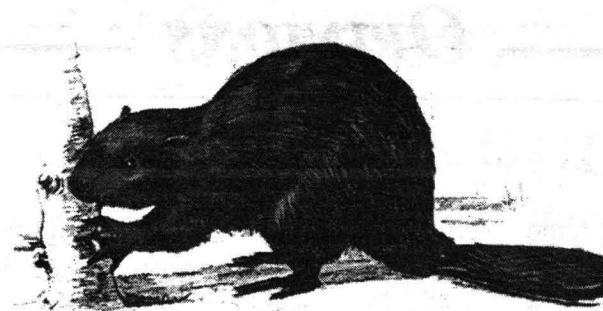


Should U.S. News's college rankings be continued?

see page 3



TACIT's production of *Fantasio* opens this Friday at 8:00 p.m.

see ad, page 7

THE CALIFORNIA TECH

VOLUME XCVIII, NUMBER 8

PASADENA, CALIFORNIA

FRIDAY, 8 NOVEMBER 1996

Caltech to host "A Conversation with Walter Cronkite"

BY CALTECH MEDIA RELATIONS

Veteran CBS anchorman Walter Cronkite will be the speaker at the California Institute of Technology's first annual Lee A. DuBridge Distinguished Lecture. The event is set for Monday, November 18, at Beckman Auditorium on the Caltech campus.

Cronkite has been called "the most trusted man in America," and is one of the towering figures in the history of broadcast news. Anchor of the CBS Evening News from 1962 to 1981, he is a recipient of the Presidential Medal of Freedom, as well as every major honor in broadcast journalism.

The theme of the event will be "A Conversation with Walter Cronkite." It will focus on an informal exchange between Cronkite and Jass Marlow, who is

anchor at NBC 4 in Los Angeles. Cronkite will then take questions from the audience.

Cronkite's appearance is the inaugural Lee A. DuBridge Distinguished Lecture, in honor of the longtime Caltech scientist and former science adviser to President Nixon. DuBridge, who died in 1994, was president of Caltech from 1946 to 1969.

DuBridge was once named America's "senior statesman of science" by *Time* magazine, and was considered an exemplary research-university president in an era of vast scientific, societal, and educational change. He guided the growth of the modern Caltech, while maintaining a breadth of view, an understanding of, and an interest in national affairs that was rare among university presidents.

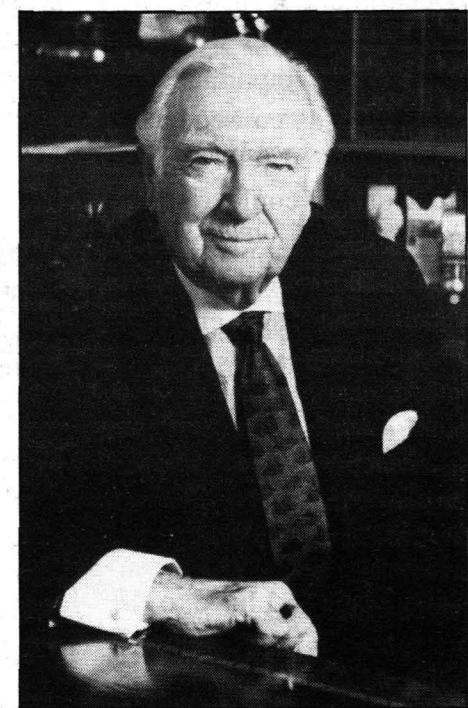
He was also a first-rate nuclear physi-

cist and a leader in research that was of immense importance to the Allied victory in World War II.

The Lee A. DuBridge Distinguished Lecture Series has been created by Caltech to honor DuBridge and his contributions to the Institute, Southern California, and the nation. Each year, the lecture series will bring prominent speakers of national and/or international importance to campus.

This year's lecture is co-sponsored by the *Los Angeles Times*, the Avery Dennison Corporation, the Parsons Corporation, and Southern California Edison.

The lecture is free and open to the public. At least 500 tickets will be available on a first-come, first-served basis. For more information, call (818)395-4652 or (800)423-8849.



...and that's the way it is.

PHOTO COURTESY OF CALTECH

Feynman lecture lost and found

BY BARBARA HUFF-DUFF

Join the Friends of Caltech Libraries (FOCAL) at its Annual Authors Dinner featuring David L. Goodstein, Professor of Physics and Applied Physics; Frank J. Gilloon Distinguished Teaching and Service Professor; and Vice Provost, and Judith R. Goodstein, Faculty Associate in History; University Archivist; and Registrar.

The dinner and talk, "Feynman Lecture Lost & Found," will take place on Thursday, December 5, 1996, at the Caltech Athenaeum. It will begin with a 6:00 p.m. social hour in the Lounge, followed by dinner in the Main Dining Room at 7 p.m.

Judith and David Goodstein have provided a beautifully written memoir of the life and achievement of Richard Feynman. *Feynman's Lost Lecture: The Motion of Planets Around the Sun* is a painstaking and illuminating reconstruction of a guest lecture Feynman gave in 1964 to a freshman physics class at Caltech. This lecture, given one year before Feynman won the Nobel Prize, provides yet another example of his genius as a teacher and thinker in his explanation—using only simple geometry—of why planets orbit the sun elliptically instead of in perfect



PHOTO COURTESY FOCAL

Signora e Signore Goodstein

circles.

The Goodsteins will describe the detective work that went into finding and deciphering the lecture. They will relate how they shaped it into a book and report on the public reaction to the book.

Copies of the recently published work, with CD of Feynman's lecture, will be available for purchase at the dinner, with the authors on hand for autographing.

FOCAL also hosts an annual luncheon each Spring, a giant book sale in May (FOCAL members are invited to a special preview party), and

other events, such as desserts or teas with fascinating speakers. The Friends group supports Caltech's libraries by providing funds for some special needs falling beyond the scope of the normal budget.

For reservations and membership information, contact Gloria Thomas at (818)395-6411 or

Millikan Library
Caltech I-32
Pasadena, CA 91125.

Reservations are \$58 (\$48.00 for FOCAL members). Paid reservations should be made before FOCAL's Monday, December 2 deadline.

Neurobiologist Patterson talks to KPCC listeners

BY RON DOLLETT

On Wednesday, October 23, researchers at Caltech discussed new advances in neurobiology on Pasadena City College's talk radio, 89.3 FM, for the station's monthly Caltech hour installment. Prof. Paul Patterson, professor of biology and executive officer of neurobiology, talked about neuro-immune interaction, and how mental outlook can affect the immune system directly.

A study involving medical students, taken throughout their school year, has shown that they become more susceptible to illness after a death in the family (or any mentally depressing events, such as final exams). Patterson explained how immune function diminishes during stressful times, and

conversely, mental function diminishes while the body is busy fighting illness. Cytokines found in the blood help to regulate the immune system, and are strong mediators of the nervous system, as well as the immune system. Disturbance of your ability to think and react while you are ill allows you to withdraw or sleep so that you can rest and heal.

