach reportedly was expected to play to the guests after dinner. As he happened not to be prepared for this, he wrote the whole D-Major Quartet while the others were dining, so that after the meal, he could play to the society a keyboard version of his newest composition.

Such is the way times change.

Yet, that Sunday concert showed again that outstanding musicians remain good-even when things have to be impro-



I GAVE TO THE CALTECH "Y" **HOW ABOUT YOU?**

Yes Virginia, Even amidst the sham, drudgery and broken dreams of Tech there are still beautiful things to see and hear. During last year and part of this the "Y"sponsored:

Ray Bradbury Kip Thorne John Lilly Sir Fred Hoyle Parapsychology Tai-Chi Chuan

James Watson Richard Feynman Max Delbruck Karate Xavier Wardlaw Noon Concerts

The Second City Revue The L.A. Mime Troupe The Evening Jazz Series The Spring Art Fair Finals Decompression The Street Magician

...and more

Future programs depend on your contributions. Please give generously.

Our thanks to The California Tech for the donation of this space and also to ASCIT, the GSC, the Caltech Service League, the Health Center, and the Biology Division for their welcome contributions to some of these endeavors.

"A-Bomb" Taylor Talks

by Alan Silverstein

Dr. Ted Taylor, '45, was brought to the Institute last week by the Caltech Y to talk to students about nuclear energy, atomic bombs, and terrorism. He is well qualified to discuss these subjects because of his unique background. He joined the Navy, and was assigned to CIT during WWII, studying physics, and after graduation he put in a year of sea duty. Following this Dr. Taylor did graduate work at Berkeley, and from 1949 to '56 he worked on nuclear bombs at Los Alamos. He received a doctorate in Theoretical Physics in 1954 from Cornell. More recently he founded International Research and Technology in 1967, a consulting organization aimed at maintaining safeguards in a variety of industries. Dr. Taylor, now a private consultant, consented to an interview with a member of the Tech staff while on campus.

Most of us alive today have lived since birth under the constant but invisible threat of instant extinction by nuclear explosion. Naturally many of us have a terrible fascination with the subject, but few know anything real about it. It's always "they" who built the bombs and "they" who now control them. Dr. Ted Taylor was one of "them" before I met him, and I was eager to ask him some tough questions about his involvement in creating weapons of mass destruction.

were absolutely fascinating." As a physicist he found the conditions of temperature, pressure, and energy in the fireball exciting to work with. "All the numbers were at extremes there. Moreover, it was technically fascinating that we could make improvements, not of factors of two or three, but of orders of magnitude."

He also said, "We had a very idealistic picture of things." Those who did the early work on atomic weapons apparently believed that they were creating a "weapon to end war." Dr. Taylor says he and others hoped that the existence of the atomic bomb would eventually force the creation of a unitary World Federation. The explosions he witnessed convinced him that "it would be a nightmare if the bombs were actually used." He thought that he was "a part of society in the process of solving one of humanity's greatest problems, the problem of war."

I asked if he had felt any fatalism at the time-that someone else would be doing the work if he were not. He disagreed with this strongly and added that "it was also not a fear of the Russians." Dr. Taylor did what he did because he was certain that as a result the planet would never again see war on the scale of WWI and WWII. "We thought we were making war impossibleunacceptable-so it would disappear from the earth. In fact, one could argue that we have not yet seen World War III because of the

axis, countries that already have nuclear weapons are continuing to be dependent on them and stockpiles are growing; 2) on the horizontal axis, new countries are acquiring nuclear weapons and joining the "atomic club"; 3) on the "z axis", the risk is increasing that non-governmental groups will gain access to nuclear materials and build "illegal" hombs

He feels that the threat of death by atomic explosion is growing. "It's more of a threat than it was at Los Alamos in the mid-50s. More countries have nuclear potential than then." He estimates that 30 or so countries have enough fissionable material and know-how to design and build bombs if they so choose. At least 12 countries are major sources of materials such as enriched uranium and plutonium. "From all I can determine, this material in civilian enterprises is still inadequately guarded," he said. Dr. Taylor gave the Brinks Robbery as an example of an almost impossible theft that succeeded, and asserted that to steal fissionable material in sufficient quantity to build a bomb would be no more difficult than

One thing Dr. Taylor emphasized strongly was that almost everyone, the US Government included, has a misconception about how easy it is to build an atomic bomb. "It is simple, and this is one subject that should not be controversial." Apparently the widespread belief that it would take a large team of very dedicated and skilled specialists, working in complete secrecy, has lulled many persons into accepting that current safeguards are more than adequate for protecting explosive materials. He asserts, and feels every voter



Dr. Ted Taylor, Chairman of International Research and Technology Corp. returned to Caltech last week for a series of Y-sponsored discussions on nuclear weapons.

