

Attention undergrads!

Today, January 13, is an ASCIT Special Election Day. Please vote at one of the ballot boxes located in each house. Instructions should be by each box. On the ballot are three items: a proposed bylaw amendment, and ASCIT Opinion Poll on the Uber proposal, and a Caltech 'Y' Referendum. The proposed amendment is listed and discussed in this issue of The California Tech on page 2. Voting ends at 10 P.M. tonight, so don't forget.

Also, note that nominations for ASCIT President and for ASCIT Vice-President/BOC Chairman are now open and shall remain open until 5 P.M. on Tuesday, January 17. Each nominee should submit a note with his name, mailbox, phone number, e-mail address, class, and office sought to ASCIT Election Chairman, Cedric Hobbs, at mailbox #260 or at cedricit@ugcs. Nominees are encouraged to submit statements to *the Tech*. The deadline for these statements is 5 P.M. on Wednesday, January 18. All nominees must be current ASCIT members. Elections for these offices will be held on Monday, January 23, 1995. Any questions should be addressed to Cedric Hobbs at the above addresses or at 568-0001.

The Uber Proposal: FOR AGAINST

by Thomas J. Maccarone

by Ricky Carson

The proposal described below was supported by a majority (4-3-2) of the ASCIT-IHC Committee on Student Government that met over the summer to examine our systems of government at Caltech. It did not get 2/3 support and is therefore not an official committee recommendation.

There is a question on today's ASCIT election ballot to determine student opinion on the Uber Council proposal for a new student government. This proposal was designed to alleviate the problems of the current system of government. It aims to solve problems of overburdening of officers, jurisdiction of the various student government organizations, and disputes between boards by creating a new board to oversee the interactions between the ASCIT BOD, the Board of Control, and the IHC. This council would be composed of the chairmen of these three organizations. The proposal would also give separate jurisdictions to the three boards, while being the overseeing board. While the ASCIT BOD is now in a sense the chief board among the three, the Uber Council would become the chief body under the new proposal with the other three being on equal footing under the Uber Council. Additionally, the chairs of the IHC and the BOC would no longer be ASCIT BOD members. All three chairmen would be allowed in closed meetings of the IHC and the BOD, but there would be no changes in the integrity or privacy of BOC hearings.

The Committee on Student Government investigated alternatives to the current system of government over the summer and has seriously considered the Uber Council proposal as an improvement. It aims to solve all the major problems exposed during last year's series of controversial events. The Uber Council will help delegate issues to the BOD,

SEE FOR, PAGE 3

Today, you will be asked to vote on a straw poll of the Uber proposal to determine whether it has popular support. Although this proposal was designed to alleviate some problems in the present government, there are concerns that it may create problems of its own, and it is my belief that these should be addressed as well.

First of all, the Uber, being the triumvirate of the student government, has the authority to delegate duties to the three "branches" of the student government, rule on general policy issues, and act as the liaison between the undergraduate community and faculty, administration, and other outside groups. Several concerns were raised in the Committee on Student Government (COSG) about the amount of responsibility resting on just three people. For instance, should the Board of Control be given legislative and executive power, in addition to keeping educational and judicial supervision of the Honor System? Could the Uber add a political dimension to the BOC that should not be present?

Also, just because there are fewer people making the "big decisions" does not mean that there will be less disagreement. The amount of disagreement depends (in part or mostly) on the personality and caliber of each of these elected officials, and the Uber does not guarantee peaceful disagreement and compromise. In case of a disagreement, the consequences may be worse than disagreements arising in the BOD. In the BOD there are nine people and a majority vote is sufficient to pass resolutions. Should it be the same with the Uber? Should two people be sufficient to make decisions on the major issues coming

SEE AGAINST, PAGE 3

Deep Space: Keck Observatory Sees More Galaxies Than Ever Before

from Jay Aller

Caltech astronomers have counted galaxies to a limit of about 24th magnitude, the faintest ever counted in infrared light. Observing five small patches of sky with the 10-meter telescope at the W. M. Keck Observatory in Hawaii, the scientists found that the numbers of galaxies continued to rise with increasing faintness, a result that agrees well with models in which the universe is "open" and will continue to expand forever.

These observations will be presented by a consortium of Caltech astronomers on January 10, 1995, to the American Astronomical Society (AAS) meeting in Tucson, Arizona. Early results appeared in the January 1, 1995, issue of *Astrophysical Journal Letters*, and these and additional results were presented at the AAS meeting.

Working on several nights spread from late April to October of last year, the astronomers made their observations in the K-band, a range of wavelengths in the infrared, centered near 2.2 microns, or 2,200 nanometers. Astronomers count galaxies in near-infrared wavelengths to minimize both the effects of dimming caused by dust, and the effects of large variations in brightness due to star formation, two problems that are common to galaxy counts in visible light.

"These preliminary results are consistent with cosmological models that include a low-density, open universe, and little galactic evolution over the past several billion years," explained S. George Djorgovski, co-

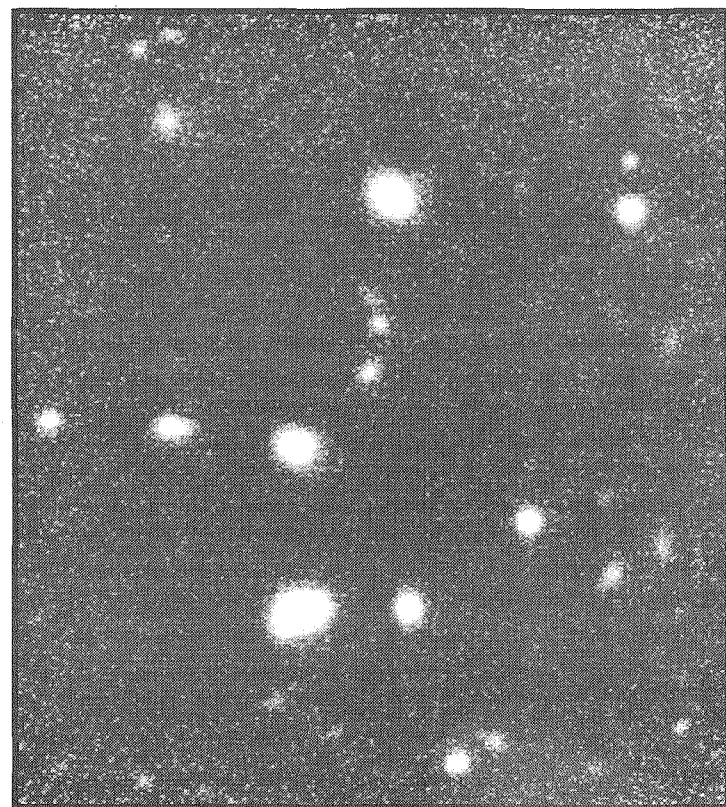


IMAGE COURTESY OF KECK OBSERVATORY

The central portion of the deep field 0050+12, observed at the Keck telescope in October. This is probably the deepest infrared image of the sky ever obtained. Almost all detected objects are distant galaxies, with estimated distances of up to several billion light years away.

author of the study and an associate professor of astronomy at Caltech. Most current observations point toward an open universe, though some scientists still maintain that the universe has a higher density, and is exactly balanced at the point between being open and closed.

Counting galaxies as a function of their brightness is a classic cosmological test developed in the 1920s by astronomer Edwin Hubble. These counts shed light on two important questions. First, what is the "global" geometry of the universe? That is,

how dense is it, how fast is it expanding, and will it ultimately expand forever, or collapse upon itself? And second, do galaxies evolve, and if so, in what ways and how fast do they do so?

The galaxy counts to be presented are about five times deeper than the deepest published K-band images to date, meaning that it recorded objects five times fainter than the best earlier studies. The numbers of galaxies seen imply a cumulative density over the entire "surface"

SEE KECK, PAGE 11

Caltech Y Needs Funding

by Christopher Hunter

Note: Due to a delay in the ASCIT ballot, this article is being reprinted from last term in order to remind the voters of why the Y is asking for the increase. All information is still current. The ballot will be out today (Friday) during normal ASCIT voting hours.

Decompression, the Y Hike, the Stranded Students Party, Broomball, discount movie tickets, International Day, Co-sponsorships, discount outdoor gear rentals, and more. The Caltech Y offers dozens of services to the students of Caltech. We serve as a programming board which distributes money to various groups on campus. Unfortunately, in the past few years, our income has failed to keep up with the rising costs of our programs, and if something is not done soon, we will be forced to cut back.

The Y is a non-profit corporation which operates independent of Caltech. Currently, the Y receives \$5 per undergrad student per term, ap-

SEE Y?, PAGE 3

In This Issue

The Usual Stuff

EDITORS' CORNER	2
LETTERS TO THE EDITOR	2
YNEWS	3
KREATIVE KORNER	4
SPORTS	5
BRIDGE WITHOUT SAM	5
CRIME AND INCIDENT BEAT	5
PHUNNIES	5
SOCIAL COMMENTARY	6
ASCIT NEWS	6
REVIEWS	7
CROSSWORD	7
GAMES & PUZZLES	8
COMICS	9
MEDIA GUY	10
EVENTS & NOTICES	12

Features

Health
Week
'95

2

The
Gift of
Gould

4



Letters to the Editor



I take issue with your contest, Wei-Hwa. What is a grammatical mistake? Well, says you, a bunch of words that flouts some law of English construction. Where are these laws? Grammar, you see, is much like the British Constitution: codified nowhere, it exists only in precedent and in the minds of its guardians. And while a nation, for example, cannot run itself, and needs a unique Constitutional interpretation for day-to-day governing, a language is an organic whole, changing from day to day according to the needs of its speakers. Therefore no one need (and no one can) ever specify an exhaustive list of English grammatical do's and don'ts—for the simple reason that one will find these rules contravened, broken, and spat upon in the words of the greatest poets and the lowliest scum. I see some pseudo errors which you must expect some people to catch: the split infinitive, for example, and the phrase "kind of a." If you say these are errors because one usage "expert" or another defines them as such, then I will show you a contradictory citation. If you use false logical reasoning to "prove" that some phrase is flawed, then I remind you that language is not a province of logic. I'm sure you would call "if I was" an error. Well, I guess it depends where you live and with whom you speak. In the mean streets of Detroit, for example, an overeducated and pedantic use of the subjunctive would get you a sneer at best and maybe a sock in the jaw. So my answer is the rarest one you're likely to get: all the sentences you wrote down are correct, because they reveal a clear meaning on first reading. Any "established" rules of grammar (which in most cases are historical accidents or the product of misguided English-teacher obsessive compulsion) are not established at all,

and thus not fit to use as the basis of a puzzle unless you specify them for the benefit of your readers beforehand.

Zackary Dov Berger

Dear Zack,

Let me do a case by case analysis for you:

(1) Your reply was not serious and/or joking. In that case, you may ignore the rest of this message.

(2) You are completely serious. In that case, you should know that I will not be (completely serious, that is) for the rest of this post. Basically, here's the deal: You complain that the puzzle is based completely on rules that are unestablished and not specified, therefore the puzzle is invalid. Well, I agree that the rules are not specified. However, the rules are completely specified: they are what I want them to be. In other words, if I want to say, "splitting infinitives is okay," then that is my prerogative, as I am not infringing any legal rights by doing so. But I probably won't since I'll get many angry letters. Also, due to space reasons, I didn't exactly state last week that "Find any grammatical corrections that I think are valid." However, that, and not the rules of grammar (if they existed), is what I expect most readers to assume—that I am in charge of the contests. If you expect all contests to have well defined rules, too bad. Here's one that didn't. Personally, I think puzzles without well-defined rules, although sometimes exasperating, can still be enjoyable and sometimes provide extra challenge in exploiting the loophole, as a certain group of ex-Page House members might be able to tell you. In fact, it can also provide enjoyment in the art of nitpicking, i.e., complaining about the contest, which is what I suspect you are doing. In any case, I'll agree that

your answer is probably the most correct, but let me check...oh, shucks! I guess I didn't say last week that the person with the most correct answers was the winner, did I? Gee, I guess you made an unwarranted assumption...

—Wei-Hwa

P.S. At least I didn't print anything really controversial, like ending sentences with prepositions or that quotation mark/comma order...

P.P.S. I'm printing this exchange in "Letters to the Editor." I think our readers will enjoy it.

Health Week 1995

by Angie Marie Bealko

Feeling sick? Feeling tired? Feeling stressed? Well then take some time out of your busy week to wipe away your worries and see what's up for health week! It's all free and it's guaranteed to work wonders no matter what may be ailing you. It all starts on JANUARY 23rd. The following programs will be offered and the entire Caltech community is welcome to attend any or all of the events.

Safety Program: Reducing the likelihood of becoming a crime victim.

Monday Jan. 23rd 12:00 - 1:00 pm Clubroom 1
Phyllis Cohen, Greg Henderson

What to do when someone you love tells you they are gay, lesbian, or bisexual.

Tuesday Jan. 24th 7:30 pm - ? Y Lounge
Aimee Ellicott, Jon Pederson, Sue Bunker

Nutrition Program: 1995 - No more dieting (brown bag lunch)

Wednesday Jan. 25th 12:00 - 1:00 pm Clubroom 1
Phyllis Cohen, Rene Klang

Eating Healthy: Learn how to eat healthy and light for the new year. SAMPLE FOOD ITEMS WILL BE SERVED!

Wednesday Jan. 25th 7:00 - 9:00 pm Winnett Lounge
Dinah Schaller, Denise Gabaldon, Denise Schafer

Noon Time Concert: Vanishing Violet

Thursday Jan. 26th 12:00 - 1:00 pm Winnett Plaza
Chris Sundberg

Self-Defense Training for Women Learn valuable tools to help keep yourself safe.