Patterson also discussed the issue of harvesting cells in embryo (the fetal tissue) for transplant. Tests involving embryo of rats and mice have shown that there are clear medical benefits. For example, brain cells can be transplanted to replace degenerated cells. Issues which still need to be sorted out include finding the best embryo age and the best surgical approach. Ideally,

SEE RADIO SHOW ON PAGE 9

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LETTERS TO THE EDITOR

You can't get there from here: Caltech steps on First Amendment rights

Dear Editor,

I learned recently that practically nobody had heard of, let alone read, Common Cause's amazing letter to the Department of Justice. So I wrote up a flyer which described that important document and its consequences, and provided references so that others could find and read the letter. Then I went to try to distribute this flyer on campus, and ended up living out Xeno's paradox instead.

(These quotes are not exact; I wasn't taking notes.) First thing Thursday morning I called security: "Hi, what do I have to do to get clearance to hand out this flyer on the quad?" "Call Human Resources," they said. So I called Human Resources. "What do I have to do to hand out this flyer on the quad?" "Send us a written request and a copy of the flyer," they said. So I did. A whole day went by; nothing happened. Lunch came and went. I called them repeatedly Thursday and into Friday

morning: "So, can I hand this out?" "No decision has been made yet." Late that morning: "They're in the meeting now." "Can you tell me when the meeting ends, so that I can distribute it today?" "Sure". Lunch comes and goes, no response — so much for handing it out at lunch Friday. Finally, I get the answer

Friday afternoon: "Your request is denied — it's too political." Blink,

blink, what??!?! I was stunned, but not too stunned to ask for their response in writing (which I still have not received). All weekend long, while I had no trouble handing out flyers elsewhere

...I had no trouble handing out flyers elsewhere in Pasadena....

in Pasadena, I had time to fume and contemplate the First Amendment and Caltech's actions.

Monday morning, bright and early, I called President Everhart's office. He was out of town. Then I called the institute's General Coun-

sel: "What gives? How is this legal?". They asked me to send them e-mail. Later that morning, I got a reply: "That isn't something that Human Resources should have decided; in any case, you need to talk to Mr. Daily." So I called him. Naturally, he was on vacation. I called the General

Counsel back, and they suggested I call Mr. Nunnally, Mr. Daily's

boss. I did, and his secretary asked for a copy of the e-mail, which I sent them. It was still before lunch — maybe I could get clearance that way. No such luck. The afternoon passed without results, and now it is 5:00 p.m. on Monday, with no possible way to obtain Caltech clearance to distribute this material before the election. (However, on the bright side, someone apparently put a cattle prod to Human Resources, and I've had several contrite calls from those folks apologizing for their role in this mess — apparently they are only supposed to handle mass mailings, which any and all of the staff I spoke with should have known.)

This whole sad affair shows that Caltech is incapable of fielding a simple request for political access in a competent and timely manner. I suggest that Caltech badly needs to implement a plan to handle such requests, because, intentionally or not, this week Caltech stomped all over the First Amendment.

DAVID MATHOG
BIOLOGY DIVISION

with marching orders from their church can elect their own candidates. Ideally, voters should choose candidates and issues, but in the absence of any clear choice, pick one at random. This will not ensure that the best candidate wins, but it will almost certainly prevent a small group of fanatics from having their way.

STAN SCHWARZ

Uninformed voters should pick candidates at random

Dear Editor,

I have to take exception to Rob Rossi's contention that voters should abstain from voting on issues and candidates where they do not have personal knowledge. While this sounds good at first, it can lead to situations where a small group can control elections. A good example of this is how religious fundamentalists have taken over many school boards across the country. School board elections tend to be low-key affairs that do not attract much attention. As a result, many people do not vote in them, and a small segment of the population

Please send submissions for Letters to the Editor to

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Caltech 40-58
Pasadena, CA 91125

or by electronic mail to

editors@tech.caltech.edu

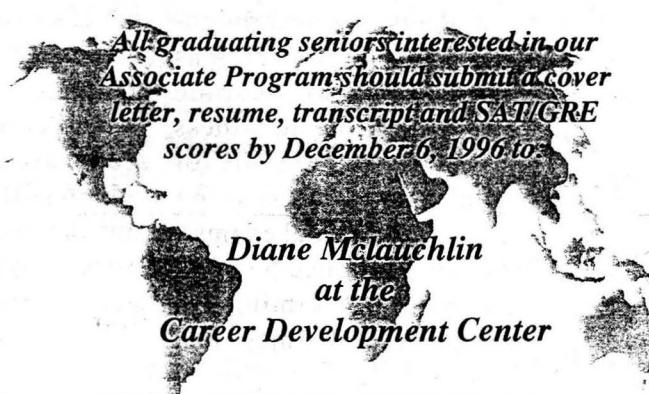
Deadline for submissions is Monday at 5 p.m. on the week of publication.

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

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US News: Are college rankings a good thing?

NO

BY NEIL STEVENS

Every day, someone compares Caltech with MIT. It's inevitable. Caltech's environment is better, MIT's humanities are broader.... The argument wages endlessly. But, wait. Off on the horizon, blazing with the white light of pure truth, there it is. *U.S. News and World Report* has the answer. MIT is ranked number 5, Caltech is number 9. There. Now the issue is settled, and we can go back to work.

How were these numbers determined, you ask? *U.S. News* publishes the specific methodology, but the bottom line is simple. The magazine compiles a set of statistics, and calculates a score for each school based on the statistics. A variety of numbers are used, including Academic Reputation, Student Selectivity, and Financial Resources. The schools are then ranked according to the scores.

It sounds simple, but its simplicity conveys a weakness. In calculating the scores, *U.S. News* must weight its data in some manner, and the weighting must impact the rankings.

MIT, for example, scored first in Academic Reputation, and Caltech was first in Faculty Resources. Each is important, but the difference is subjective. Someone looking for better

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Caltech 40-58, Pasadena, CA 91125
phone: (818) 395-6153
advertising: (818) 395-6154
e-mail: editors@tech.caltech.edu
advertising: adv@tech.caltech.edu
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Autumn Looijen
Terry Moran

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Ryan Cox
Jacques Frechet
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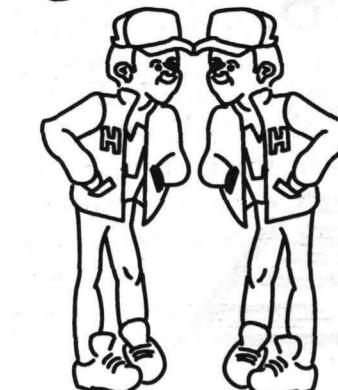
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qualified faculty, smaller classes, and a better student/faculty ratio should consider Caltech. However, MIT's reputation is an asset when applying for jobs and graduate programs. U.S. News weightings: Reputation 25%, Faculty Resources 20%.

Another category is Retention Rate, also worth 20% of the total score. MIT ranked 11th, Caltech was 28th. Retention rate is a measure of how many students graduate in 6 years, and of how many stay after the first year. Clearly, more students leave Caltech than MIT. We at Caltech even have a phrase to describe this phenomenon: "You flick, you flame, UASH." Why do people fail to graduate? usually, it is because the work load is too difficult, or the temptations of recreation are too much. Either way, a lower retention rate would seem to me to be a good thing. I came to Caltech for a demanding education, and that is what I expect. Yet *U.S. News* ranks Caltech lower for this reason.