Photo by G, Later Course of Y-sponsored discussions on process of Y-sponsored discussions on the Y-sponsored discussions on the Y-sponsored discussions on the Y-sponsored discussions of Y-sponsored discussions on the Y-sponsored discussions of Y-sponsored discussions of

should be aware, that, once enough plutonium was somehow obtained, a bomb equal to the one that destroyed Hiroshima could be successfully assembled by a single, relatively non-skilled person, "using parts he could buy right here in Pasadena hardware stores." It would take only about 20 pounds of plutonium (about \$100K if purchased legally), or even less if enough chemical explosive were available.

ists have not used large quantities of explosives indiscriminately-but that the trend is changing. It's becoming more common to hear of large numbers of innocent persons killed wantonly, sometimes anonymously, by bombs. While he doubts that terrorists now have a nuclear bomb somewhere ("I've seen not evidence that one is already if the wrong hands"), the risks are increasing daily.

''Nuclear weapons will again be used...''

The US government denies, however, that it would be so simple, and Dr. Taylor claims that as a result safeguards are nowhere in the world sufficient.

Why have we not yet seen the use of nuclear explosives by non-governmental groups? "Good luck," Dr. Taylor replied. He explained that historically terror-

In some sense, though, it may be too late already. Dr. Taylor said that it is "likely that nuclea weapons will be used again for destructive purposes no matter what we do"—a sobering thought. He is not at all agains nuclear energy, but feels the very stiff safeguards must accommon to the too late.

Continued on Page Eleven

"We thought we were making war impossible."

To my surprise I discovered that Ted Taylor is very much a real human being, with a conscience. He gave me direct answers to my inquiries—some of which were not at all what I expected.

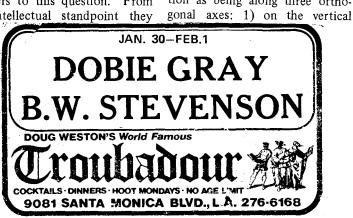
First I wanted to know the nature and extent of his involvement at Los Alamos. He explained that he did "fairly simple calculations based on the results of large computer analysis, for the purpose of improving the performance of bombs on paper." Dr. Taylor did not do shop work or experiment directly with the bombs, although he witnessed a few explosions. He was concerned solely with fission bombs: how to make them more efficient, and more controlled. He helped design what were the largest and the smallest bombs at the time.

Why did he work on nuclear bombs? I received a number of answers to this question. "From an intellectual standpoint they

existence of nuclear weapons." He added that confrontations such as Korea and Vietnam were "the result of bad leadership and decisions."

Does he now regret the work he did? Dr. Taylor replied simply, "Yes. I wish I had done something else." He explained that a lot of the makers of the early bombs were disillusioned, and mentioned the film "One World or None" which was made by the Federation of Atomic Scientists. However, he added that "In a way I'm glad I worked on these things, because I'm able to work more competently on safeguards relating to nuclear bombs and atomic energy."

Nowadays, of course, Dr. Taylor is very concerned about nuclear proliferation and the possibilities of blackmail and terrorism. He sees this proliferation as being along three orthogonal axes: 1) on the vertical



What we are as a company is but a composite of what we are as individuals.

If we as individuals are motivated, inquisitive, knowledgeable and resourceful, then the company that we become a part of will be equally so. Some companies may describe such an attitude as a "corporate philosophy." We would rather think of it as a fact of life. BNR is conducting research, design, development, long-range planning and systems engineering in all areas of technology related to telecommunications. Because of our "fact of life" approach to people, we have accomplished a great deal collectively.

We are presently searching

We are presently searching for a select number of qualified individuals with BS, MS, or PhD degrees in electronic engineering to become members of our scientific staff. The challenge is exceptionally unique. Your involvement would be immediate...in areas such as the applied design of microprocessors in new or existing equipment or participating in the design threshold of computer-controlled telecommunications systems. The rewards are plentiful, both per sonally and professionally.