Thursday Jan. 26th 5:00 - 9:30 pm Winnett Lounge
Beverly Kenworthy, Leslie Bachian

Personal Safety Self-Defense Training for Men

TBA
Beverly Kenworthy

Women's Issues: Hormone Replacement (brown bag lunch)

Friday Jan. 27th 12:00 - 1:00 pm Women's Center Lounge
Phyllis Cohen, Kathleen Bartle-Schulweis

Health Fair

Over 30 booths from the Pasadena and Caltech Community will be featured. Such booths as blood pressure checks, earthquake preparedness information, fire safety and much more. FREE FOOD SAMPLES WILL ALSO BE AVAILABLE.

Friday Jan. 27th 12:00 - 3:00 pm Winnett Plaza
Dinah Lee Schaller

Family Night

Program for children age 2 - 12. Activities include games, face painting, and a clown. Healthy snacks will be served.

Friday Jan. 27th 5:30 - 7:30 pm Winnett Lounge
Kate Finigan, Parandeh Kia, Phyllis Cohen

Massage Demonstration by Wild Oats

Friday Jan. 27th 7:30 - 9:00 pm Braun Gym
Aerobics Room
Angie Bealko, Chris Sundberg

Chantry Flats Hike

LUNCH WILL BE PROVIDED

Saturday Jan. 28th 12:00 - 3:00 pm Sign up at Y by JAN. 24TH. 15 SPOTS available. Angie Bealko, Chris Sundberg, Jeff Kirshberg

Senseless Death

Enjoy the comedy stylings of this Caltech Improv group. REFRESHMENTS WILL BE SERVED

Saturday Jan. 28th 9:00 - 11:00 pm Winnett Lounge
Dinah Schaller

For more information on any specific event please contact the person(s) listed below the event or call Dinah Schaller at 395-8331.

Editor's Corner

From your Sleepy Tech Editor

How come it seems we never have the right amount of space?

Deadlines for Submission to The Tech

Letters to the Editor

— 5 P.M. Monday

Events and Notices

— 5 P.M. Tuesday

Unsolicited Articles

— 5 P.M. Tuesday

Regular/Semi-Regular Columns

— 5 P.M. Wednesday

Articles, News Submissions

— 5 P.M. Wednesday

Art/Photo Submissions

— 5 P.M. Thursday

WORK FOR US!
COFFEEHOUSE,
12:15!

Please send submissions for letters to the editor to The California Tech, Caltech 40-58, Pasadena, CA 91125, or by electronic mail to editors@tech.caltech.edu. Deadline for submissions is Monday at 5pm on the week of publication.

The editors reserve the right to edit or refuse to print any letter for any reason.

The California Tech

Caltech 40-58 SAC, Pasadena, CA 91125
phone: (818) 395-6153
e-mail: editors@tech.caltech.edu
ISSN 0008-1582

VOLUME XCVI, NUMBER 12
JANUARY 13, 1995

EDITOR-IN-PERIL Wei-Hwa Huang	PHOTOGRAPHERS Samantha Foster Stephen Van Hooser Richard Zitola
CHIEF ASSIGNMENT EDITOR Krishna Gidwany	STAFF WRITERS Toby Bartels Zackary Berger Evan Hurowitz Michael Kantner Stephen Van Hooser
ASSISTANT ASSIGNMENT EDITOR Siddhartha Padmanabha	FEATURE WRITERS Jeff Goldsmith J. Random Hercrosh Wei-Hwa Huang Lauren S&M Adam Villani
ACTUAL ASSIGNMENT EDITOR Ying	CONTRIBUTORS David Derkits Flora Ho Tophier Hunter Alison Slomp
COPY EDITOR Shay Chinn	ADVISOR Hall Daily
LAYOUT EDITORS Stephen Van Hooser Wei-Hwa Huang	
SUPPORTING EDITOR Fay Peng	
EVENTS AND NOTICES Terry Moran	
BUSINESS MANAGER Dov Rosenberg	
CIRCULATION Lydia McKay Roman Muchnik	

Published weekly except during vacation and examination periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors.

Letters and announcements are welcome. All contributions should include the author's name and phone number and the intended date of publication. Submit copy (preferably on Macintosh 3.5" disk) to the Tech mailbox outside SAC room 40, or e-mail to editors@tech.caltech.edu. The editors reserve the right to edit and abridge all submissions for literacy, expediency, etc. All articles are the property of the authors. Authors and columnists retain all intellectual property rights.

The California Tech is distributed free. Issues will be mailed off-campus upon receipt of \$11 per year to cover third-class postage and preparation costs. Printed by News-Type Service, Glendale.

WRITE FOR THE TECH

12:15, FRIDAY, COFFEEHOUSE

SOMETHING DIFFERENT AT CALTECH

Armchair Adventures

CHINA
The Dragon Awakens!

FRI., JAN. 13, 1995
8 PM
Beckman Auditorium
\$8.00 - 6.50

SAT., JAN. 14, 1995
2 PM
Beckman Auditorium
\$9.00 Adults
\$5.00 Children

Family
Faire
**Red
Grammer**

Lagerstrom Chamber Concert
BOLAND-DOWDALL DUO

SUN., JAN 15, 1995 / 3:30 PM
Dabney Lounge
FREE

**CALTECH
DISCOUNTS**

**CIT STUDENTS,
STAFF, FACULTY:
1/2 price on
"CHINA"**

Call the Caltech Ticket Office at x4652.

FOR AGAINST Y?

FROM PAGE 1

IHC, and BOC to make sure student opinion is well represented by the appropriate body. The Uber proposal will help alleviate disputes between the boards of student government by creating a more appropriate forum for discussing these issues. Instead of long drawn out debates within the ASCIT BOD where 9 people will be expressing various opinions, and where the concerns of the BOD are weighted much more heavily than those of the IHC and the BOC, there will be a group of three people sitting down to discuss the issues with equal weight for each branch of government. The proposal also allows for calling joint meetings of two or three of the boards to discuss issues where appropriate. This should lead to a more civil, fairer, and quicker resolution of debates over jurisdiction.

The Uber Council proposal will also promote better overall communication between the branches of student government. It will stop the problems of two bodies thinking the other is going to do something and leaving the problem untouched. The ASCIT BOD could serve this function, but it is simply not as effective for handling issues like these because it handles so many other things. A body devoted simply to communication is superior because it doesn't waste the time of people whose jobs are not communication, to coordinate the branches.

Another helpful effect of the Uber Council will be to reduce the workload on some of our officers. The Uber Council proposal removes the offices of IHC Chair and BOC Chair from the ASCIT BOD, thus saving these officers the time they now spend in long meetings, discussing things like funding requests which have very little to do with their jobs. By reducing the times spent in meetings, officers will have more time to pursue requests of the students or take care of their own academics and other personal affairs.

The Uber Council proposal would, if effected, improve the efficiency of our student government. It will make the student government able to handle conflicts and day-to-day business much more smoothly. This non-binding opinion poll is being held now because there is not enough time between now and the next ASCIT election to submit a comprehensive package of bylaws that incorporates all the changes the Uber Council proposal would make. We would like to see the student body get a chance to express its opinion on this proposal before the next election so that if a package of reforms is passed during the next term, it will not come as a surprise to the new officers, particularly the chairs of the

FROM PAGE 1

before the Uber? Or should there be a unanimous vote required to pass any motions, and in this case just one dissenting member has the power to stop the motion? A "walk-out" veto was tentatively adopted into the proposal as the "solution." In this plan, the dissenting member would "walk-out," and (since the quorum for a vote is three) a vote cannot be taken and the issue goes to a popular vote if a compromise among the Uber members cannot be reached within a week or two. Normally, this shouldn't cause a problem, but if action needs to be taken quickly, and there is disagreement, the "walk-out veto" and subsequent negotiations and popular vote-taking and tallying could take weeks.

There were also concerns about the advocacy role of the Uber government. The Uber proposal, by compartmentalizing the corporation duties, Honor System issues, and House issues may decrease the amount of representation that students have at present, since any broad issues that do not fit in any of these categories will go to the Uber, where there are only three student representatives. Also, since the Uber is indeed only three members, would not the channels of communication with the faculty and administration be correspondingly limited? And divided, since the three members are of equal footing? The Uber members may also find themselves overwhelmed with various communications, e.g. the BOC Chair and IHC Chair may need to be given more information than presently, since they will no longer sit on the BOD. Adequate communication is an issue that remains to be addressed in the present Uber proposal.

The Uber was proposed in part to alleviate jurisdiction problems, and the increased communication between the heads of the IHC, BOD, and BOC that this body will facilitate should accomplish this purpose. But didn't the heads of the respective bodies meet informally to do this already? And if not, is it really necessary to restructure the entire student government to accomplish this? There are indeed problems in the present student government, and reforms should be made. The Committee on Student Government (COSG) discussed many problems at length and made valuable suggestions which should be considered. However, the Uber proposal should be more carefully examined, and all concerns addressed before approval, as the effects of this proposal would be profound.

FROM PAGE 1

proximately \$4250 a term. Our student ExComm budgets approximately \$9000 for events such as Decompression, Broomball, co-sponsorships, and other activities for the community. Approximately 75% of this budget goes directly to events that support Undergraduate Community. Divide this \$6750 by 850 students, and you come to \$8 spent per student per term. In other words, the Y spends more per Undergraduate Student than we bring in direct from this group.

We would like to propose raising the current student assessment from \$5 to \$10 per student per term. We feel that this would be a relatively small increase which would allow for continued maintenance and expansion of our programs and co-sponsorship opportunities. Without additional funding, we will be forced to begin cutting back on our event funding and student co-sponsorships.

What would an increase of funding mean to the Undergraduates? For one thing, all of us (Frosh understandably excluded) have experienced the shortages of food at Decompression. This problem would be rectified by an increase in funding. No longer would we run out of hamburgers and hot dogs. In addition, we would be able to maintain our current level of funding and programming on campus without cutbacks. We would be able to continue subsidizing campus services and activities such as movie, play, and concert tickets. Our current levels of co-sponsorships would be maintained such that student-organized events could get funding and support.

We will be using the existing ASCIT elections system to put the raise in student contributions to the Y to a vote. Because the Y affects all students, regardless of whether or not they are ASCIT members, all undergrads are invited to vote on this proposal. We will require a 67% majority of the votes in favor of the proposal in order to pass the assessment increase.

If you have any questions, please feel free to contact any member of the student ExComm. The ExComm officers are: President, Christine Chen (*chrisie@ugcs*); Vice-President, Christopher Hunter (*chrish@cco*); Treasurer, Erik Wasinger (*wasinger@cco*); Secretary, Donna Ebenstein (*donnae@cco*). We urge you to vote in favor of the proposal so that the Y can continue to bring you the quality services and opportunities that make a difference on our campus.

YNEWS

by Topher Hunter

First off, you should all be sure to re-read the article on the Y assessment increase in today's Tech. The ballots should be out today along with an ASCIT election.

In the news: Today, (assuming the rain doesn't get in the way) come see "Agent Shocking" on the Winnett Quad in the term's first Noon Concert. This Monday, January 16, is Martin Luther King, Jr. Day. The festivities will go as follows:

12 noon - 2:00 P.M., Dabney Lounge

- Akebulan boys Choir
- Michael Dyson, "Influence in the Life of Martin Luther King"
- Food by the Fishery

4:00 - 6:00 P.M., Dabney Lounge

- Gospel Fest
- Reception 4:00 - 5:00

7:30 P.M., Beckman Institute Auditorium

- Michael Dyson, "Parallels between MLK and Malcolm X"

All of these events are free. Come and enjoy!

The Y is also home to the campus volunteer and community service program. Work-study students can earn their work study dollars through community services. Those students not eligible for work study are also welcome to participate on a volunteer basis. Currently, projects include:

- Tutoring sessions with students from the Pasadena Unified School District, both in the classroom and here on campus.
- Tutoring for Arrowhead Emancipation Program, a group home for young women who have become pregnant and teenage fathers.
- Teaching computer use to senior citizens at the Pasadena Senior Citizens Center.
- Trail maintenance trips in the San Bernardino Mountains along with the JPL Trailbuilders Club. (We will most likely need a lot of help after the rains pass.)
- Serving as Mentors and Tutors for the Five Acres program, a home for abused children.
- Assisting with patients' overall well-being at Huntington and St. Luke's Hospitals.

If you have questions or would like to help out, contact Athena Castro at x6163 or email *castroa@starbase1*.

Take the first step: entry-level opportunities for college graduates

Are you about to take the first step toward a rewarding and challenging business career? If you are, we'd like to talk to you. J.P. Morgan, a global financial services company, has an entry-level career opportunity in the San Francisco Public Finance Office.

This entry-level position offers on-the-job training and the opportunity to begin a career at Morgan by learning about a specific part of the financial services industry. We are looking for team players who possess superior written and oral communication skills, problem-solving ability, and interpersonal skills.

Your first step in learning more about opportunities at Morgan is to visit your Career Services Office.

JPMorgan

J.P. Morgan is an Equal Opportunity Employer

The ASCIT MOVIE

She's a blessing...in disguise.

MRS. DOUBTFIRE

PG-13

©1993 TWENTIETH CENTURY FOX



Tonight in Baxter Lecture Hall

7:30 and 10:00 pm

\$1.50 ASCIT/\$2 Non

next week:

Benny & Joan

LAEMMILE THEATRES

ESQUIRE

2670 E. Colorado Blvd.
(818) 793-6149

Zhang Yimou's To Live

Daily 6:40, 9:30 p.m.
Sat-Mon Bargain Matinee 2:30 p.m.

COLORADO

2588 E. Colorado Blvd.
(818) 796-9704

A Man of No Importance

Daily 7:10 p.m.

Sat-Mon Bargain Matinee 2:00 p.m.

SEPARATE ADMISSION

Mrs. Parker and the Vicious Circle

Daily 4:30** 9:10 p.m.