Clearly, this is not an isolated problem. Everyone has a unique personality and set of goals, so different aspects of college life are accordingly different. But *U.S. News* rankings are looked upon by some as the final word in college comparison.

Because of its popularity, *U.S. News* has an obligation to reform the system, and make the



YES

BY JOHN HATFIELD

Nothing in the world is perfect. *U.S. News and World Report* rankings of colleges and universities is a good example of this. However, imperfect as they are, the rankings are still useful for providing a rough guide to the quality of various institutions of higher learning. Admittedly, the rankings are not perfect. But they do provide a rough estimate of the value of that particular college.

Due to this, many students (including myself) looked at the rankings in *U.S. News and World Report* to formulate a general idea of what colleges we should look at more closely. However, we do not take these rankings as divine truth sent from on high. We use them as a guide to see which of the thousands of universities out there we should look at more closely to determine where we would most like to matriculate. The idea that Mr. Stevens puts forth that people follow these rankings as if they were dogma is disturbing.

High school students and their parents have few resources to compare colleges, and have no way of knowing whether *U.S. News* is accurate or not.

It is in every ranked school's best interest to see this ranking system abolished, because it steers applicants away from some schools, and toward others. This year, Yale is ranked first, and MIT is ranked over Caltech. Future college students will look at these numbers, and some of the best minds will overlook Caltech, simply because of *U.S. News*. Yale and MIT stand to benefit this year, but what does the future hold? What if Yale drops back to third, as it was in the past. What if *U.S. News* changes its weightings, and Caltech zooms ahead of MIT?

U.S. News latched onto a compelling idea when it began to rank the nation's colleges. Now that it has the nation's attention, *U.S. News* must serve its readers by providing information, without misleading them. Thus, the annual rankings must be revamped, or ended entirely.

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telligent enough to realize that the rankings should be taken as a rough guide, not Gospel.

In sum, the *U.S. News* rankings are a useful tool for deciding which colleges should be investigated more thoroughly. Under no circumstances should Caltech change its policies to affect its rating, but neither should it refuse *U.S. News* the information it requests. The rankings provide students like myself with a starting guide to which colleges might be of interest, and it is possible students who are not well-informed, yet very intelligent, will disregard Caltech, since they assume it is a school not even worth ranking. Yet these same students, seeing it ranked ninth, will investigate Caltech thoroughly, along with M.I.T., Harvard, Northwestern and others, and come to their own, independent conclusion about which school is best for them. And if they are dumb enough to simply follow the ratings like a dog follows its nose, and go to M.I.T., who needs them?

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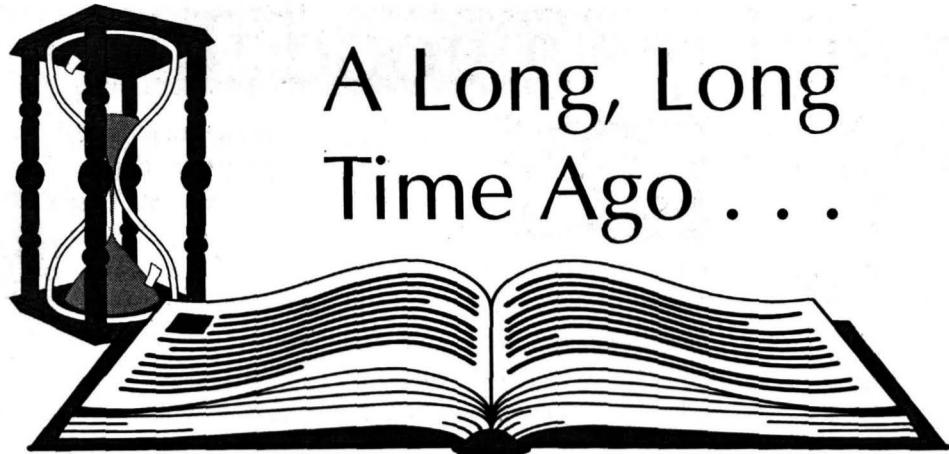
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A



A Long, Long Time Ago . . .

by Vidya Bhalodia

History of the Pumpkin Drop

At midnight, on Halloween, for the past 24 years, a very strange event has taken place. It is an event that draws huge crowds, waiting for the much acclaimed pumpkin-luminescence. Like many strange events around the world, this event is well known, and yet few are really sure how it started. However, courtesy of DarbNet, three former Darbs now take us back in time for a behind the scenes exclusive to uncover the shocking truth behind the Pumpkin Drop. Cover-up or conspiracy: you decide.

Larry West:

Actually I am surprised this story isn't more widely known, perhaps only because it didn't start out as a pumpkin drop.

I don't recall how it started, but in the fall of 1971, a couple of us were talking late at night in Alley 1 about the physics of pumpkins, and we estimated that

the strength of the "skin" of a small, fresh pumpkin, coated with acrylic, would be sufficient to withstand a 95% vacuum for at least 5 minutes. And a pumpkin of sufficient size would, once evacuated of air, float, given that "skin" volume doesn't increase nearly as fast as the internal volume.

This was before 24-hour grocery stores, at least in Pasadena, so we had to wait until the next day to go out and buy a variety of pumpkins; we got about a dozen as I recall, as round as we could find. We dipped them all in acrylic and let them dry, and then again a couple more times, drying at different angles for more even coverage.

The next day was Saturday . . . or at least we felt comfortable about borrowing someone's vacuum pump, so we tried out our idea, using a basketball needle, and some chewing gum

to cover the needle hole. We imploded about half of them, the really large ones, and found that the smaller ones became peculiarly light and cool, but didn't float.

But two of the medium ones did float. One got stuck in the rafters of Alley 4.

The other, though, floated out of the courtyard. We followed it along as it rose, and watched it float along until it hit the side of Millikan Library, about halfway up, appeared to crack or somehow lose containment, and fell to the concrete. By sheer luck, it missed a wandering family.

We decided this was no time for finger-pointing or recriminations and just wandered away.

Later, we heard that someone else had fabricated a story about a "pumpkin drop" just to rile the administration. But of course the funny thing is, next year it became a reality.

Charles Nichols:

Back when men were men and wild pumpkins strode the earth, I recall co-instigating the first Pumpkin drop. Other co-instigators probably include Dave Levy, Fred Harris, Mark Parisi, Channon Price, and many others.

I think the idea came in two parts. The first was, "What happens when you freeze a pumpkin?" The answer turned out to be, "It cracks from thermal stress." It took several tries to learn the advantages of pre-cooling pumpkins in a refrigerator, transferring them to a freezer for a week, and then introducing them to the joys of dry ice and/or liquid nitrogen, both of which were available via honor system cash boxes.

Once you have mastered the freezing process, you need to find something worth doing with a frozen pumpkin. This was the second part. Since I was already an accomplished lock troll on Halloween of 1972, and had a Millikan Library master key in my collection, it seemed natural to go to the highest spot on campus and drop it from the library roof, especially given the irresistible pun of the Millikan oil drop experiment (which measured the charge of the electron, and which I had performed in high school).