If you have already shown exceptional accomplishments scholastically and are interested in the telecommunications field, we would like to speak with you during our on-campus interviews.



Campus interviews February 12

Palo Alto, California
A subsidiary of Bell-Northern Research

An equal opportunity employer M/F.

Taylor

Continued from Page Ten

pany any use of potentially hazardous material-which includes a lot more than plutonium. He claims for example that a single natural gas tanker, involved in a serious collision, could cause an explosion equal to that which destroyed Hiroshima. And as far as using atomic energy for warlike purposes goes: "We have to find some way to stop relying on nuclear weapons in any way whatever."

Dr. Taylor also had some things to say that might be seen as reassuring. Even in the event of the worst of nuclear wars, with all the explosives we have being set off as intended, there is no way the whole earth could be made sterile. Could we even kill off the human race? "Emphatically no. I've seen no calculations that even suggest that all humans would be killed . . . the premise of On the Beach is categorically impossible." There are some conditions under which most of the higher forms of life on the planet could be "ecologically strangled", but "we are not heading in that direction". Greater accuracy of missiles has resulted in the yield of the warheads being reduced. We'd need something like three orders of magnitude more fissionable

yield, planetwide, all detonated right, to even think of killing ourselves off. "In fact, millions of persons would undoubtedly survive even the worst nuclear war possible today, right here in the United States." 'Tricks' like adding cadmium to the bombs might increase their radioactive yield by as much as an order of magnitude, but "it would be very hard to imagine circumstances" where the situation would change. Well, small consolation, but nice to know.

Dr. Taylor, being an alumnus, also reminisced a little while here. "I'm glad to see that shenanigans are still going on,' he said. "Whenever I got into bull sessions after college, talking about pranks that happened, I could always top anyone else's stories." He explained that in 1942 it was clear that everyone his age was going to get drafted, so "I tossed a coin and it came up Navy, and the B12 program sent me right back to Caltech. The army people got shipped out in six months." The military nature of the student body during the war added pressure to an already heavy curriculum. Dr. Taylor had to study Navy History and take physical training, among other additions to his schoolwork. Of course, the school athletic teams at the time were legendary. There was one year of football when "nobody got beyond Tech's 35-yard line all season" - believe it or not!

CALTECH

Sweaty people in darkened rooms will project motion pictures

... but first, a word from our sponsor. The Annual Caltech Y Fund Drive is almost over. Remember us? We're the good guys in the white hats. Anyway, if you haven't yet discharged your moral obligations and lightened your karmic load by contributing, it's never too late. Just send in that little yellow card (buried under those papers on your desk somewhere), and have a few dollars painlessly subtracted from your term bill. Thanks for using Brand Y.

And now back to our regularly scheduled program Today at noon we present solo stand-up folk guitarist Bill Steele, composer of "Garbage" (the song, not a comment on quality). He'll be playing on the Winnett Quad, as

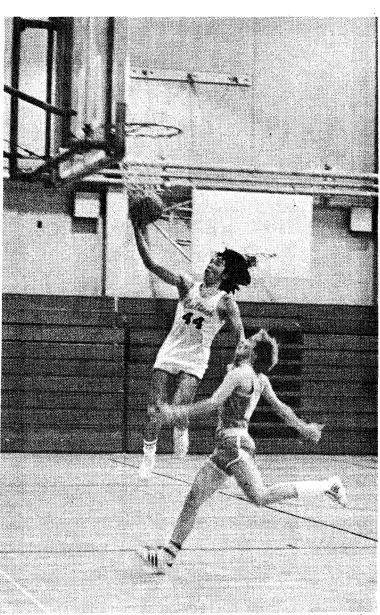
Special for you premeds--with the assistance of the Biology Division we are pleased to announce that Dr. David Papermaster, of the Yale Medical School Pathology Division, will be in the Y Lounge at 1:30 p.m. today to discuss with you how to get into the Yale Med School. He's on the Board of Aemissions, you see. Non-cutthroats are also invited, of course.

Sign up quick for the dayhike tomorrow! Free of charge, and with our gratitude, our very own Registrar Dr. William Schaefer will be leading a hike tomorrow into the wilds of the San Gabriel Mountains for all interested persons. Contact the Y office at x2163 for details and reservations. The hike will be over a nine-mile course with a minimal altitude change.