**Sat-Mon Bargain Matinee

Kreative Korner

UNTITLED Michele Wiegand

*I saw in a stone
bodies laid in a scene,
seared in a love.*

*Word and form—
a daffodil bed-
dying in my mind,
as I played the voyeur.*

*Dressed for the role—
a washer woman for
the guts of the earth;
ah, but she rose
and came towards me—
shedding her daffodil fell.
I asked her
to clean my smile;*

*she left me to my nakedness—
to hold a daffodil comfort,
to the wake of regret.*

Kreative Korner Policy

Guidelines for Submissions.

Submissions are generally creative works, such as narrative, fiction, drama, poetry, artwork, or photographs. Essayists are encouraged to submit to *The California Tech*. Most cartoons should submit directly to the California Tech.

1. All submissions must be in by the Tuesday preceding the issue in which the submission is to appear.
2. Submissions may not contain libelous material without consent of those being libeled. It is the responsibility of the author(s) to check on this fact. Suspicious submissions will not be printed.
3. Submissions may not contain vulgarities. The editor has judgement on what constitutes a vulgarity.
4. Submissions must be turned in by e-mail, Macintosh disk, or 3.5" high-density IBM compatible disk.
5. All submissions will be submitted to the *Totem* after publication unless explicit instruction is given by the author(s) to the editors to the contrary.
6. The author must be part of the Caltech/JPL community. Certain waivers for alumni, friends of the community, etc. may be made at the editor's discretion.
7. The editor reserves the right to edit, shorten, disallow any submission, or take exceptions to these rules.

Stephen Jay Gould: Science with an Edge and an Ego

by Zackary Berger

Anyone who likes to read, and furthermore doesn't mind reading about science over vacation (for some it brings back unpleasant memories of the term just ended) will have either read, received, or heard of Stephen Jay Gould, Harvard's evolutionist and essayist. He is exhaustively anthologized in a series of books with whimsical names: *The Panda's Thumb*, *Eight Little Piggies*, *The Flamingo's Smile*. (Another work of Gould's, *The Mismeasure of Man*, is a book-length indictment of the doubtful uses to which science has been put in the service of inequality. As such, it's a useful retort to *The Bell Curve*.)

His essays exemplify good science writing. Clear and direct, they proceed from matters of the literary salon to the trenches of day-to-day science—or, conversely, elevate the merely empirical to the poetic. Indeed, in hundreds of columns, Gould has honed his form to an artful and expressive tool. A typical piece begins with a quote or personal observation of the author's; the reader is then led skillfully from implication to implication, from assertion to proof to generaliza-

tion, until (for example) Darwin and ballpark hot dogs seem always to have shared necessary and important similarities. In this way he is heir to the art of Montaigne.

But, despite these good points, there are better science writers than Gould. There is more than one reason for this. If you read him in doses larger than one essay, the writing gets old—the structure is too predictable, the passage from biography to biology too pat. Some of the selections in his anthologies read as if they had been written on auto pilot.

It's somewhat unfair to expect Gould to transcend the limits of his form. Any columnist's work loses freshness when subjected to the jaundiced eye of the habituated reader, just as a magician can't play the same crowd more than once. One particular defect, however, can be laid at the author's feet: his personality. Gould is confident, expansively so. He would like us to think that he is the first ever to draw these connections, that his essays are the vanguard of a true intellectual reformulating of evolutionary biology. For he is the standard-bearer of "punctuated equilibrium," a particular philosophical and scientific rendering of evolution—and he is not hesitant to raise his theories high above an otherwise crowded field of speculation.

This self-opinionated tendency of Gould's writings wouldn't be inappropriate in a field where theories can sweep aside their competitors with the naked edge of truth. But this is evolutionary biology we're talking about, where disagreements still rage over the unit of selection and other philosophical questions. Indeed, the author's arrogance is most evident in his dismissive summaries of earlier paleontologists' misguided theories—as if he does not recognize that his own creations could, at any time, be relegated to a heaping landfill of failed evolutionary models.

I got *Eight Little Piggies* (Norton, 1993) over the holidays, and asked a friend if he didn't think Gould got a little annoyingly overbearing. He agreed, but said: "Overconfidence is the price you pay in becoming a successful scientist." This depressed me—partly because I know it isn't true (I know a number of very pleasant, decent people who happen to be successful scientists), partly because a number of anecdotes about famous people in the field make me think it is true.

Let's say what we want to be true: "Successful scientists and graceful science writers need not be full of themselves." What works should we read to convince us of this? Peter Medawar's "Advice to a Young Scientist" is one: useful in a timeless way, assertive but not brazen. It is, in short, calmly philosophical in what we might cheerfully stereotype as a British style.

Darwin is the dean of science writers. In the *Origin of Species* he proceeds with such politeness, such solicitous concern for the objections and theories of his colleague-opponents, that his earth-shaking ideas take the form of humble suggestions from a thoughtful country vicar. Puttering around his pigeon cages, genius conceives of a great explanation for the changes in living things—and genius presents it as just another analogy to the practices of pigeon-fanciers.

It's nice to hope that Darwin's low-key exposition, his simple ways of description, are not yet gone from the repertoire of science writing, and that success in science today does not depend on how loud one shouts.

The California Tech and CASTLE ROCK ENTERTAINMENT

INVITE YOU TO A SPECIAL SCREENING

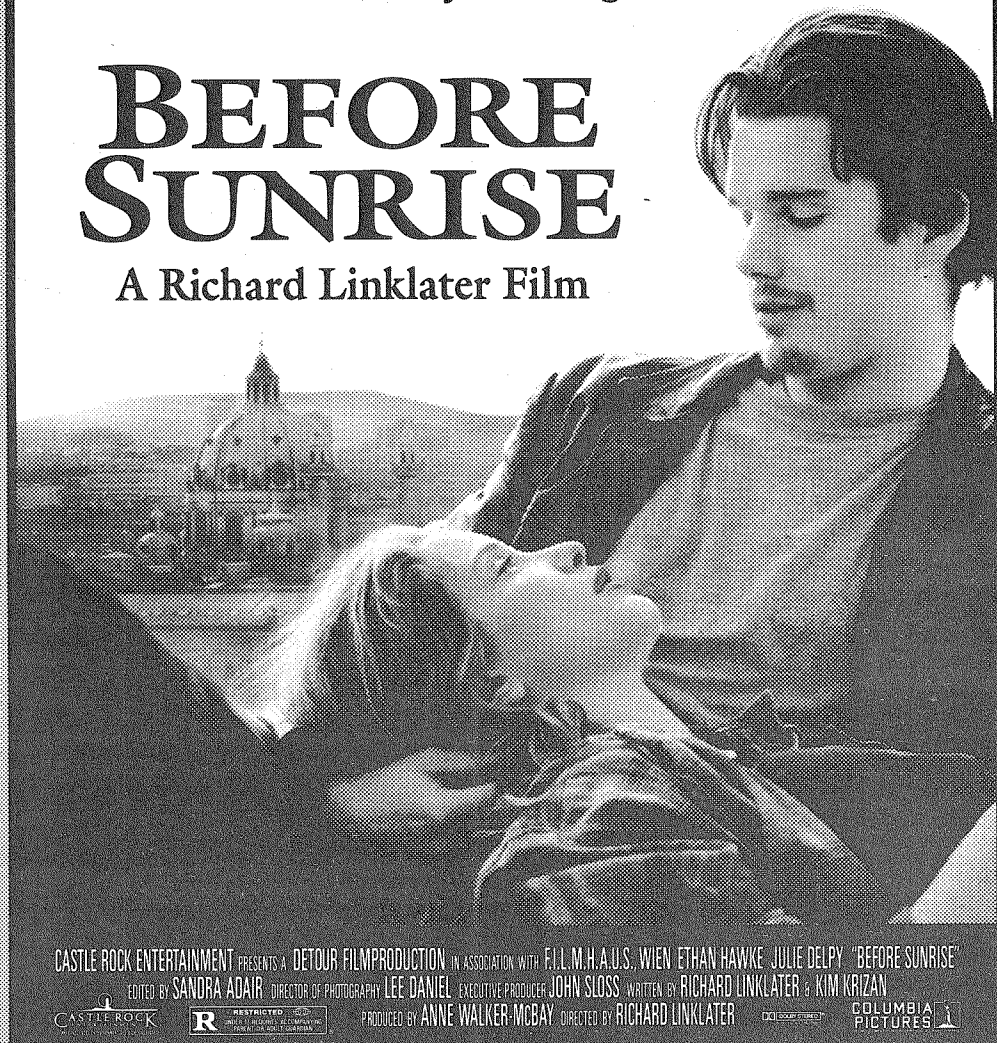
ethan hawke

julie delpy

Can the greatest romance of your life
last only one night?

BEFORE SUNRISE

A Richard Linklater Film



CASTLE ROCK ENTERTAINMENT PRESENTS A DETOUR FILM PRODUCTION IN ASSOCIATION WITH F.I.L.M.H.A.U.S. WIEN ETHAN HAWKE JULIE DELPY "BEFORE SUNRISE"
EDITED BY SANDRA ADAIR DIRECTOR OF PHOTOGRAPHY LEE DANIEL EXECUTIVE PRODUCER JOHN SLOSS WRITTEN BY RICHARD LINKLATER & KIM KRIZAN
PRODUCED BY ANNE WALKER-MCBAY DIRECTED BY RICHARD LINKLATER COLUMBIA PICTURES

for your chance to receive a screening pass good for two, stop by:

The Music Program Office located in room 41 of the Student Activities Center, Monday through Wednesday, 1-5pm.

Passes available on a first-come, first-served basis while supplies last. Limit one pass per person.

REGULAR ENGAGEMENT STARTS FRIDAY, JANUARY 27

Bridge A Secret Sam

by Jeff Goldsmith

Playing in a match point Unit game against a bad client on my right and a self-declared "pro" on my left, I pick up the South cards in second position. East (the client) wiggles very briefly before passing as dealer at unfavorable and we bid briskly to 4♥.

NORTH
♠ A4
♥ KJ653
♦ K2
♣ 10975

SOUTH
♠ Q3
♥ Q92
♦ QJ98
♣ AKJ6

South	West	North	East
INT	Pass	Pass	2♦
2♥	Pass	3NT	Pass
4♥	Pass	Pass	Pass

West leads the ♦7, I duck in dummy, and East, after a moment's thought, plays the Ace. I win the diamond return and play a small trump to my Queen, which holds. A second trump to the King also holds, East showing out, pitching a small spade.

I shall need to get back to my hand to lead trumps to dummy and then get back to the table to draw them. I have enough entries, but if clubs are 4—1, I might have some problems with timing, so I cross to the ♣A and pitch a spade on the ♦Q, which is probably a mistake, but both follow to this trick, while I pitch a spade. It cannot hurt to cash the other diamond now and I might learn something useful, so I play the last diamond. West seems to have a problem and I can almost see the light bulb appear as he ruffs with the trump Ace and exits with his remaining trump to the dummy. That has solved the problem of drawing trumps, but it is a very curious play. It is clearly a bad one, too, since I was essentially able to draw trumps easily and get my discard on the good diamond. Will that matter? I still have to take the club finesse for eleven tricks.

Is that best? I do not have to commit to any line for at least one more trick, so I cash a trump, pitching a small club from my hand. East pitches yet another small spade and West throws the ♠J. What is the count? East is known to have four diamonds and one heart. Aha! I know why she wiggled as dealer. She has six bad spades and was not sure whether or not to open a weak two because she was afraid of partner's wrath. If that is right, I can play the hand for a criss-cross squeeze. To do that, I'll have to give up the club finesse, perhaps risking the whole board. I am very confident of my conclusions here, so I cash the last trump, throwing the ♠J from hand. East easily discards yet another spade and West fidgets a little before discarding a club. I cross to the ♣K, felling the offside Queen, and criss back to the dummy with the ♠A to take the last trick with the good club.

Just to be sure, I check West's hand and, yes, he had the ♠K and was squeezed. What fun! While I'm happily enjoying this success, West is yelling at his partner for discarding so obviously as to be able to let me squeeze him. She is crestfallen. She could have defended better by shifting to a spade at trick two, but she fell for his lead false card, too. His defense was rather awful, but I do not tell them how I knew to play for the squeeze. That's my secret.

Events for the upcoming week:
Saturday, 1/14, 8:00 a.m.
Saturday, 1/14, 5:30 p.m.
Saturday, 1/14, 7:30 p.m.
Sunday, 1/15, 8:00 a.m.
Monday, 1/16, 1:00 p.m.
Wednesday, 1/18, 7:30 p.m.

Mens' Swimming
JV Basketball
Basketball
Swimming
Golf
Basketball

At N. Arizona U
At Redlands
At Redlands
Claremont Invitational
Practice/Annandale
Home Cal-Lutheran

Got Something to Say About the Core?...

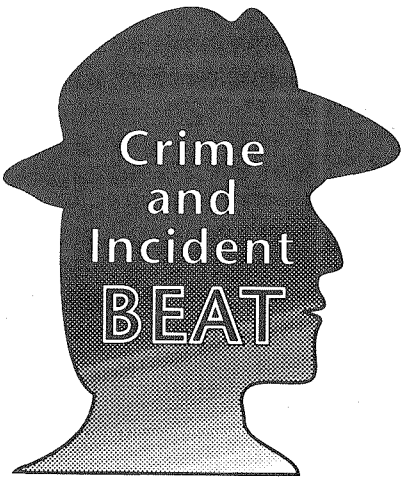
All right, we know you're out there — all you folks who have indicated your interest in getting involved with the current investigation into the core (including aspects such as "shadow grades" for freshmen, and whether Chem 3a should be part of the core). Well, here is your chance to be as good as your word! The Educational Policies Committee (EPC) welcomes your input, assistance, and participation in analyzing the results of last term's core curriculum survey and compiling a possible list of recommendations to present to the faculty Academic Policies Committee for consideration by the Faculty Board. Act fast — this opportunity won't linger forever! If you would like to help ensure that student opinions are considered in the revamping of the curriculum, please contact Flora Ho at x1432 or e-mail floho@cco as soon as possible so that we can set up a meeting time. Thanks!!