Thus was born the great Millikan Pumpkin Drop Experiment.

We gathered a bunch of Darbs, situated them in a casually milling crowd at street level, clued in the library sitter (then a Dabney House sinecure (look it up)), and took a collection of pumpkins filled with dry ice (the liquid nitrogen kept dribbling out of the cracks) up to the roof. We waited for the stroke of midnight, then began releasing pumpkins over the side. The result was spectacular. The pumpkins hit the concrete below with an explosive report, an inexplicable flash of light, and a shower of deadly shrapnel worthy of a fragmentation grenade. Fortunately no one was injured. The pieces made nice souvenirs, shaped like fragments of shattered spherical glass shell.

I participated in several more before younger Darbs took over, so they all ended up blurring together in my so-called memory. I particularly remember that one year the ground had been saturated by heavy rains. One small pumpkin missed the concrete and landed in a rose bed with a memorable "schloonk" sound. It left in its wake a cylindrical hole, with a hint of orange about four feet down. We left it for B&G to ponder.

C. P. Price:

How about a word from someone who was on the roof of Millikan for the first two Pumpkin Drops (Fall '72, possibly late October, sorta in con-

junction with Halloween, natch, and Fall '73)?

The genesis of the idea, as for so many great ideas, does not have a simple exegesis. Suffice it to say that

1. A sizeable portion of the sophomores in Fall '72 had done a little experiment called the Millikan oil drop the previous spring;
2. As seen by the events of the previous spring (q.v.), things involving the roof of the then new library were terribly exciting;
3. Much craziness was in the air [gracious: sometimes it just has to be stated explicitly . . .].

Also, it gave us a huge challenge: prior to the opening of the library, the entire campus was accessible through just two master keys. The new library was keyed with the fiendishly clever Medeco system, completely unpickable. So: how to gain access, short of taking the route pioneered by JK? (The following year, the security guards were just as interested as we were . . .)

Someone suggested that soaking the pumpkin in LN₂ would make for an even more interesting event. Someone else developed, in a (dare I say brilliant) leap of intuition, the theory that that the collision with terra firma would cause the pumpkin to produce a brief but intense flash of light.

Now the deed had a genuine scientific purpose, an undeniable legitimacy in the place where pure research is now and ever held as the goal of greatest good: to see the flash of the pumpkin. (I regret now that we did not seek to assemble spectrographic equipment in order to fully record the process.)

The subterfuge was run, the door was propped (sometimes the low tech solution is the best...) and the research team assembled after dinner. Shortly afterwards the fated fruit/vegetable emerged from the depths of Crellin, venting gouts of frigid N₂. A select subset of the research team conveyed to the top, and dispatched it [the pumpkin] to its glorious fate.

None of those assembled, at either level saw the flash. (Well there was this one frosh who said he saw the flash, but as seen subsequently, this person was always seeing the light...) We didn't see it again the following year either, from fresh or frozen pumpkins.

We did learn three salient facts:

1. The pieces from a frozen pumpkin travel a hell of a lot further than the fragments from a fresh pumpkin
2. It is a hell of a lot easier to clean up after a frozen pumpkin (except for that little mound of really high density ice that appears right at ground zero)

3. The frozen pumpkins make a really solid whump when they hit, and the fresh pumpkin made a splot when it hit.

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by Daisy James

*****	A Wonderful Work of Art
****	Slightly imperfect
***	Well written but not enjoyable
**	Fun to read, poorly written
*	Bad writing, no fun
	Birdcage liner

The Fran Lebowitz Reader

Fran Lebowitz

This is actually a compilation of two of Lebowitz's books, *Metropolitan Life* and *Social Studies*. It is a mixture of straight humor and social commentary, with the emphasis on the commentary. While I found it pretty funny, I will admit that I didn't get all of the jokes, as she wrote in and about New York in the Seventies, so that it is both out of my

region and before my time (what the heck is est anyway?) Another thing to bear in mind is that she uses a lot of stereotypes, especially about homosexuals, which could be found offensive. The best parts of the book are the ones where Lebowitz doesn't really have a point to make but just takes a topic and stretches and twists it to ridiculous proportions.

Passenger to Frankfurt

Agatha Christie

**

I was very disappointed by this book. I am a great fan of Christie's writing (I named my cat Jane Marple) and I could not be more ready to enjoy something that she wrote. In this case, however, I repeatedly put the book down and walked away from it, only finishing it because I wanted to see how it ended. Christie wrote it late in her career and the best explanation that I can come up with was that she was

coasting on her success and not putting as much effort into this as in her earlier books. *Passenger to Frankfurt* is a spy novel rather than a murder mystery. It bears a strong resemblance to *The Big Four*, a very successful earlier novel. Both plots center on a sinister organization bent on world domination, a threadbare idea at best. It works in *Four* because of the obvious care that Christie put into creating the intricate plot which, while complicated, can be easily followed; and into the characters, the hero being Hercule Poirot who was already a well developed personality. No such effort was spent on this book. *Passenger* opens in an airport where Sir Stafford Nye, a minor diplomat is petitioned for help by a young woman who says that she will be killed if he doesn't lend her his cape and passport. He does, and the action moves from there.

The book is not doomed from the start. As I said, Christie can make this sort of thing work and she leaves herself some excellent openings. The main trouble with the book is that it tries to cover too much and tell too little. Christie seems so unwilling to give anything away that large segments of the action are left out and throughout most of the book the reader has no idea who the good guys and the bad

guys really are, even down to the heroes. By the middle of the book the plot has gotten fairly absurd. This secret society has instigated a youth movement worldwide, spearheaded by a handsome young man who they claim to be the son of Hitler. That in itself might not be so bad, if she hadn't pushed it on to have these youth take over all of South America, force Chicago under martial law, et cetera.

There are also long paragraphs in which the author goes on and on, philosophizing about the young. Since the book is copyrighted 1970, it occurred to me that this might at least in part be inspired by the popularity of public protest among young people at that time.

I know better than to give away the ending but I will say that I found it very contrived and I didn't feel that she had given the reader enough information to make it really fair.

The saving grace of this book is the characters. While some are woefully underdeveloped, others make excellent proof of Christie's talent in this area. The best by far is Sir Nye's Great-Aunt Matilda. Sharp old maids have always been this author's specialty and the parts in which she appears seem more like genuine Christie than anything else in the book.

Theater Shoes
Noel Streatfeild

♦♦♦♦

I admit that I have never quite outgrown children's books, of which this is definitely one. It is set in England in 1942-43 and is about three children named Sorrel, Mark and Holly. Their mother is dead and their father missing when the grandfather that they were living with dies. They are sent to live with their maternal grandmother, about whom they know nothing because their mother eloped and was never forgiven. It turns out that their mother was a member of a very famous stage family; so they are sent to the Children's Academy of Dancing and Stage Training so that they can carry on the tradition.