Also sign up soon for the Philharmonic Concert next Thursday evening. As usual for only \$1.50 you get seating and transportation provided to the LA Music Center. If you haven't gone, you don't know what you're missing . . . Next Thursday evening, what you'll miss is Tchaikovsky. Guest Conductor Gennady Rozhdestcensky and pianist Viktoria Postnikova will lead in the Fantasy Overture (Hamlet), Piano Concerto No. 2, and Symphony No.5. Too bad so many of you just ain't got culcher . . .

-Alan Silverstein

Beaver Hammers Ball into Backboard



You're free to draw your own JV Beaver No. 44 puts one up during a recent game in Brown Gymnaisium. Photo by B. Nakazono

FOREIGN STUDENTS SHIPPING SPECIALISTS OF

BAGGAGE AUTOMOBILES HOUSEHOLD ARTICLES COMMERCIAL CARGO

AIR • OCEAN • TRUCK

Pick Up & Delivery Packing & Crating Insurance Documentation Estimates given without obligation 10% off with Caltech ID

ANYWHERE-ANYTIME A REGISTERED AGENCY a tradition



of personal freight forwarding

Martin Lewin Transcargo, Inc. 2240 N. Figueros St. Los Angeles, CA 90065 (213) 225-2347

WASHINGTON, D.C. - A Bicentennial project aimed at achieving a better understanding of our knowledge needs for the next quarter century was announced here today on Capitol Hill.

Knowledge-how it will be used, how it will be created, and how it will be transmitted to serve society's needs better between now and the year 2000-will be discussed and analyzed by some 350 leaders from a variety of fields in the United States and other countries in "Project: Knowledge 2000."

Knowledge Quantized

They will examine the subject in three-day forums, each three days in length, to be held in 1976 in Leesburg, Virginia, some 30 miles from Washington.

After each forum, videotape cassettes and discussion guides will be distributed for group discussion in communities across the nation. The goal of the project is to stimulate widespread thinking and discussion at local levels about the generation, transmission and uses of knowledge in the context of local situations and special concerns.

Histos

Continued from Page Seven

the sum of 192 hours was totalled thru all the replies (with the assistance of a small computer naturally). The machine plotted the totals and the result is the histo gram labelled total.

Next, an average number was taken for each hour of the day over the eight-day period and the data was again plotted to give the histogram labelled daily average.

conclusions from the graphs More sports photos on page 12.

PIZZA SPAGHETTI

10% Discount On Food To Go

FOLLOW THE LEGIONS TO ROMA

ROMA GARDENS

BEER & WINE

ITALIAN CUISINE

Use new back entrance for picking up orders

1076 E. Colorado

449—1948

RAVIOLI

OPEN 4-12, Fri. & Sat. until 1



The CALIFORNIA Tech

Friday, January 30, 1976

Believe It or Not

Minutes of the IHC Meeting, 1-28-76

1. Atwater called the meeting together at 10:40 in the eventual presence of Hunt (BI), Myers (new president of Dabney), Naecker (Fl), Zwass (Ll), Wakai (Pa), Grams (Ri), Numro (Ru), Dr. Mayer, Feldman, and seventeen other people.

2. Board contract. Mayer talked about food service. As an experiment they may serve one good entree instead of offering a choice between two not-quite-sogood ones. Mayer may call in someone from outside to evaluate the quality and nutritional adequacy of our food, and suggest where there is room for improvement (e.g. new equipment.) Apparently students grumble about the food at almost all colleges. The meetings of the house food reps have been plagued by lack of attendance. If more reps showed up with more ideas and comments from the students, it might be possible to realize significant improvements.

3. Doors. Wakai complained that the Flems came over to page during dinner and ripped off the doors from the Excomm member's rooms. The doorless parties were pissed off at this, especially since some of the doors were