Send your worst Phunnies to editors@tech.

- Answers
1. It didn't see the ewe turn.
 2. In Greece.
 3. Because they hold his coffin together.
 4. Mental Blocks.
 5. A phonic boom.
 6. Because you could make an ash of yourself.
- Questions:
1. Why did the ram fall off the cliff?
 2. Where were French fries first made?
 3. Why doesn't a vampire chew his nails?
 4. What kind of toys does a psychiatrist's child play with?
 5. What do you get when you break the language barrier?
 6. Why shouldn't you play with matches?

by Shumway, M.D.

Phunnies



submitted by Gregg Henderson

The following is a brief on the incidents that occurred on campus during 1/1/95 through 1/9/95.

1/1/95, Catalina Recreation Room , Vandalism
Unknown persons broke the TV remote control, a Video Machine and damaged the Pool Table.

1/5/95, Dabney Hall, Suspicious Person
Male White, 5'8", wearing Khaki pants, plaid shirt and construction boots seen loitering in the area. Area searched, suspect GOA.

1/5/95, Firestone, Fire Small fire in a trash can in room 109, caused by cigarette. No Damage.

1/5/95, 370 South Catalina, Bike Theft
Unlocked bicycle taken from the southeast stairway by unknown suspect(s) Loss: 20 inch Diamondback mountain bike, Blue, Value: \$335.00

1/6/95 - 1/7/95, California Blvd. and Arden, Stolen License Plate
South Dakota License Plate taken from a vehicle parked on the street.

ORACLE INFORMATION SESSION

BS/MS CS or EE

Please join us to learn more about the exceptional career opportunities awaiting you at Oracle.

Tuesday, January 17

5pm - 7pm

Room 15, Student Activity Center

Dinner will be provided

We will be conducting on-campus interviews January 25 & 26.

ORACLE®
Equal talent will always get equal opportunity.

THE COMPANY OF CHOICE

Rag Time
on Green
RESALE CLOTHING
for
WOMEN
1136 E. Green St. • Pasadena
(818) 796-9924
Wed 10-6 • Mon-Tue-Thu-Fri 10-5 • Sat 10-3



World Vista Travel
150 S. Los Robles
Pasadena, CA 91101

(818) 577 - 1220

Corporate, Leisure, Cruise,
Groups and Tours

Special Discounts for Cal.
Tech Students and Faculty

Guaranteed Lowest Fares

OCEAN CORAL
Restaurant
★★ Award Winner ★★

Mandarin Cuisine
& Seafood
Cocktail Lounge

Lunch Specials \$4⁵⁰ 11:30-3 p.m.
Early Bird Specials \$5⁹⁵ 3-7 p.m.
Classic Dinners 3-10 p.m.

Food To Go Welcome
OPEN 7 DAYS
Tel: 449-8018

2475 E. Colorado • Pasadena
between Sierra Madre Blvd. & Altadena Dr.
Free Parking in Rear

Blessed Stud: A Social Commentary

by J. Random HercFrosh III and Lauren
Today's Target: New Year's Predictions

We thought about having an introductory paragraph, but we realize you would just skim it, anyway. So, with no further ado...

- 1) Boris Yeltsin is outa there. March 17, to be exact. You can quote us on that.
- 2) Yet another assassination attempt on the President's husband. Rush Limbaugh applauds the assassin's efforts and blames his failure on the generally increasing level of incompetence in the U.S. He points out the irony that if Clinton were a better President, he'd be dead. This causes great uproar until he claims he was misquoted and meant to say that if Clinton were dead, he'd be a better President.
- 3) George Burns will see another new year.
- 4) The Pope will leave office (perhaps under suspicious circumstances).
- 5) Of all those who die in '95: 25% will go to hell, 75% will go to heaven (+/- 2%)
- 6) Toyota will move its offices to America.
- 7) Chrysler will move its offices to Canada.
- 8) Collin Powell will announce his intentions to run for President as an independent candidate. Ross Perot will be seen stalking him on the campaign trail.
- 9) Famous people who will die in the coming months:

Ronald Reagan - heart attack (see Prediction 12, below)

Kiewiet - airplane crash (see Prediction 13, below)

Jackie Barton and Bob the Chem 1 TA guy - try to set Gates 22 on fire in a murder/ suicide attempt

Nate Lewis - snipers on Millikan (the statue)

Socks - run down by Newty

And the following not famous people: Remy Hathaway, Zhong Chang, Karen Kustedjo, Kazunori Nakada, Michael Bachand, Wei Hwa Huang, Amy Pemberton, Robin Sik, Daniel Eckstein, Rev. Jesse Shue, Brian Bricumshaw, David Blau, Hail No Virtual Cheer, Jeremy Richard Mould, Mark Phillips, Ernest Seaquist, Yitzak Tor, George A. Meski, Taesung Kim, Lynn E. Lowry, James Anthony Phillips, Luibomir Borisov, Lisa DiMagno, Andrew G. Myers, John Hersh Seinfeld, Harold Brown, Tomasz Stanoslaw Mrowka, and Robert Lee Walker.

10) The Big One.

11) Madonna will contract AIDS.

12) Nancy Reagan will have Michael Jackson's Love Child.

13) Kiwi Airlines stops flying when they realize that kiwis are flightless birds.

14) Someone rubs Millikan's nose and fails the upcoming exam.

15) The above student will desecrate the Master's bust.

16) The Master's ghost haunts him

everafter.

17) Super Bowl: Pittsburgh vs. San Francisco

18) Martina Navratilova is revealed to be a man.

19) Mr. Rogers isn't

20) The baseball strike will come to an end.

21) No one will notice.

22) Pat Buchanan will come out of the closet, claiming to be the world's

most repressed homosexual.

23) Hell will freeze over.

24) Bob Dole kills all further health care discussion by pointing out that America's health care system is so good it has managed to keep him alive even though he actually has no heart.

25) Dave's mom will be named as a foreign correspondent for the Fox television network - HAHAAHA!

26) The tab key on this keyboard will get fixed.

27) The editors will actually proof-read our work. And the final score in the first annual tennis match of good vs. evil: Evil wins in straight sets 6-love, 6-love, 6-love.

P.S. - The writers assume neither responsibility nor role in making the above predictions come true.

David R. Derkits

ASCIT NEWS

13 January 1995

✓ CORE CURRICULUM

- If you would like to assist in the evaluation of the survey (this includes tallying of results, compiling student preferences, and lobbying for changes that students support), please contact Flora Ho at floho@cco.

- As a result of the survey, the Board of Directors has presented an alternative freshman grading policy to the Academic Policies Committee. This plan recommends that the entire freshman year remain pass-fail, but that during second and third term the grades be made available to the students (confidentially).

✓ ELECTIONS

- The first election of second term is today. See the articles in the *Tech* for more information.

- The Amendment on the ballot gives full ranking privileges to write-in candidates, correcting a restriction in the current system that limits write-ins to first rank only.

- A reminder that nominations for President and Board of Control Chairman are open until 5:00 PM on Tuesday.

✓ AMENDMENTS

- Additional amendments are being considered by the Board of Directors in the ongoing effort to improve ASCIT operations. These amendments, if approved by the Board, will be publicized this Sunday and voted on in the

ASCIT Presidential Election. Topics of change include: strengthening the oversight of the financial aspects of publications, strengthening the Educational Policies Committee (EPC) and the Executive Social Committee (ESC), and creating a Director for Services in place of the Upperclass Director at Large.

- Another change is a possible separation of the Vice President/BOC Chairman into two offices, in order to help alleviate the burden on both the President and BOC Chairman. If this change is approved, an election for Vice President will be held in the Officers Election.

✓ MISC ANNOUNCEMENTS

- Meetings of the Board of Directors will alternate between Wednesday and Thursday at 11:00 AM in the ASCIT Office. This coming week, the meeting will be on Wednesday.

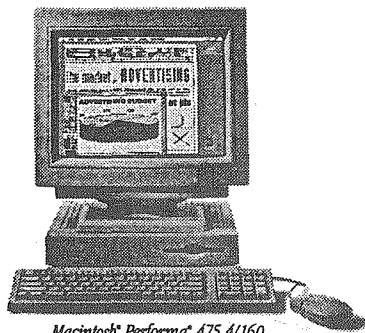
- There is still time to turn in *CLUE* Reviews. In addition, soon it will be possible to submit reviews over the World Wide Web.

- The *UROH* will be released soon.

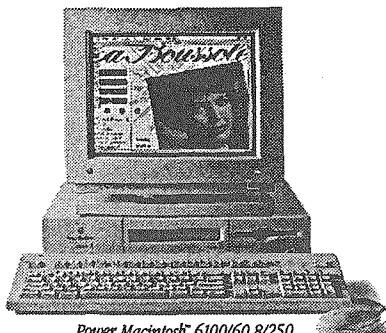
- <http://www.cco.caltech.edu/~ascit/>

- Copies of ASCIT Board Minutes are available by mail or e-mail free of charge on request to students, faculty, and administrators. Requests should be sent to Secretary, ASCIT 64-58. The Minutes are available on caltech.ascit.announce and in House lounges.

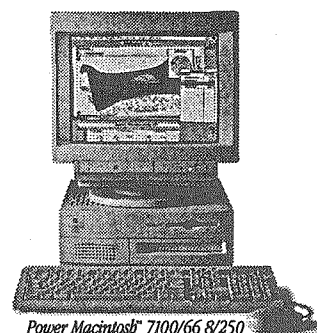
For once, a cut in educational spending that actually helps students.



Macintosh® Performa® 475 4/160,
Performa Plus Display, Apple® Keyboard II
and mouse.



Power Macintosh® 6100/60 8/250
with CD-ROM, Macintosh® Color Display, AppleDesign®
Keyboard and mouse.



Power Macintosh® 7100/66 8/250
with CD-ROM, Apple® Multiple Scan 15 Display,
AppleDesign® Keyboard and mouse.

With Apple's special low student pricing, you can get a terrific deal on Macintosh®, the best-selling personal computer on college campuses today. You can choose the affordable Macintosh Performa®, which comes complete with lots of powerful software to help get you through college. You can also choose the portable Apple® PowerBook® or the Power

Macintosh®—the world's fastest Mac.™ And because Macintosh is still the easiest personal computer, you won't have to dig through complex manuals. Plus, with low student pricing, a Mac is as easy to afford as it is to use. All of which makes it the ideal time to discover the power all college students need. The power to be your best.™



POWER
through.

For further information visit the
Campus Computing Organization
Jorgensen Building 158-79
(818) 395-4612

REVIEWS

by Wei-Hwa Huang

A new book, "Literary Trivia," was released in paperback form over the holidays. Co-authored by Michael Gilleland and Richard Lederer, this book is a gemstone for all those people who excel at the brown category in *Trivial Pursuit*. (Which edition?)

Readers may recognize Lederer as the author of *Anguished English* and *Crazy English* (two books this reviewer is proud to have in his library), or perhaps as the weekly columnist of "Looking for Language." He perhaps is not as well-known for writing *Get Thee to a Punnery*, being International Punster for the year 1989-90, or being an associate editor of *The Farmer's Almanac*. Michael Gilleland, on the other hand, is a computer programmer who just happens to read a lot.

The format of the book is similar to Lederer's *Crazy English*: each section consists of a little intro followed by a quiz on some facet of (mostly English) literature. Each section ends with the answers, which simplifies flipping back and forth. The quiz types range from identifying Shakespearean quotes to making sports-related puns on authors' names. The book is divided into six chapters: Authors, Titles, Works, The Bible, Mythology, and Shakespeare. Some of the early quizzes are quite readable as they bring up interesting but useless facts, true to its title. Questionable answers have good references for easy verification, and the inserted anecdotes are quite funny. Unfortunately, as the chapters progress, they seem to get repetitive. Certain themes are recycled as they apply to more specific categories—one could almost predict all of the Shakespeare quizzes!

There are other drawbacks to this book. One disappointment to Richard Lederer fans is that not all of the material in this book is original. At least one chapter in this book has been seen elsewhere by this author. It also seems like the material was collected over a span of years. Also a lead-in example on page 22 is repeated as a quiz question on page 195! Readers who expect many humorous Lederer essays will be somewhat disappointed at their paucity. There are few sections based on wordplay. The illustrations, although only an accompaniment to the main text, is somewhat shoddy and not very attractive.

Nevertheless, this book makes an ideal reference for all trivia buffs, due to its high level of organization, and is strongly recommended for your personal library.