This book serves as a sequel to *Ballet Shoes*, but it manages to be more successful than most sequels in that it doesn't follow the original characters' lives after they have resolved their primary drama, but it keeps them as peripheral to the main plot. This way, the reader knows what happened to them but is not disappointed by the fact that they have become so much less interesting. There really isn't too much commentary that can be given on this book. It's very nice if you like this sort of thing but would probably be very annoying if you don't.

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Pick of the Flicks

A rose by any other name is a rose, just the same

BY KANWAR KAHLOON

Shakespearean remakes in film are not an uncommon sight these days. Shakespeare's plays possess a timelessness that can be attributed to themes that are universal in scope, such lust for power, unadulterated adoration, insatiable desire for vengeance, and realization of the righteousness of humanity, which play vital roles in each and every one of his compositions. Yet, to date, with few exceptions, most notably last year's *Richard III*, the exhuming of the Shakespearean tale has been true to its original character: set in the sixteenth and seventeenth centuries in the appropriate places, with of course the requisite British accent, an attempt to recreate Shakespeare for the sake of recreating Shakespeare. However, *Romeo and Juliet* captures all of passion and pathos of the written play itself while set in the context of the hypothetical modern day.

The film, which stars Leonardo DiCaprio (*Basketball Diaries*, *What's Eating Gilbert Grape*) and Claire Danes ("My So-Called Life"), is a refresh-

ing approach to Shakespeare, fusing fast-paced action with the come-liness of the adolescent romance of the two protagonists. It keeps its viewers on the edge of their seats with quick camera angles and changes of pace that are true to the roller-coaster harangue that is life. Moreover, the acting is superb, especially in the much developed roles of Benvolio and Mercutio, Romeo's friends and supporters in his supplication of Cupid. The renowned animosity between the Capulets and Montagues is given form by the encounters between Tybalt and Mercutio, which provide the movie with much of its suspense and illustrate the potency of the factions that would bring Romeo and Juliet apart.

Of course, the crux of the plot is the star-crossed and ill-fated love of Juliet and her Romeo. It is sincere and perfect (every man wants to find his Juliet, and every woman, her Romeo), chronicling their meeting and the look in their eyes upon seeing each other, from hopeless despair to hope and longing. They run from everyone else, and orbit about each other, their

meetings a good-natured sigh at the fact that there are still things that are simply beautiful and should remain untouched. If only this were the case; the ensuing miscommunication (doesn't that defeat most relationships today) are the events in the downward spiral towards the denouement (a pitiful resolution of the Capulet and Montague feud), which will pluck at the heartstrings of all those who see it. Though, one may leave the theater shaking one's head, there is still that hope, that gleam in the eyes that is always wary, seeking and searching for the "one."



BY PUBLIC RELATIONS

Saturday, November 16, 1996 / 8 p.m. Beckman Auditorium \$25.00 - 22.00 - 19.00

Some twenty-five years ago, four young musical wizards found the magic formula for distilling Celtic

n o w hear this.

BY RON DOLLETT

Recorded in a house on a hill like their hit debut album, Counting Crows returns to the music scene with their second release, *Recovering The Satellites*. The album can be considered "prototypical" Counting Crows, and fans will not be disappointed at all with *Recovering*. This sophomore release doesn't come anywhere near the mopeyness of *August And Everything After*, but it still has the same themes of romance, disillusion, nostalgia, and hope for some help in a confusing world. Adam Duritz, the lead singer and primary songwriter, continues his style of storytelling set to music on such slower tracks as "Another Horsedreamer's Blues" and "Goodnight Elisabeth." And of course, Y107

manages to play "Angels of the Silences" umpteen times a day. Counting Crows' new effort is a good album for any fan of "college" rock, especially since it isn't as dreary as *August* (the album even has a slight country twang to it), but their first album is a better starting off point for people trying to get interested in the Counting Crows. Recovering feels like an extension of *August* in that it combines the same elements of the original, and shows how the Counting Crows continues to develop their personal style of music. I'd rate this album 3.5 stars, but stars are so overused, so if anyone has any suggestions for some kind of "measurement," or any other kind of comment, email me at ron@ugcs. But until then, ***.5

Battlefield Band plays at Beckman

spirit and bottling it on record. Since the founding musical experiment took place in a Glasgow suburb called Battlefield, this intoxicating blend of bagpipes, synthesizer, guitar, cittern, fiddle and vocals was named Battlefield Band.

The four gentlemen soon revealed themselves as master smugglers of the real Scotland. They have been caught more than once trying to hook thousands of innocent world citizens on this intoxicating brew. Streams of critical praise and wildly enthusiastic audiences afford proof of their potency.

A quarter century is a long time, but the lads' enthusiasm has not flagged. Perhaps one reason for their success in keeping the music fresh has been the remarkably smooth and organic way in which new personnel have joined the band. For example, the current lineup, while featuring two members who have been with Battlefield since Saint Andrew was a baby (keyboardist/vocalist Alan Reid and guitarist/vocalist Alistair Russell), also includes two fairly recent additions.

Veteran piper Iain MacDonald joined after

years at the top of his field, including an extended stint with the well-known group Ossian. On the other hand, teenage fiddle prodigy John McCusker graduated to the band directly from high school, with a major in attending local Battlefield gigs and a minor in leading his precocious rock group Parcel O'Rogues.

This year all of us join Battlefield in a silver anniversary toast. Drink deeply and let yourself be drawn Forward With Scotland's Past.

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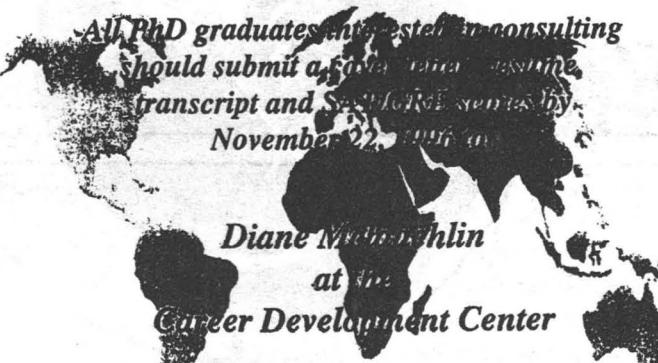
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Ph11, the Second Hurdle

It has become quite fashionable in the financial community to reduce the chance of loss on investments by "hedging". Evolution by natural selection may have already devised such schemes. For example, squirrels tend to hide/bury far more acorns than they retrieve to eat. This represents a loss of efficiency, because the squirrel expends extra energy (which comes from eating acorns) with a loss of immediate consumption. However, the misplaced acorns not eaten have a better chance of becoming new oak trees than those eaten or dropped by the tree at random - thus improving the long-term supply of future acorns.

Choose a reasonable set of parameters (and state your reasons for choosing them) to describe this situation and estimate

the optimal degree of inefficiency that natural selection should create in your idealized evolving squirrels. Does evolution always lead to the same optimum? (You may want to consider a concept called

*Ph11 - Second Hurdle (1997)
10/28/96*

s become quite fashionable in the financial community to reduce loss on investments by "hedging". Evolution by natural selection devised such schemes. For example, squirrels tend to hide/bury an they retrieve to eat. This represents a loss of efficiency, because the squirrel expends extra energy (which comes from eating acorns) with a loss of immediate consumption. However, the misplaced acorns not eaten have a better chance of becoming new oak trees than those eaten or dropped by the tree at random - thus improving the long-term supply of future acorns.