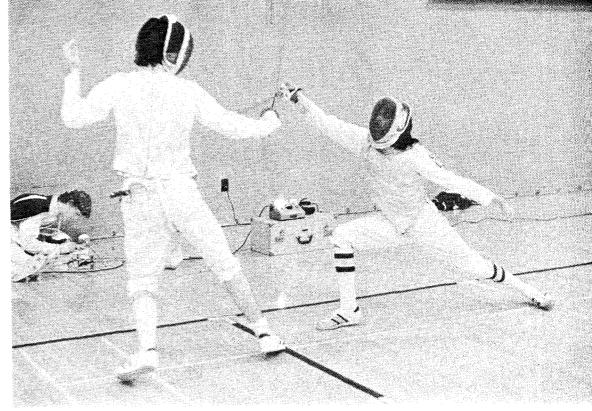
allegedly locked until they were removed. Wakai had heard from "reliable sources" that Naecker himself was the instigator. "Me?!" He issued an ultimatum that Fleming return the doors forewith, or they would be in big trouble. Naecker: "What doors? It came to light that Atwater (Fleming Vice-president)'s door had disappeared earlier. Accusations and counter-accusations continued for about 10 minutes, to the amusement or disgust of the audience. Mayer walked out with the ominous warning, "Doors today, whole rooms tomorrow!"

4. Mayer had asked that some students have dinner at his house tomorrow (1-29) to discuss board contract. Motion (Munro/Hunt) that the house food reps be sent. Passed 7-0-0.

4.5. The results of the board contract questionnaire indicated that the overwhelming majority of students wanted bids from other food contractors to be invited, without indicating any dissatisfaction with the present contractor. So be it.

5. Motion to adjourn (Munro/...) All voted by leaving at 11:05.

> Respectfully submitted, Rich Feldman



Cal State LA barely slipped past the nimble foils of Caltech last week. See story on page one. Photo by D. Weinshenker

Francois Truffaut Finit

Continued from Page Eight

trary; desire is a human frailty which induces the major dramatic material of most literature. This is a great classic theme for a film; Truffaut attempts to squish this grand uncontrollable passion into the roving eye of the camera, and doesn't fail. Nor does he succeed.

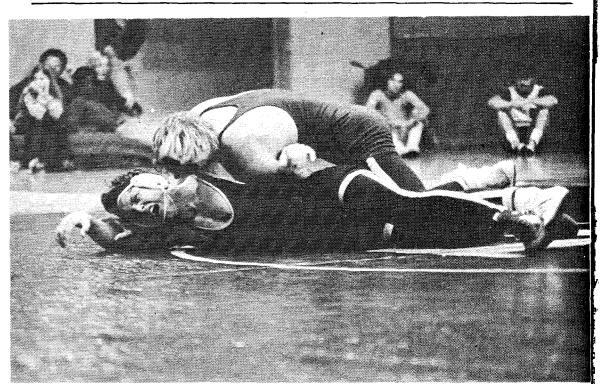
The techniques of the film are essentially faultless; Truffaut is so mature a craftsman that mere technical flaws are not his major shortcomings. Camerawork by cinematographer Nestor Almendros is faultless; the rhythm of this film is a constant tension, implied and explored by

a rather nervous and groping camera with agitated short sequences and intercutting. The use of color by the director is rather subtle. Much of the film is couched in nocturnal settings, bathed by the lamplight of the era, shading off into the mauves and browns of a repressed Victorianism.

Psychological insights are offered to the viewer as a causative interpretation of the (typically Truffaut) pointless events occuring on the screen. Adele's life is molded by the towering image of her father-figure, a literary, intellectual, and political giant. Adele's elder sister, Leopoldine,

was the fair-haired favorite of the family, a bride in a happy marriage, who drowned at age nineteen-her husband, finding it impossible to save her, chose to die wetly with her rather than to live dryly without her. If one chose to play Freudian games, it could become clear that Adele deeply resented this, desired to be one with her sister's life, to find a commitment in love as true as that of the drowned husband. Nightmares would torture Adele in her restless sleep, dreams of sinking, choking, be neath the waves, without a savior, to drown alone.





Redlands rassler turns techer into King-Kong School dropout. Tech went on to lose the recent match.

Second Class Postage paid at Pasadena, California, The California Tech is published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc., Winnett Center, Caltech 105-51, Pasadena, CA 91125.

JOSH WHITE, JR.

at the ICE HOUSE

Now Thru Sunday

24 N. Mentor Reservations Phone 681-9942

DARROW IGUS & DUNCAN TUCK and COMEDY

COMING HELLO PEOPLE FEB. 3-8

CLASSIFIED ADS

Buying or selling somethia You, too, can take out an ad in The California Tech! \$1.50 pt? inch plus \$.25 per extra line f Classifieds. Bring ad copy to the Tech office or phone ext. 215