ACROSS

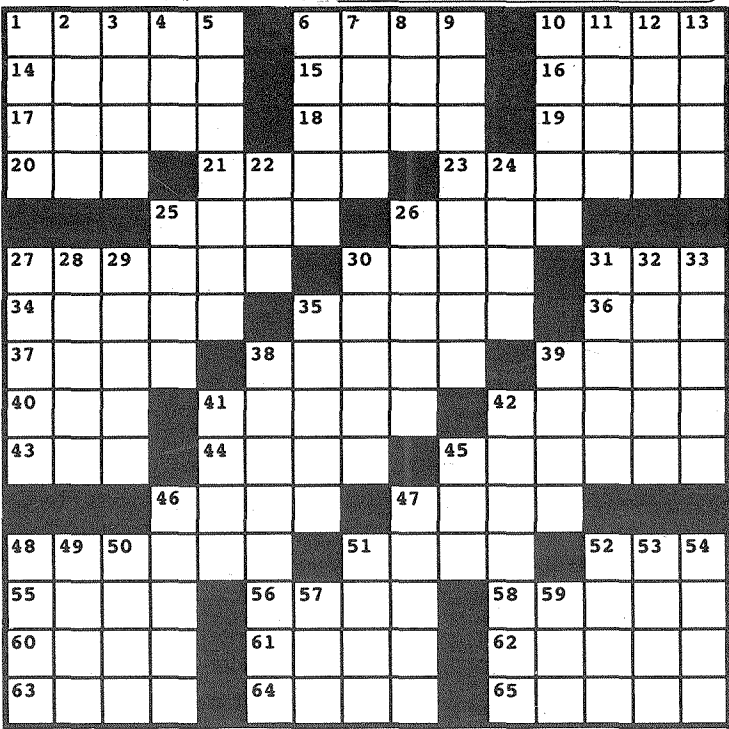
- 1. See 17-across
- 6. So I say
- 10. The power of the people
- 14. Prefix for phant or glyph
- 15. Wavy
- 16. The magnitude of X
- 17. See 1-across
- 18. Wednesday's namesake
- 19. A not-so-common German name
- 20. Bobby of hockey
- 21. Paul Rothemond
- 23. Crunchy and absorbent vegetable
- 25. A-train
- 26. Cong, for instance
- 27. Freudian growth?
- 30. Wilt Chamberlain, e.g.
- 31. *Warcraft* character
- 34. 59-across from last week
- 35. Ben and Luke, e.g.
- 36. "Quiet!"
- 37. Prefix for sign or sure?
- 38. Egyptian carrot
- 39. Beseechment
- 40. High scorer on *Jurassic Park* (in the SAC)
- 41. Ceases to continue relationship
- 42. Worries
- 43. South on a confued compass?
- 44. UNIX mail readers
- 45. Matias, e.g.
- 46. Crockett
- 47. Gypsy, for short
- 48. What an orchestra does during intermission
- 51. Wire trait
- 52. Fight for
- 55. Terrified, with st

- 56. Count
- 58. Jumped
- 60. Author Lindstrom
- 61. Trustworthy
- 62. Noted computer psychologist
- 63. Sums
- 64. Chalcedony

DOWN

- 1. "____, Mr. Bill"
- 2. Where the sidewalk ends
- 3. Where Wei-Hwa's addr. is
- 4. Cathy's boyfriend, for short
- 5. Persuades
- 6. "Forsooth," e.g.
- 7. Command-Z on a Mac

Crossword



- 8. Who amino acids are named after?
- 9. What you should be doing to this entry.
- 10. Safe
- 11. One of those dots on a shield
- 12. Rip
- 13. Morgan's Freeman's character on *Electric Company*
- 22. Data's "____ to Spot"
- 24. Wei-Hwa's wallet, once
- 25. Heat units
- 26. "Quo ____?"
- 27. Bacteria, e.g.
- 28. Husband of Tethys
- 29. Camel riders
- 30. The Warners in "Temporary Insanity"
- 31. Fred of films
- 32. Partner of Scarlett
- 33. Manhattan or Chevy
- 35. Nice and warm
- 38. Dean and Michael
- 39. Give gospel
- 41. Martin or Culvert
- 42. Drops the ball
- 45. Protagonist in *Castle Roogna*
- 46. Noah's passengers, e.g.
- 47. Hit with a laser
- 48. Clarke had a rendezvous with it
- 49. "____, a bass note denotes a bad age!"
- 50. Drop sound
- 51. Life in a bottle
- 52. What we cry in
- 53. ____ dixit
- 54. ηηηηηηηηηη
- 57. Time was
- 59. Whitney

Now, Uncle Sam
Has a Way to Help
Families and Students
Afford College...
*And Save Taxpayers
Billions !*

Introducing New
Individual Education Accounts

Finally, there's good news for families. And good news for taxpayers, too.

New Individual Education Accounts are here. Recently created by the President and the Congress, they make the American dream of an affordable college education a reality for many more young people and their families who thought it was beyond their financial reach. Here's how it works:

- *Borrowing for college is simpler.* Students get their loans directly though their colleges. No more confusion about where to go for loans. No more red tape.
- *Loans are more affordable.* The new direct loan program lowers fees and interest rates for all types of college loans.
- *Pay back as you can.* Students can tailor their repayment plan to match their ability to pay. That means they can start a business, do community service, or take other jobs without being burdened with a big, fixed debt early in their careers.
- *Refinancing is available.* If students have more than one loan, an IEA can help consolidate them and offer a refinancing plan that makes more sense.
- *Taxpayers come out winners, too.* With streamlined procedures, IEA's will save American taxpayers billions of dollars in unnecessary costs.

That is good news!

For more information, call your college financial aid officer or 1-800-4FEDAID.

Paris
NON-STOP
\$195*

London \$225*
Quito \$335*
Tel Aviv \$419*
New York \$149*
Boston \$184*

*Fares are each way from Los Angeles based on a roundtrip purchase. Restrictions apply and taxes not included. Call for other worldwide destinations.

Open Saturdays 10am - 2pm

Council Travel
1093 Brixton Ave., Suite 220
Los Angeles, CA 90024
818-905-5777
Eurailpasses
issued on-the-spot!

Games & Puzzles

Literary Trivia

by Wei-Hwa Huang

We take our title and the following problems from Lederer's and Gilleland's new book. (See the accompanying review in this issue.) Send your answers to gp@tech. Answers must be received by Wednesday, 8:00 p.m. The winner will receive a copy of *Literary Trivia* (retail price: \$10.00). Don't forget your mailing address!

1. How many books of the Bible are named after females?
2. How many of each animal were on Noah's Ark?
3. How many parables of Jesus are there in the Bible?
4. The person who receives the most mail in recent years has to be Santa Claus. Who's the second?
5. Some of you may remember the Kevin Costner movie *Field of Dreams*, in which James Earl Jones portrayed an author named Terrence Mann. What real author was this based on?
6. Who was *The Merchant of Venice*?
7. The inventor of the periscope was denied a patent due to the fact that an author had described the device so well in one of his fictional novels. Name the author.
8. Who was the *Invisible Man*?
9. How are the names Bysshe and Wollstonecraft related?
10. Who was *The Invisible Man*?
11. Who was the *Native Son*?
12. What do the following Shakespearean plays have in common: *Hamlet*, *Love's Labour's Lost*, *A Midsummer's Night Dream*, *The Taming of the Shrew*?
13. Who was *Lady Chatterley's Lover*?
14. How many times does the word

witch appear in the dialogue of Macbeth? Less than 5? 10? 20? 50?

15. Who was *The Hunchback of Notre Dame*?
16. Which character speaks the greatest number of lines in Shakespeare's plays?
17. O. Henry's 1906 short story, "The Gift of the Magi," starts with the lines "One dollar and eighty-seven cents. That was all. And sixty cents of it was in pennies." Did William Sydney Porter fail math, or is there a better explanation? Did I just write a non sequitur?
18. Odd one out: George Eliot, George Sand, George Orwell.
19. Odd one out: James Goldman, C. S. Lewis, George Bernard Shaw, Irwin Shaw, Kurt Vonnegut, Jr.
20. Ken Kesey, Charles Dickens, Alexandre Dumas, T. S. Eliot. Who comes next? Joseph Heller, A. A. Milne, or Kurt Vonnegut, Jr.? And how were all these writers chosen?
21. Tom Clancy, Anthony Burgess, Fred Gipson, Fannie Flagg, Toni Morrison, Alice Walker. How were all these writers chosen? What order are they in? Which is the odd one out?

Last Week's Answers: How's Your Grammar?

First and foremost, if you dispute any of these answers, read the letter on page 2. If you still want to complain, tough noogies. Anyway, the winner this week is Andrew Baker; his check is in the mail. Andrew won out a

large pool of correct answers. Since this is a newspaper, my answers were based on the *Associated Press Stylebook and Manual* (although some of the sentences did have bad style). Special thanks to Toby Bartels, who provided half of the answers below. I wrote answers to problem 1, 3, 5, 7, and 8.

1. "There is nothing between him and me."
The sentence is correct. Common traps for people were to replace "me" by "I" or "myself," or to replace "between" by "among."
2. "This one is different than that one."
"Different" isn't a comparative adjective, so it can't be used with "than". It's a simple adjective which *can* be used with a prepositional phrase based on "from". Thus, a correct sentence is "This one is different **from** that one."
3. "None of us is ready to go."
"None" (as a pronoun) can mean "not a single one", "no two", or "no amount". It is singular in the first case, but plural in the other two. Since the first meaning is the intended one, the sentence is correct.
4. "He wants to always be the life of the party."
Although increasingly common, split infinitives are still forbidden. The infinitive in this case, "to be," is split by "always." The canonical correction is "He wants always to be the life of the party," although "He wants to be always the life of the party" is also OK. The second form of correction usually sounds better to people used to split infinitives, although I don't think it does in this case. "He always wants to be the life of the party," which sounds even better, doesn't strictly have the same meaning, but it should be just fine in practice.
5. "Of the two she is the least capable."

Some people pointed out that a comma should be between "two" and "she." A clause-separating comma is only necessary when the clause is too long (like the placement of a long parenthetical comment does to this sentence), or when omission of the comma might confuse the reader (for instance, "On the street below the curious people gathered.") Therefore, this sentence does not need an extra comma, although adding one couldn't hurt. However, since we are distinguishing between two people, the superlative adjective "least" is incorrect. A correct sentence is "Of the two, she is less capable."

6. "That hat looks good on you."
The hat isn't actively looking; "to look" is here a linking verb like "to be". Just as the adjective "good" is used in "That hat is good on you," the word "good" is used in "That hat looks good on you." The adverb "well" can be used in "That hat looks well on you;" here it seems like the hat is actively looking, which is unusual but not grammatically forbidden (although perhaps "on" should be changed to "at"). The adjective "well" can also be used in "That hat looks well on you;" here the hat appears not to be sick, although the word order leaves something to be desired. While "That hat looks well on you." is therefore grammatically acceptable, it's unlikely to mean what the speaker intended. "That hat looks good on you.", of course, is flawless.

7. "We learned that a mile was 5,280 feet long."
The length of a mile has not changed from 5,280 feet after the speaker has made this sentence, so the verb "was" is in the wrong

tense. It should be "is." Some people also claimed that since a mile *is* 5,280 feet, it makes little sense for it to have a length, therefore the word long is superfluous. But a mile *does* have a length; otherwise, the first sentence of this paragraph would make no sense when it said "The length of a mile." A correct sentence is "We learned that a mile is 5,280 feet long."

8. "If I was you I'd go immediately."
Same problem with the comma as in problem 5. Additionally, the clause "If I was you" is in the subjunctive mood. The past tense, subjunctive mood form of the verb "be" is "were." A correct sentence is "If I were you, I'd go immediately."

9. "That kind of a deal is not for me."
"That kind of deal is not for me." is the correct way to use the phrase.

10. "Who do you think you are?"
"Who" is probably the only word in doubt. The declarative form of this sentence is "You do think you are who." So, the clause "you are who" needs to be analyzed. While "who" is in the predicate here, "whom" is incorrect, since "to be" takes the nominative case. This sentence is correct.

Crossword

V	E	R	B	R	I	G	O	R	L	O	O	M
A	N	O	A	E	M	O	T	E	O	N	C	E
S	E	W	S	P	A	R	T	Y	R	U	H	R
E	M	E	S	E	M	P	N	E	I	S	S	E
S	Y	R	I	A	N	S	M	O	R	N		
			N	O	T		R	E	L	I	G	I
G	R	E	E	K		Q	U	A	D	S		C
N	E	X	T		M	U	T	T	S		F	E
A	N	I		W	A	I	T	S		H	O	R
R	I	T		U	A	L	L	Y		W	A	G
			B	L	A	T		D	A	N	G	L
B	E	C	A	L	M		S	R	I		I	A
E	D	E	N		U	H	A	U	L		E	C
A	G	O	G		T	E	A	S	E		S	T
D	E	S	I		E	M	B	E	D		T	O

WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH WRITE FOR THE TECH

THE TECHNOLOGY



Theirs.



Ours.

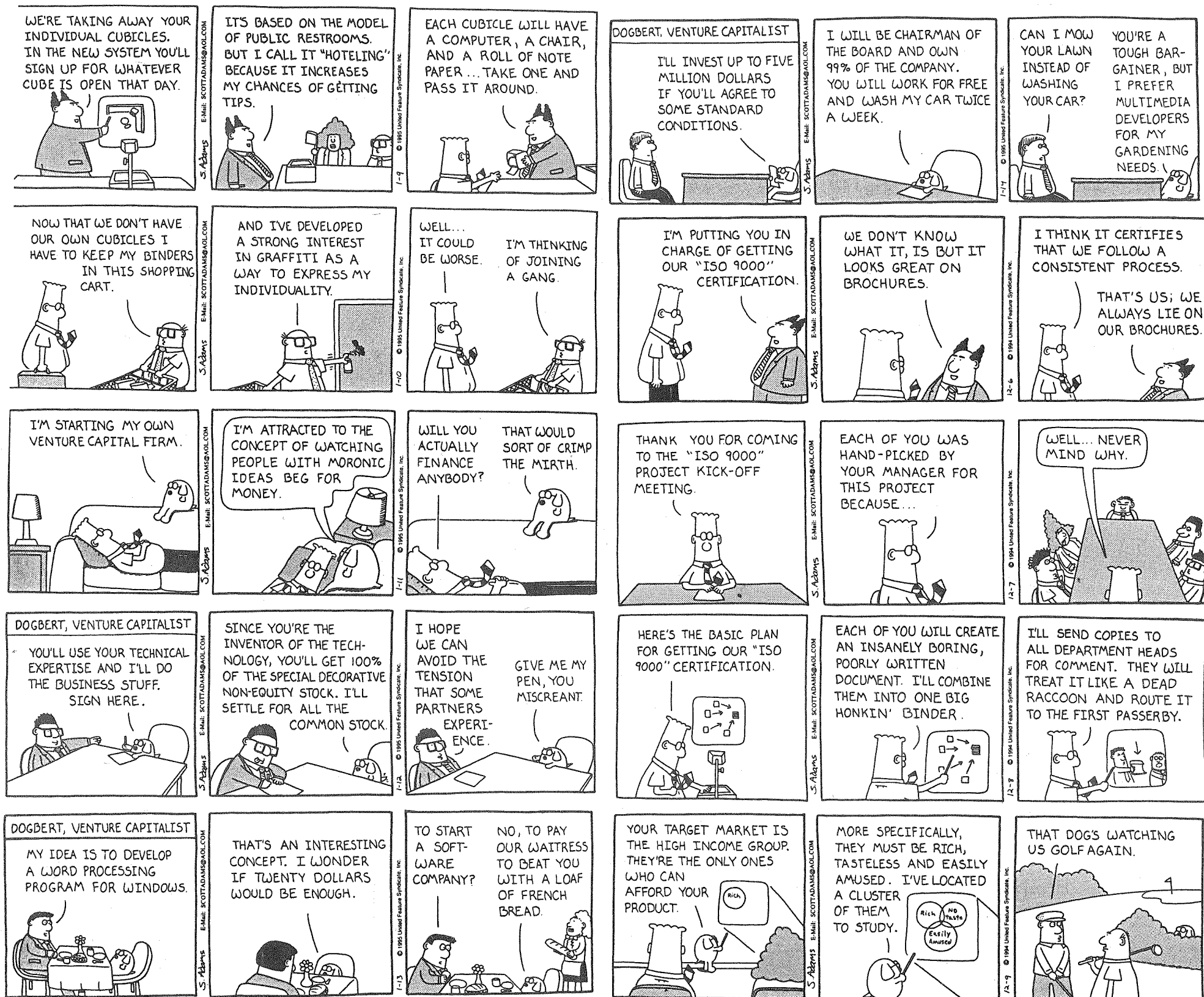
First relational database. First to implement SQL. First portable database software. First database compatible with massively parallel computing. First database to perform 1,000 transactions per second. First cooperative-server database. **But Oracle is not just about databases.** We're also leaders in advanced networking, CASE, application development, office automation, development tools, multimedia. You can see, we're also about success.