Choose a reasonable set of parameters (and state your reasons for choosing them) to describe this situation and estimate the optimal degree of inefficiency that natural selection should create in your idealized evolving squirrels. Does evolution always lead to the same optimum? (You may want to consider a concept called "the selfish gene".)

Also discuss the effects produced by periods of abundance/scarcity of acorns. What effect might the behavior of the squirrels have on the evolution

of the squirrel's reproduction strategy?

What effect might the behavior of the squirrels have on the evolution of the squirrel gene?

Clearly state all assumptions made. You may use any reference you like, but you cannot collaborate. The use of computers, etc. is OK. The hurdles are due by Monday, November 25, 1996 by 5 PM in 201 Sloan Annex. (You will be told whether you have won a place in Ph11 by early December).

"the selfish gene.")

Also discuss the effects produced by periods of abundance/scarcity of acorns. What effect might the behavior of the squirrels have on the evolution

of the oak trees? (For example, the reproduction strategy of flowers has definitely been affected by bees.)

Rules: Clearly state all assumptions made. You may use any reference you like, but you cannot collaborate. The use of computers, etc. is OK. The hurdles are due by Monday, November 25, 1996 by 5 PM in 201 Sloan Annex. (You will be told whether you have won a place in Ph11 by early December).

If you still don't know what Ph11 is all about, read the Clue reviews for Ph11. On the basis of your performance on the two hurdles, you may be offered admission to Ph11, which includes pay for summer (1997) research at Caltech at the current SURF rate (\$4000 for ten weeks). You can win a place in Ph11 even if you haven't worked on the first hurdle, and you do not have to be enrolled in Ph10 to be in Ph11. Start early, and good luck!

The Outside World

by Myfanwy Callahan

BELGRADE, SERBIA —

Western embassies said that Serbs are shipping weapons to Libya, violating the United Nations sanctions imposed there. Serbian officials deny the report, but a recent crash of a secret flight has informed intelligence sources otherwise.

KINSHASA, ZAIRE —

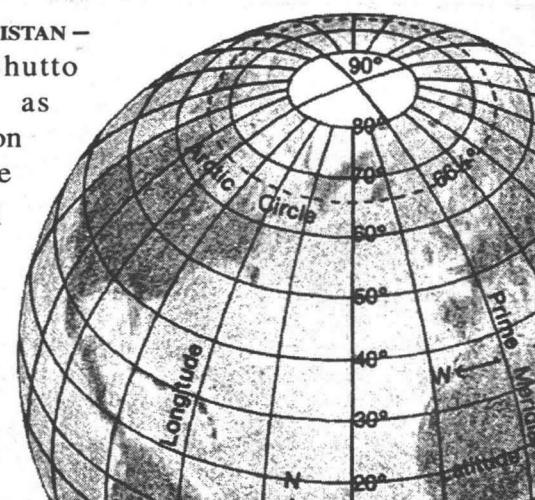
The government of Zaire is reeling from the loss of several major cities to Rwandan-backed rebels. The Zairian Prime Minister of Foreign Relations hoped that the U.N. will at least help the Rwandan refugees, numbering over a million, to go back to their country.

UNITED STATES —

In the past week, hundreds of pounds of wreckage from the TWA flight 800 crash were recovered. By dredging the site, workers are uncovering what may be an important clue to the disaster of July 17.

ISLAMABAD, PAKISTAN —

Benazir Bhutto was deposed as Prime Minister on Tuesday when the President, Farooq Leghari dismissed her government. She is being held in "protective custody" by the new government.



Caltech Womens' Center holds luncheon

by Amanda Schaffer

The Caltech Women's Center kicked off its series of lunchtime discussions about women's health issues on Monday, October 28. USC student health educator Paula Swinford led the discussion on sexual intimacy.

Swinford started by asking participants to compare messages about sexuality from various media groups, religious organizations, family, and peers. She then discussed the differences in sexual attitudes in men and women and the

importance of sexual self identity. Swinford concluded by answering questions from participants on topics ranging from birth control to maintaining sexual intimacy in a long term relationship.

The Women's Center will hold more lunchtime discussions throughout the year, each dealing with a different topic or health concern.

For more information about the program, contact Kathleen Schulweis, director of the Women's Center, at 395-3221.

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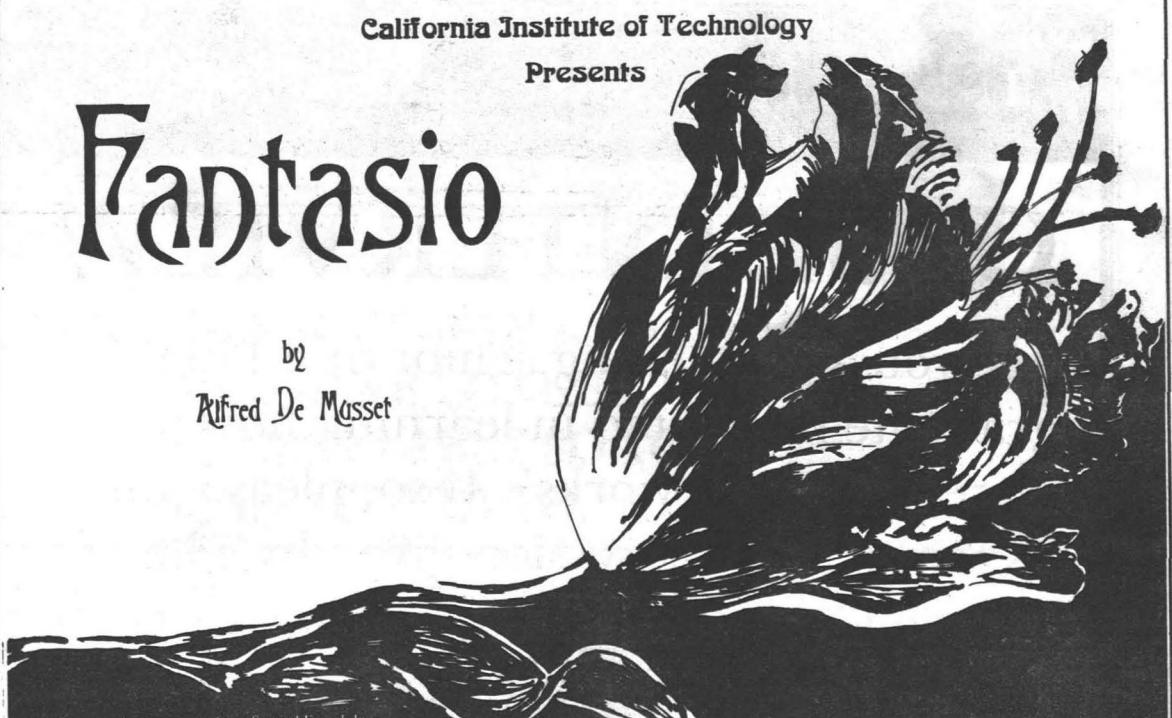
7:00 - 8:00 PM Bill Gross Talk - Avery Library

Look for more information at the BBQ about breakfast and lunch with Bill Gross on Thursday!