BS/MS CS/EE. You can become a: Software Developer • Technical Analyst • Consultant • Product Manager

We'll be on campus January 25 & 26. Sign up at the Career Center TODAY!

ORACLE
Equal talent will always get equal opportunity.

DILBERT BY SCOTT ADAMS



"D. E. Shaw & Co. is in the vanguard of computerized trading." — *The Wall Street Journal*

Suit and Tie Not Required

D. E. Shaw & Co. is not located on Wall Street. We're a small (around 160 employees), young (organized six years ago), highly capitalized (several hundred million dollars in partners' equity), and very successful financial services firm specializing in the rigorous application of advanced quantitative techniques to the securities business. We hire only the best, and are prepared to compensate exceptionally gifted individuals at a level exceeding that of the market. Financial experience is not required. And we don't wear suits and ties.

We'll be recruiting on campus on February 13, 1995.

If you want to be a researcher, a trader, a software engineer, an accountant — or if you're not sure what you want to be, but think you might enjoy a rather unorthodox Wall Street career — let us hear from you. Please contact Career Services or send your résumé to:

D. E. Shaw & Co.
39th Floor, Tower 45
120 West Forty-Fifth Street
New York, NY 10036
Attn: Andrew Smith

DE Shaw & Co

ADAM VILLANI:

Note: I failed to note last week that the much-recommended *Heavenly Creatures* is playing nearby at the General Cinemas in Santa Anita Fashion Park in Arcadia.



MEDIA GUY

Eddie Vedder

Last Sunday, Eddie Vedder of the popular rock group Pearl Jam had free reign over the airwaves in a national satellite broadcast (locally on KROQ and KLOS) that may go down in history as the worst three and a half hours of radio ever. In-between playing songs by bland, thankfully obscure punk bands, Vedder dominated the airwaves with incoherent, vague, and slow mumblings, dead air, and even a half hour of ordinary answering machine messages. About the only remotely interesting moments were when he brought in a few guests, since then the guests did most of the talking. Vedder was supposedly trying to get in touch with his fans more and had established phones lines for them to call in, yet never took any calls on the air. The only question about the whole fiasco was whether Vedder was making bigger fools of himself or his fans who listened intently and praised his show as genius.

Red

Following last year's *Blue* and this summer's *White* is Krzysztof Kieslowski's fascinating third installment in his "Three Colors" trilogy loosely based on the ideals represented by the colors of the French flag, "liberty," "equality," and "fraternity." Kieslowski's films are neither action-packed, charged with romance, or sweeping in epic scale. But they are excellent, insightful explorations of the relationships humans have with one another and the forces both coincidental and under our control that shape our lives.

Red begins with Swiss model Valentine (Irene Jacob) hitting a German Shepherd with her car. She finds the wounded dog's misanthropic owner, a retired judge played by Jean-Louis Trintignant (*The Conformist*), who tells her curtly to keep the dog and sends her the veterinarian bill. Meanwhile, the judge has been spying on his neighbors' phone conversations, a practice Valentine finds disgusting. Jacob's portrayal is sensitive and nuanced; listen to her voice as she comforts the injured dog while trying to trace the route to her owner's house. Under Kieslowski's tight yet unforced direction, the film has many references to his other works, yet easily stands alone.

Red has received worthy citations from numerous critics' groups as the best foreign film of the year, but the Academy has shortsightedly rejected it for Oscar consideration in that category as a film from Switzerland because it "isn't Swiss enough." Never mind that under the Academy's rules this international production doesn't count either as a film from Poland (like the director) or a film from France (where much of its funding was from). Hopefully the Academy will change its outdated eligibility rules and realize that movies are made by people, not countries. *Red* is playing at Landmark's NuWilshire in Santa Monica and Edwards' South Coast Village in Costa Mesa.

Hoop Dreams

This brilliant documentary has overcome audience bias against (A) documentaries

(B) three-hour movies and (C) basketball with the help of adulation from many critics (including Siskel and Ebert, who both placed it at the top of their ten-best lists) to do surprisingly good business at the box office around the country.

The filmmakers followed two inner-city black youths (Arthur Agee and William Gates) through their four years in high school, painstakingly chronicling the intense demands placed on them to succeed in basketball, the meat market attitude of scouts and coaches, and most of all, the incredible strains associated with life in America in abject poverty. When Agee's family prays at his 18th birthday party, thanking God that their son has lived to see adulthood is much more than paying lip service. But this documentary is not tortuous to watch; it is as immensely entertaining as a great drama, perhaps even more so because we know that it is not scripted as such and is reality that could conclude in any way. The victories we see on the court and in life are true; we rejoice for the boys because basketball really is their ticket out of the ghetto. *Hoop Dreams* works because of the intense dedication on the part of the filmmakers and the complete willingness of the families involved to let their lives be captured on film. *Hoop Dreams* is playing in several locations in Southern California, but none in the Pasadena area or nearby parts of Los Angeles; check listings in the *Times*.

Street Fighter

This one's a real hoot. I decided to see this because I felt I needed something to offset all of the fine motion pictures I normally see, so that I can at least have something to compare them against. Well, I couldn't have picked a better awful film. What's truly remarkable about veteran action writer and first-time director Steven E. DeSouza's (*Die Hard*, *48 Hrs.*) movie adaptation of the *Street Fighter II* video game is how much it even fails to be as good an adaptation of the game as it could be, which isn't very much. Few of the popular video game's characters' special attacks are featured, and even fewer have been translated to the silver screen well. And most of all, for a game whose main attraction is unarmed combat, there's depressingly little unarmed combat in this film; you're better off watching Jackie Chan's *City Hunter*, or for that matter, just about any Hong Kong action flick. Furthermore, hardly anybody in the multicultural cast except the late Raul Julia can act; star Jean-Claude Van Damme is the worst offender, delivering his dialogue as if he's interpreting smoke signals in real time. On the plus side, the movie is reasonably exciting and everybody seems to be having a pretty good time; it fits pretty squarely into the "so bad it's good" category. If you'd like a great chance to have fun laughing at a movie, catch *Street Fighter* and be sure to stick around for the extra-cheesy final shot of the film. Also, watch out for the bizarre John Wayne Gacy reference.

Ed Wood

Legendary bad film director Edward D. Wood, Jr. was described as having "all the ego and ambition of Orson Welles, but none of the talent." Tim Burton's (*Batman*, *Edward Scissorhands*) latest film, detailing Wood's "heyday," finds what was good in Ed Wood:

a true enthusiasm for the work he was doing and an endless optimism. Burton never tries to contend that Wood's work was any good, but while watching this film we love him nonetheless. Viewers who may admire Burton yet feel he has been stuck in a rut will be happy to know that the "look and feel" of this film is very different from his previous work, yet is still brilliant. In addition to well-deserved awards for cinematography and music, Martin Landau's stunning (and tastefully directed) performance as an ailing, morphine-addicted Bela Lugosi is rightfully at the top of many critics' Best Supporting Actor lists. This very enjoyable movie is playing locally at the Academy.

The Road to Wellville

I really wanted to enjoy this movie, as I have liked a lot of director Alan Parker's (*Mississippi Burning*, *Fame*) work that has not been quite so well received, like *Pink Floyd: The Wall* and *Come See the Paradise*. But what begins as a potentially lively satire quickly becomes jumbled and pointless, wasting not only Parker's talents, but the talents of actors like Anthony Hopkins, Michael Lerner, and Matthew Broderick. The story revolves around a bizarre 19th century Michigan health spa run by John Kellogg (Hopkins) and can keep you entertained for a little while with its crackpot diets and bizarre quack medicine machines. But the situations don't make much sense, the plot seems to climax about every five minutes, and any useful satire that came out of the first five minutes is diluted by having everybody, even the opponents Kellogg's quackery, portrayed as buffoons, albeit somewhat less interesting buffoons than Kellogg. The set design is nice, but you might enjoy it more if you just looked at production stills rather than watch the actual movie.

Question
The
Knowledge

A FILM BY JOHN SINGLETON

HIGHER
LEARNING

COLUMBIA PICTURES PRESENTS

A NEW DEAL PRODUCTION

A FILM BY JOHN SINGLETON

"HIGHER LEARNING"

STARRING JENNIFER CONNELLY ICE CUBE

OMAR EPPS MICHAEL RAPAPORT

KRISTY SWANSON

AND LAURENCE FISHBURNE

MUSIC BY STANLEY CLARKE

CO-PRODUCED BY DWIGHT ALONZO WILLIAMS

PRODUCED BY JOHN SINGLETON AND PAUL HALL

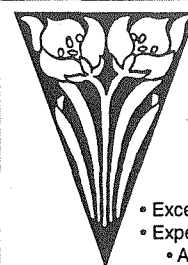
WRITTEN AND DIRECTED BY JOHN SINGLETON

SOUNDTRACK ON EPIC SOUNDTRAX

RESTRICTED PARENT STRONGLY CAUTIONED

COLUMBIA PICTURES

At Theatres Soon

WEDDING INVITATIONS
& ANNOUNCEMENTS

10% OFF TO CALTECH CUSTOMERS

Please Present This Ad To Receive Discount

- Exceptional Service & Etiquette Experts • Fine Selections & Prices •
- Expert Calligraphy Service • Addressing, Maps, Guestbooks •
- Antique Wedding Certificates • Placecards • Foreign Languages •

(818) 577-8656 Rosa Chandler

Walking distance from Caltech Call for a convenient appointment

KECK

FROM PAGE 1

of the sky of more than 20 billion galaxies down to 24th magnitude in the K-band, which roughly corresponds to 29th magnitude in the more commonly used blue light.

This study nicely complements results from the Hubble Space Telescope (HST), which has sharper vision and provides better information on the morphology of galaxies. But the greater light-gathering power of the Keck Telescope enables scientists to see deeper into space than the HST can, and to obtain redshifts for the faintest galaxies. Instruments mounted on the Keck also allow it to observe in near-infrared wavelengths, something the Hubble is not yet able to do.

The density of the universe is a major factor that affects how many galaxies can be seen. If the universe has a high density, then it must be expanding relatively slowly, due to its own gravitational pull upon itself. Therefore it would have a smaller volume and contain fewer galaxies to be counted. However, the galaxies would be closer and therefore appear brighter. A low density, on the other hand, would imply a faster expansion rate, a larger volume, and more numerous galaxies, which would appear fainter.

Evolution of galaxies also plays a role in the number that are visible. It's believed that most galaxies were brighter in the past and have dimmed as they evolved. The brightest stars have the shortest lives, so a young galaxy will have more of these brilliant lights still burning, while in an older galaxy most of them will have burned out. Further complicating the picture, galaxies tend to collide and merge over time, which both makes them brighter, so that

more should be visible, and reduces their numbers, so that fewer should be seen.

Detailed cosmological models eventually will help disentangle these complicated, sometimes contradictory effects. The results to be presented in Tucson are the first step in a longer study, and alone are not sufficient for a full resolution of the puzzle. But they are consistent with open-universe models in which galaxies evolve very slowly or not at all, that is, in which

the brightness of galaxies does not fade significantly over time.

In the next step of the study, astronomers will use the powerful Keck telescope to measure the redshifts of many of these faint galaxies, to determine how far away they are. The redshift is an effect seen in rapidly receding sources of light, where the spectral lines of such sources move toward longer wavelengths, or toward the red end of the visible spectrum. The faster the source is speeding away from us, the greater the redshift, and

the farther away the source must be. Redshift measurements will provide new information about distance, which when combined with the counts presented here, will help determine more accurately the large-scale density of the universe.

The authors of the study are professors S. George Djorgovski, B. Thomas Soifer, Gerry Neugebauer, Roger Blandford, and Judith Cohen, Member of the Professional Staff Keith Matthews, Research Fellow Ian Smail, and graduate students James

Larkin, Michael Pahre, Julia Smith, and David Hogg, all from Caltech; Dr. Wendy Harrison from the W. M. Keck Observatory; and Professor Jerry Nelson from the Lick Observatory.

For more information, contact Jay Aller (818) 395-3631 aller@caltech.edu, George Djorgovski (818) 395-4415 george@deimos.caltech.edu or Andrew Perala (808) 885-7887 aperala@keck.hawaii.edu

PASADENA COMPUTER

1756 E. Colorado Bl., Pasadena, CA. 91106
Tel: (818) 568-1088 Fax: (818) 568-9132

MULTIMEDIA SPECIAL

Since 1988
For your convenient
FREE deliver to campus

P5-90 Pentium PCI

- Quad-Speed 4X CD-Rom
- Sound Blaster 16-by "Creative Lab"
- 2 Speakers
- 14,400 Fax/Modem (Internal)
- Intel Pentium 90MHz CPU w/Fan
- 256K Cache exp. to 512K
- 8MB Ram exp. 128MB
- 540MB Fast IDE Hard Disk
- PCI LB IDE Controller - "Type 3"
- PCI LB accelerated SVGA w/2MB
- 15" NI 28 Flat Screen SVGA
- 101 Enhanced Keyboard
- 3 Button Mouse
- Medium Tower w/230W "UL" P.S



w/Quad-Speed 4X CD

Special: \$2288

IBM 486/75 VESA

- Double-Speed 2X CD-Rom
- Sound Blaster 16-by "Creative Lab"
- 2 Speakers
- 15 CD Titles
- 14,400 Fax/Modem (Internal)
- IBM 486/75MHz VESA LB Motherboard (3 Years IBM Motherboard Warranty)
- Pentium Overdrive (P24) Ready, w/ZIF
- 256K Cache exp. to 512K
- 4MB Ram exp. 64MB
- 420MB Fast IDE Hard Disk
- 2 High speed 16550C Serial Ports
- VESA LB accelerated SVGA w/1MB
- 15" NI 28 Flat Screen SVGA
- 101 Enhanced Keyboard
- 3 Button Mouse
- Mini Tower



Special: \$1395

486DX2/66 VESA

- Double-Speed 2X CD-Rom
- Sound Blaster 16-by "Creative Lab"
- 2 Speakers
- 15 CD Titles
- 14,400 Fax/Modem (Internal)
- 486DX2-66MHz, "GREEN" Motherboard
- Pentium Overdrive (P24) Ready, w/ZIF
- 256K Cache
- 4MB Ram exp. 64MB
- 420MB Fast IDE Hard Disk
- VESA Dual IDE FD/HD Controller
- VESA LB accelerated SVGA w/1MB
- 14" NI 28 1024 "Power Saving" SVGA
- 101 Enhanced Keyboard
- 3 Button Mouse
- Mini Tower



Special: \$1350

Pentium PCI - LB

- "GREEN" Motherboard
- Intel Pentium CPU w/Fan
- 256K Cache exp. to 512K
- 8MB Ram exp. 128MB
- 540MB Fast IDE Hard Disk
- PCI LB IDE Controller - "Type 3"
- PCI LB accelerated SVGA w/2MB
- 15" NI 28 Flat Screen SVGA
- 101 Enhanced Keyboard
- 3 Button Mouse
- Medium Tower w/230W PS



Good Price

Pentium 90MHz: \$1895

Pentium 66MHz: \$1775

486DX2-66 PCI-LB

- The Latest PCI LB Technology
- Pentium (P24) Ready, w/ZIF
- 256K Cache
- 8MB Ram exp. 128MB
- 420MB Fast IDE Hard Disk
- PCI LB IDE Controller - "Type 3"
- PCI LB accelerated SVGA w/2MB
- 15" NI 28 Flat Screen SVGA Monitor
- 101 Enhanced Keyboard
- 3 Button Mouse
- Mini Tower w/230W "UL" Power Supply



486DX2-66MHz PCI \$1450

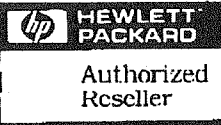
486DX2-66 VESA-LB

- "GREEN" Mother Board
- Pentium (P24) Ready, w/ZIF Socket
- 256K Cache
- 4MB Ram exp. 64MB
- 420MB Fast IDE Hard Disk
- VESA LB IDE Controller
- VESA LB accelerated SVGA w/1MB
- 14" 1024 NI 28 "Energy-Save" SVGA
- 101 Enhanced Keyboard
- 3 Button Mouse
- Mini Tower w/230W "UL" P.S

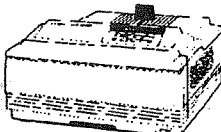


486DX2-66MHz VESA \$999

HP Printers



Authorized Reseller



- HP LaserJet 4V & 4MV
- * Fast graphics printing
- * 16-ppm speed in a desktop printer
- * True 600 dpi print quality
- * Wide-format printing on 11" x 17" paper
- * 4MB (4V) 12MB (4MV)
- * Support 12 network operating systems with automatic I/O switching



TRUE 600 DPI PRINTING AT 16 PPM!

4V \$1895, 4MV \$2795

- HP InkJet 320 \$295
- HP DeskJet 540 \$279
- HP InkJet 560C Color \$465
- HP LaserJet 4L \$535*
- HP LaserJet 4P \$895
- HP LaserJet 4+ \$1375
- HP LaserJet 4M+ \$1895
- HP LaserJet 4Si \$2785
- HP LaserJet 4SiMX \$3995
- HP ScanJet 3P \$475
- HP ScanJet IICX \$745*

(*after rebate)

Hard Disk

- 420MB IDE\$215
- 540MB IDE\$265
- 730MB IDE\$335
- 1GB IDE\$475

Mother Board

- VESA 486DX2-66MHz w/o CPU \$105
- PCI 486DX2-66MHz w/o CPU\$185
- Pentium 66MHz 256K, w/o CPU \$199
- Pentium 90MHz 256K, w/o CPU \$285

w/two 16550 serial, enhanced parallel

Monitor

- 14" 1024 .28 NI SVGA\$225
- 15" 1280 .28 NI SVGA\$295
- 17" 1280 .28 NI LR SVGA\$595

Fax/Modem

- 14,400 (Int.)\$75
- 28,800 (Int.)\$215
- 14,400 (Ext.)\$95

Mouse

- Microsoft serial mouse\$39
- Compatible 3 button mouse\$15
- Microsoft bus mouse\$65
- Compatible trackball\$35

ACADEMY BARBER SHOP

27 N. Catalina Ave., Pasadena
Open Tues.-Sat., 7 A.M.-4 P.M.
(818) 449-1681

CLASSIFIED ADS

A SPECIAL EVENT-

FREE "BEFORE SUNRISE" PASSES for the January 18 8 p.m. on-campus screening in Baxter Lecture Hall may be picked up in the Music Program office (room 41 SAC) Mon.-Wed. from 1-5 p.m.

RATES\$4.00 for first 30 words;10¢ for each additional word. Send written ad with payment to 40-58. Deadline is 6 p.m., Monday before issue. No charge for on-campus lost & found.

SERVING CALTECH SINCE 1945

Authorized Agents for Airlines, Hotels and Steamships



690 E. GREEN ST.
PASADENA, 91101
(between El Molino & Oak Knoll)



School PO.s are welcome! Fax us your PO, and we'll prepare your order upon approval by our financial department. It's that easy!

Leasing program available - 90 days same as cash! Ask our sales person for details.

All prices reflect a 3% discount for purchases made with cash. There are no discount for sales made with credit cards.

Notices

The AIDS Service Center presents "Just Say Know," a free eight week educational support group that will explore different topics related to HIV and AIDS. "Just Say Know" will meet every Tuesday from 6:30 to 8:30 p.m. from January 31st through March 21st at the AIDS Service Center, 126 West Del Mar Boulevard, Pasadena. To participate, call Tom Drake at (818) 398-4553.

Goodwill Industries of Southern California is seeking male and female volunteers to model authentic antique fashions that date as far back as the 1860's. The style shows are held at major hotels, country clubs, and churches to benefit the non-profit Goodwill, which provides rehabilitation and job training and placement for people with physical and mental disabilities and/or social disadvantages. Shows are held weekdays as well as weekends. Goodwill is seeking models between the ages of 18 to 70 years, so please contact Beryl Panza or Cathy Hoyt at (213) 223-1211, extension 229 or 230 for more information.

The Caltech Muslim Student Association will hold Muslim Friday Prayers weekly in the Y-lounge at 12:40 p.m.

"Take a Break and Spend Some Time with Friends." The office of the International Student Programs would like to invite you to our Open House for coffee, tea and conversation. Every Wednesday from 4:00 p.m. - 5:30 p.m. at the office of International Student Programs, Olive Walk. Open to the entire Caltech community.

From the Counseling Center

The Gay, Lesbian and Bisexual Support Group meets the first and third Tuesdays of each month at 7:30 p.m. in the Health Center Lounge. This confidential meeting is open to all Caltech community members looking for a supportive context in which to address questions and concerns about sexual orientation — including coming out, being out, self-discovery, coping with families... We begin with a focus topic but move to whatever is feeling most relevant to the group that night. Refreshments are served. For information, please call 395-8331.

Coming Events

☆At 3:30 p.m. on Thursday, January 26th in the Beckman Auditorium, a Censorship and Silencing Seminar shall be held. Entitled "The Debate Over 'Genetics and Violence': The Silencing of Socially Charged Science," guest speaker David Wasserman of the University of Maryland will explore issues growing out of the National Institute of Health's recent decisions to freeze a conference that was to be held on the genetic factors in crime. Professor Troy Duster of the University of California, Berkeley, and James Q. Wilson of the University of California, Los Angeles, will act as guest commentators for Mr. Wasserman. Audience question and discussion will be encouraged after the lecture and commentary.

☆The Caltech Jazz Bands are going to hold a free concert on Saturday, Jan. 21st at 8 p.m. in the Beckman Auditorium. Also, the Jazz Bands released their first compact disc last September, which is now available at the Caltech Bookstore, as well as at Tower Records and Pooh Bah records in Pasadena.

☆Dilip Khatri, Professor of Civil Engineering at Cal Poly Pomona, will give a lecture entitled "Examining Structural Failures of the Northridge Earthquake" on Wednesday, January 11th at 12:00 noon at the von Karman Auditorium, Jet Propulsion Laboratory. Dr. Khatri will summarize the statistics of the Northridge Earthquake, provide a brief retrospect on the insurance companies loss estimates, discuss several modifications to the Uniform Building Code, and touch on advancement of technology and research in the structural engineering profession and the lessons learned from the Northridge earthquake.

☆At the Beckman Auditorium on January 28th at 8 p.m., B.J. Crosby Sings Gospel Choir will sing a night of gospel music and song. Featuring members of the choir from the First A.M.E. Church of Los Angeles and directed by Barbara Allen, the Admission cost will range from \$22.00 to \$28.00 for adults, with student and senior rush tickets costing \$8.00 beginning one-half hour before the start of the performance.

Dr. Merritt Roe Smith, Director of the Program in Science, Technology, and Society at MIT, will be holding a seminar entitled "Military Roots of Mass Production" on Thursday, January 19th at 4:00 p.m. This lecture is part of the Science, Ethics, and Public Policy Seminar Series, and is free to the public.

Frank Klicar will personally narrate the coming Armchair Adventures travel film entitled "China - The Dragon Awakens!" on Friday, January 13th at 8 p.m. Held at the Beckman auditorium, admission will range from \$6.50 to \$8.00.

Events and Notices

☆ denotes a new announcement.

The Boland-Dowdall Duo will present a concert including a mixture of pieces ranging from 19th century American parlor music to Hungarian and Irish tunes on Sunday, January 15th at 3:30 p.m. at the Dabney Lounge.

William Bing will be hosting guest drummer Greg Bissonette in a Caltech Jazz Bands Concert on Saturday, January 21st, at 8 p.m. in the Beckman Auditorium. Admission is free.

On Sunday, January 22nd at 3:30 p.m., The Chamber Music Society of Lincoln Center will perform Mozart's Quartet in F major for Oboe & Strings, K. 370; Brahms' Trio for Horn, Violin & Piano, Op. 40; Hindemith's Sonata for Oboe & Piano; and Fauré's Quartet No. 1 for Piano & Strings in C Minor, Op. 15 at the Beckman Auditorium. Admission ranges from \$12.00 to \$22.50 (a \$4 discount is available for Caltech students).

Professor of Chemistry Rudolph Marcus will give a seminar "Managing Your Way to a Nobel Prize" on Tuesday, January 17th at 6:00 p.m. in the Athenaeum. A Nobel laureate in Chemistry, Dr. Marcus' speech is hosted by the Caltech Management Association; admission will be \$28.00 for members of the Athenaeum and \$38.00 for non-members. All wishing to attend are kindly asked to RSVP with Ron Oliver by January 10th at Caltech mail-stop code 202-6.

Club Announcements

☆Join the Caltech Shaolin Kung-Fu Club to learn and develop usage of classical kung-fu techniques, Chinese weapons, qi-gong, iron body training, meditation, proper stretching & holistic health practices. For further information, please contact Sifu Gene Black at (818) 359-1270, or Prof. Steve Wiggins at x4127.

☆The Office of International Programs invites you to a slide/video presentation presented by the U.S. Peace Corps on Friday, January 20th at 12:00 noon in Winnett Lounge entitled "Making a World of Difference: A Peace Corps Legacy." Pizza will be served after the presentation. Please make reservations by calling x6330, or by sending e-mail to Chris@pemail.

☆The Caltech Ballroom Dancing Club offers free beginning classes every Monday night from 7-8:30 p.m. in Winnett lounge. Everyone is always welcome, whether he or she has attended any previous classes or not or whether he or she has a partner. For more information, contact Jeanne Hardebeck at jhb@seismo.gps.caltech.edu, x6971, or MC 252-21.