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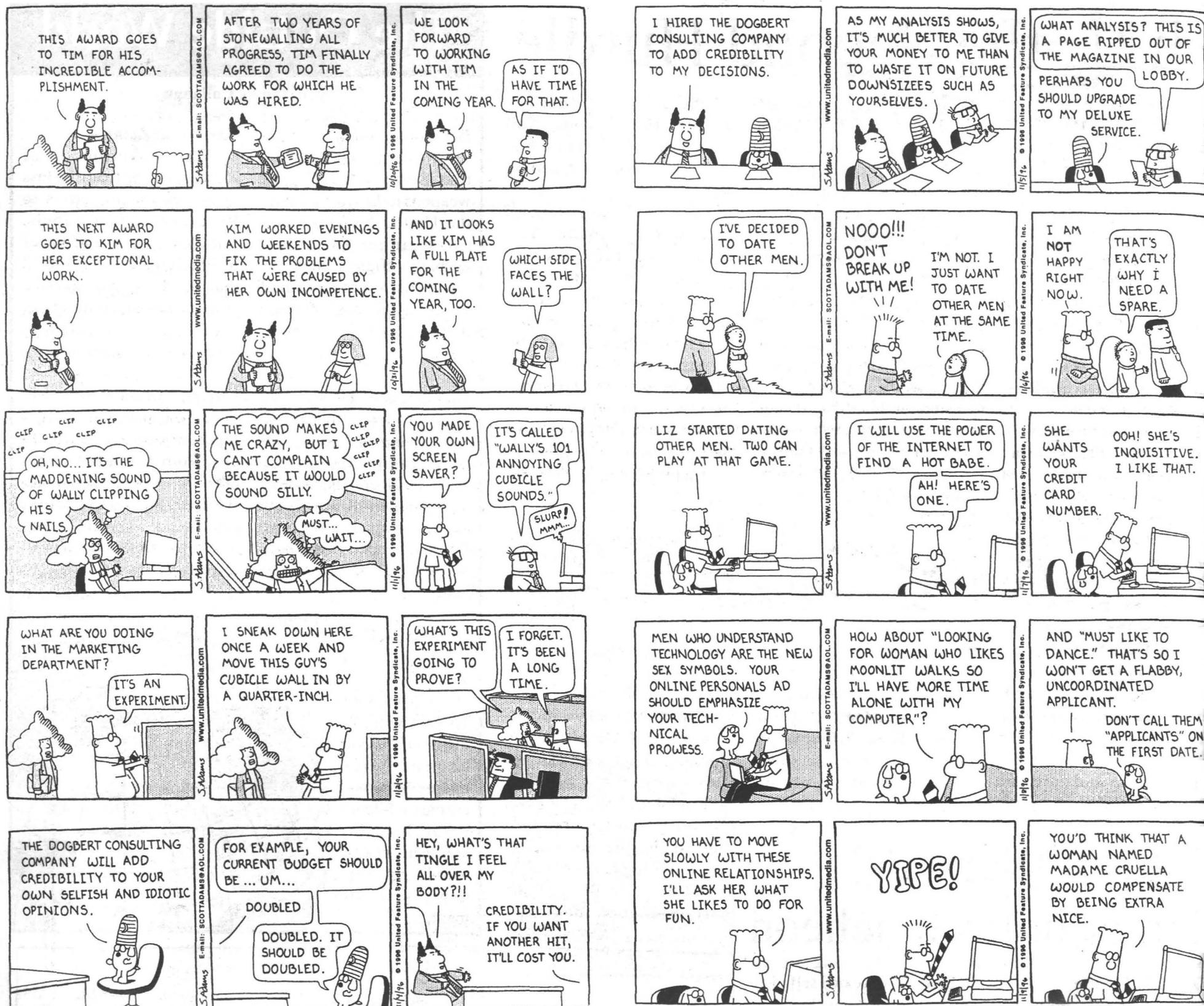
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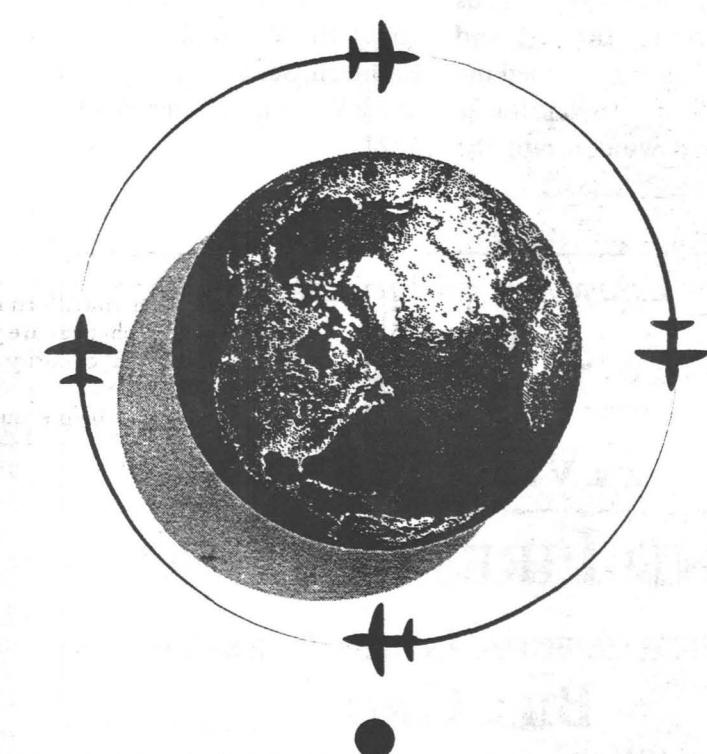
Monday, November 18

4:00-6:00pm

Beckman Institute Auditorium

Hosted by

Susan Moffet (BCG Los Angeles)



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Know your Ombudsperson

BY HELEN HASENFELD

What is an Ombudsperson and why is there one at Caltech?

The Ombuds position was instituted in 1986 by Caltech to provide a neutral person who works outside of normal institutional hierarchy to seek fair solutions to issues and concerns brought forward by students, faculty and staff. My role is to advocate for fairness, not for any particular person's point of view.

What Role Does The Ombuds Office Play on Campus?

The Ombuds office is available to the entire Caltech community, providing an alternative path to air issues or have concerns addressed quietly and in a manner that enables each visitor the opportunity to retain control of the resolution process. The office is completely confidential; no action

will be taken without your expressed written permission. Even in matters of sexual harassment and discrimination, your confidence is held and no action will be taken without your permission. The Ombuds office is the one place on campus where this level of confidentiality is accessible. In addition, I have the ability to access records and files here on campus, except those protected by privacy law.

No records are kept in the Ombuds office, nor does the office report anything back to Administration other than demographic information, such as how many people have used the office. If there is anything that can be construed as identifiable, it is left out of the report.

What will the Ombudsperson do?