☆The Ballroom Dancing Club is currently accepting registration fees for a beginning Salsa and West Coast swing class. Enio Cordoba, a professional dancer and the owner of Alhambra studio Let's Dance LA, will teach the class at Caltech. Classes will be from 7:00-9:00 p.m. approximately every other Friday night starting January 20th. The first class will be in Winnett lounge, though succeeding classes will be in Dabney. The cost is \$15 per term for a student or staff or JPL employee and \$30 per term for someone unaffiliated with Caltech or a spouse of a Teacher or JPL member. Make the check payable to Caltech Ballroom Dancing Club and mail with your name to Bob Herman at MC 170-25 (RHERMAN@arms.gps.caltech.edu) or register at the door.

☆The Ballroom Dancing Club meets this Friday from 7:00 to 9:00 p.m. in Winnett lounge for a dance break. This dance practice is open to beginners, intermediate and advanced dancers who want to practice dancing or socialize and watch others dance. For more information, contact Jeanne Hardebeck at jhb@seismo.gps.caltech.edu, x6971, or MC 252-21.

☆Josh Levy, a professional jazz piano player and graduate of the USC jazz program, will begin teaching a non-credit class once a week this term. This class will include the following topics: Introduction to jazz harmony, listening skills, transcription, basic patterns and licks, and construction of logical solos. No previous improvising experience necessary, and the schedule is to be announced. There will be a nominal fee for attending this class.

☆The first movie to screen in the German Film Series in the winter season is to be *Kuhle Wampe* (1932). It is to be shown on Thursday, January 19 in Baxter Lecture Hall at 7:30 p.m. This film features English subtitles and will be presented free of charge. For more information, please call x3610.

The Women's Center will also be hosting a series of dinner lectures, on the 13th and the 19th of January. Held at the Athenaeum at 7:30 p.m., these lectures will host perceptively Dr. Funk and Dr. Bult. Dr. Funk, the Program Leader of the Flora of the Guyanas program at the

Smithsonian, has been profiled as one of the participants in the heated debate regarding appropriate methods for doing phylogenetic analysis and is known as an intrepid field biologist. Dr. Bult, head of the Molecular Evolution Laboratory at The Institute for Genome Research (TIGR), is currently working on the project focusing on patenting cDNA sequences from the human genome project.

The Caltech Swedish Club will meet at 3 p.m. on Sunday, 15 January, at 955 Fallen Leaf Rd., Arcadia for a "julgransplundring" (post-Christmas celebration). Anyone interested in Scandinavian culture or in speaking Swedish is welcome. For more information, please call Welma Muhleman at 355-8265 or Rustan or India Leino at 584-7162 (or email rustan@ci).

CIT Guitar Classes for the Winter Quarter will meet on Tuesdays starting January 10 in Room 1 of the Student Activities Center (SAC) as follows: Beginning Guitar Class between 4:30 and 5:30 p.m., Intermediate between 3:00 and 4:00 p.m., and advanced classes from 5:30 to 6:30 p.m. Classes are free to Caltech Students and other members of the Caltech community (space permitting). Undergraduates can receive 3 units of credit if they choose. The instructor, Classical Guitarist Darryl Denning has an international background in performance, teaching, and recording, and can be reached at (213) 465-0881.

Women's Glee Club begins all new music this term: Purcell's "Come Ye Sons of Art", Stravinsky's "Symphony of Psalms", and the Mozart "Requiem". Rehearsal will be held in SAC 1 on Mondays from 7:30 to 9:30 p.m. and with the Men's Glee Club in Beckman on Wednesdays from 5:00 to 6:00 p.m.. This is the last time this year that the Glee Club can accept new singers. For more information contact Laura Brady, President (356-7427, laura@ugs) or Monica Hubbard, Director (X6260, mhubbard@cc).

Internships and Competitions

The National Research Council announces the 1995 Resident, Cooperative, and Postdoctoral Research Associateship Programs to be conducted on behalf of federal agencies or research institutions whose 120 participating research laboratories are located throughout the United States. The Programs provide opportunities for Ph.D. scientists and engineers of unusual promise and ability to perform research on problems largely of their own choosing yet compatible with the interests of the sponsoring laboratory. Approximately four hundred new full-time Associateships will be awarded on a competitive basis in 1995 for research in: chemistry; earth and atmospheric sciences; engineering, applied sciences and computer science; life, medical, and behavioral sciences; mathematics; space and planetary sciences; and physics. Awards are made for one or two years, renewable for a maximum of three years; senior applicants who have held the doctorate at least five years may request shorter periods. Applications will be accepted on a continuous basis throughout the year to the National Research Council Associateship Programs (TJ 2094/D1), 2101 Constitution Avenue, N.W., Washington, D.C. 20418, or at the fax number (202) 334-2759.

The University of Texas at Houston has created a Summer Research Program for students interested in pursuing a graduate degree in the biomedical sciences. Students will gain hands-on experience in the areas of biomedical research under the supervision of faculty sponsors of their choices. Specialized training is available in laboratory and radiation safety, research technology, and biomedical ethics. Students will write research abstracts which will be published in the annual *UT-H Summer Research Abstracts* book. All student must be enrolled in any accredited U.S. college or university during 1995. Students are responsible for travel and living expenses, but will receive a \$2,000 abstract. All applications are due by February 24, 1995. For more information or an application, please call extension x1545.

Sao Summer Internship Program 1995 Applications are invited from undergraduates to participate in the Smithsonian Astrophysical Observatory Summer Intern Program at the Harvard-Smithsonian Center for Astrophysics in Cambridge, Massachusetts. We anticipate that twelve positions will be offered during the summer of 1995. Research opportunities exist in all areas of astrophysics from planetary science to cosmology including theory, observation, data analysis, instrumentation and laboratory astrophysics. The program will provide students with the opportunity to use telescopes at the Oak Ridge Observatory and to present a paper at a scientific meeting. The Intern Program begins June 12th and ends August 18th, 1995. The stipend will be \$250 per week, and housing/travel will be subsidized. Applicants must be US citizens (or hold a valid green card) currently enrolled in a program leading to a bachelor's

degree. Graduating seniors are not eligible. For more information email to: IN%kdow@corwin.harvard.edu

The 1995 Elie Wiesel Prize in Ethics Essay Contest, with awards totaling \$10,000, is now open to junior and senior undergraduates who are enrolled full-time at an accredited college or university in the United States. The deadline for submitting an original 3,000-4,000 word essay is today, January 13, 1995. The theme for this year is: "Creating an Ethical Society: Personal Responsibility and the Common Good." For entry forms and guidelines contact: The Elie Wiesel Foundation for Humanity, 1177 Avenue of the Americas, 36th Floor, New York, New York 10036. Phone: (212) 221-1100.

Fellowships and Scholarships

The Financial Aid Office has applications and/or information on the following and additional scholarships. All qualified students are encouraged to apply. The Financial Aid Office is located at 515 S. Wilson, second floor.

The Intel Foundation is offering a renewable Women in Science and Engineering (WiSE) Scholarship at Caltech. Funding for the first award will begin in the 1995-96 academic year and includes: an award amount of \$20,000 to be applied toward tuition, fees, and living expenses; a paid summer internship at Intel Corporation offered through Intel's College Recruiting Office; and an Intel Mentor. The application deadline is January 20, 1995. Nominated candidates will be interviewed in late January or early February. Final selection will be made by March 31, 1995. Basic eligibility criteria include: Second year woman majoring in electrical engineering, computer engineering, or computer science (also eligible for consideration: materials science, applied mathematics, chemical engineering, operations research, physics, and chemistry); full-time student; U.S. Citizen or permanent resident; 3.0 GPA or above. Please see application materials for additional information. Applications are available at the Minority Student Recruitment and Retention Office located at 287 S. Hill (second floor).

The Intel Foundation is offering a renewable Minority Engineering (MESP) Scholarship at Caltech. Funding for the first award will begin in the 1995-96 academic year and includes: an award amount of \$20,000 to be applied toward tuition, fees, and living expenses; a paid summer internship at Intel Corporation offered through Intel's College Recruiting Office; and an Intel Mentor. The application deadline is January 20, 1995. Nominated candidates will be interviewed in late January or early February. Final selection will be made by March 31, 1995. Basic eligibility criteria include: Second year underrepresented minority (African American, Native American, or Hispanic) majoring in electrical engineering, computer engineering, or computer science; full-time student; U.S. Citizen or permanent resident; 3.0 GPA or above; active in appropriate minority programs; demonstrated financial need. Please see application materials for additional information. Applications are available at the Minority Student Recruitment and Retention Office located at 287 S. Hill (second floor).

The Association of State Dam Safety Officials, Inc. announces its 1995 Dam Safety Scholarship Program. Applicants must be juniors or seniors in 1995-96, and must demonstrate an interest in pursuing a career in hydraulics, hydrology, or geotechnical disciplines, or in another discipline related to the design, construction, and operation of dams. Applicants must also have a cumulative GPA of 3.0 or above. Applications are available at the Financial Aid Office, and must be received by ASDSO no later than January 17, 1994.

Glamour Magazine announces its 1995 Top Ten College Women Competition. Scholarships are in the amount of \$1000. Winners also receive national recognition in *Glamour's* October 1995 issue, and the opportunity to meet with top professionals in their fields. Women who are full-time juniors for the 1994-95 academic year are eligible to apply. Applications are due January 31, 1995.

The Korean American Scholarship Foundation, Western Region, is offering two scholarships of \$10,000 each or four scholarships of \$5,000 each, and more than 20 scholarships of \$1,000 or higher to full-time students of Korean American heritage. Applicants must be at least second year undergraduates, or graduate students. To receive an application, write to: Scholarship Committee, KASF Western Region, 400 Bridge View Drive, Anaheim, CA 92808. Completed applications are due January 31, 1995.

The National Academy for Nuclear Training announces its Scholarship Program Competition. Academy scholarships are awarded on the basis of merit to students with a demonstrated interest in, and potential for, a career in the nuclear power industry. Approximately 125 awards of \$2,250 each will be made to students who are currently pursuing a bachelor's degree in nuclear engineering, power generation health physics, or a nuclear/power option in a discipline such as chemical engineering, electrical engineering, or mechanical engineering. Application materials must be postmarked no later than February 1, 1995.

The College Women's Club of Pasadena Scholarship Foundation is awarding scholarships and fellowships of at least \$1,500 for the 1995-96 academic year. Applicants must be at least second year undergraduates or graduate students who will be enrolled full-time in 1995-96, and who have at least a 3.0 GPA. Completed applications and all supporting documents must be submitted to the Financial Aid Office no later than February 9, 1995.

The American Society of Naval Engineers is sponsoring a scholarship program with awards of \$2,000 each for the 1995-96 academic year. Eligible students must be U.S. Citizens, graduate or undergraduate students (undergraduates must be in their final year of study), majoring in engineering, and who demonstrate a genuine interest in a career in naval engineering. Demonstrated financial need is not a requirement but may be taken into consideration. Applications are available from the Financial Aid Office, and are due February 15, 1995.

The American Meteorological Society announces the 1995-1996 AMS/Industry Undergraduate Scholarship competition. Full-time students who will be juniors in 1995-96 and who are: 1. Pursuing a course of study leading to a B.A. in the atmospheric or related oceanic or hydrologic sciences; or 2. Enrolled in a program leading to a B.A. in science or engineering who have demonstrated a clear intent to pursue a career in the atmospheric or related oceanic or hydrologic science following the completion of appropriate specialized graduate level education are eligible to apply. Applicants must also have a minimum 3.0 GPA, and must be U.S. Citizens or permanent residents. The awards are \$2,000 for 1995-96, and are renewable for the following year (the senior year). To request an application, mail a self-addressed, stamped envelope to: American Meteorological Society, Attention: AMS/Industry Undergraduate Scholarship Program, 45 Beacon Street, Boston, MA 02108-3693. Applications are due February 17, 1995.

☆The Society of Manufacturing Engineers announces the availability of 41 scholarships for undergraduates, and 10 graduate fellowships. All of the undergraduate scholarships require applicants to be full-time, second year students with a minimum G.P.A. of 3.5. Forty of the scholarships are being offered to students who are enrolled in a degree program in manufacturing engineering or manufacturing engineering technology. One scholarship is available to a full-time student seeking a career in robotics/automated systems. The graduate fellowship is offered to a student in a graduate program for manufacturing engineering or manufacturing technology. Applicants for the graduate fellowship must have a minimum 3.5 G.P.A. and must have proven scholastic ability, exemplary character, and leadership capability and who have demonstrated their potential for future leadership in the profession. Completed applications are due March 1, 1995.

Space Filler

☆This paper needs someone to write good spacefiller when extra space exists. Come to the coffeehouse in the SAC on Fridays at 12:15 p.m. for more details.

☆Applications are now being accepted for cabin boy on luxury ship. Well accomodations, high adventure, well worth the risk. Contact Mr. Silver at the docks.



GOLDEN GLOBE

PARIAN TRAVEL
Caltech Officially Approved

Most professional, courteous, economical and efficient service for your **official** and **personal** travel needs.

Free service to you. We deliver.

Airlines, Cruises, Tours, Hotels, Car Rentals.
Individual, Commercial, Groups.

(818) 577-8200

468 S. Sierra Madre Blvd., Pasadena

The California Tech

Caltech 40-58 SAC
Pasadena, California 91125

Save up to 35%

BURGER CONTINENTAL

Save up to 35%

TO ALL CALTECH STUDENTS, FACULTY AND STAFF:

All the time.
Seven days
a week.

HEAR THE
WEDNESDAY NIGHT
JAZZ BAND

BREAKFAST BUFFET Mon-Sat \$3.95

LUNCH with soft drink \$4.95

DINNER with soft drink \$6.25

Breast of chicken, seafood, lamb, or the day's special

SPECIALTIES

Shish kebab Shaorma Souvlaki steak
Fresh fish and lamb Baklava
Homemade pizza Gourmet hamburgers

We cater for all occasions

535 S. Lake Ave.
(818) 792-6634

Mondays – Half price margaritas.

Tuesdays – Beer half price.

Wednesdays, Thursdays 3-7 P.M.