When you come to the office, you may remain in charge of what happens. I will help you analyze your situation, help identify/

evaluate your options, and help you pursue them according to a plan of action that is developed. I will also facilitate informal conflict resolution process through discussion, mediation, shuttle diplomacy and informal fact-finding. I will not, however, participate in any formal grievance process, should the problem end up in that arena.

On a broader scale, I recommend changes in policy and procedures when those currently in place seem abusive, outmoded, arbitrary, or do not serve the population well. I also provide unfiltered, anonymous feedback to any and all members of the Institute.

To further the confidential nature of the office, it is located off the beaten path in the basement of Dabney Hall. Appointments are made by calling X6990 and walk-in appointments are often available. Feel free to make an appointment to meet me even if there is no pressing issue in your life at the moment that needs attention.

RADIO SHOW: KPCC

CONTINUED FROM PAGE 1

stem cells or cell lines would be used since these cells regenerate. It would only be necessary to harvest these cells once in order to cultivate a stem cell farm. Currently, however, one needs fresh fetal tissue.

The other guest in the Caltech hour was Dr. Michael Harrington of the Beckman Institute. Dr. Harrington and his colleagues developed a new test for brain disease about six weeks ago here at Caltech. It tests for the presence of a certain protein in the spinal fluid to determine whether someone has Creutzfeld Jacob Disease (CJD), the human version of the "mad cow disease" that plagued Britain's beef industry this year.

If protein 14-3-3 appears in the spinal fluid, the patient will be diagnosed with CJD. Because the test is also applicable to livestock, a living animal can be tested before being slaughtered. 20% of cows diagnosed didn't really have mad cow disease.

The protein detection approach has many implications. For example, disorders such as schizophrenia or Alzheimer's disease could be better understood, and even diagnosed earlier, because protein changes are clear molecular evidence of biological abnormality. Since diseases such as these manifest themselves differently in each individual, protein detection can also be used to check the effectiveness of a certain treatment, or whether the treatment is working at all.

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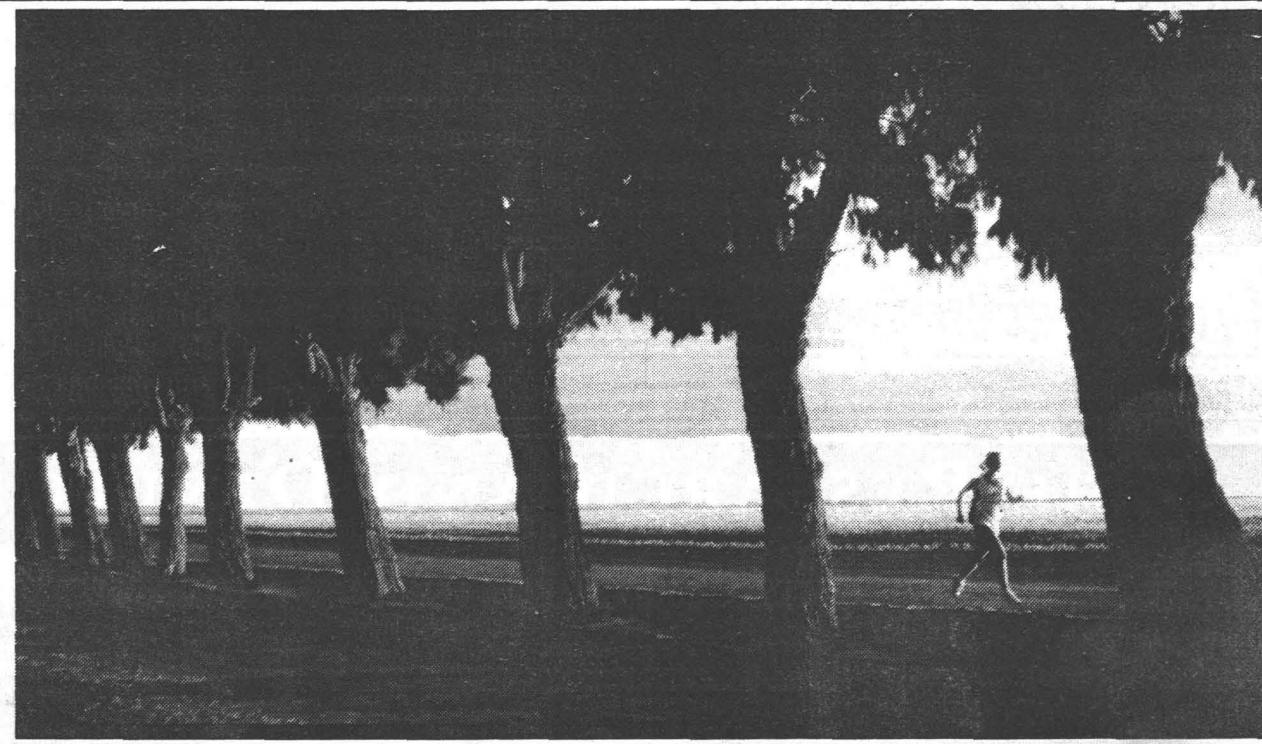
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1. Standard & Poor's Insurance Rating Analysis, 1995; Lipper Analytical Services, Inc., Lipper-Directors' Analytical Data, 1995 (Quarterly). For more complete information, including charges and expenses, call 1 800 842-2733, extension 5509, for a prospectus. Read the prospectus carefully before you invest or send money. TIAA-CREF Individual & Institutional Services, Inc., distributes CREF certificates.

SHWARTZ

Do you have any comments, concerns, questions, or suggestions about SCHWARTZ? If so, please e-mail the author at plotkin@cco. Thanks!



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- * Automobile Exhaust Emission Control: Current Issues
2:30-3:00pm
- * Changing Role of Manufacturing in Global Vehicle Development Process
3:00-3:30pm
- * Smart Cars
3:30-4:00pm

CARS OF THE FUTURE ON DISPLAY FROM NOON - 5:30 PM

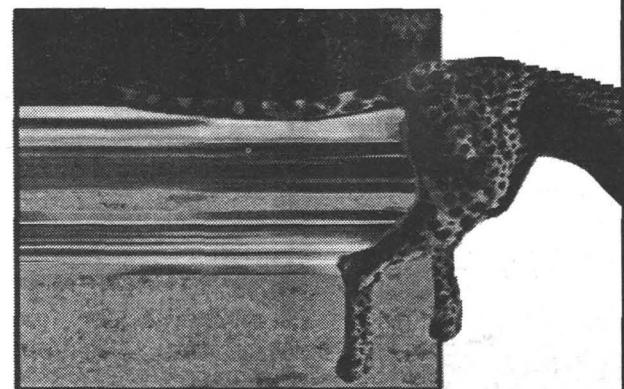
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On October 26th, the Caltech harriers went up against the rest of the SCIAC schools to compete in the Championship meet held at Prado Park in Chino. The men moved up from 6th place at the Multi-Dual meet to 5th in the Championship meet.

Brian Barris had a noticeable improvement moving up from 30th place at the dual meet to 17th place and taking an All-Conference spot. The highlight for the men came with Dan Kleiman winning the race in a time of 25:50. This win combined with the win at the dual meet, makes Dan the SCIAC Cross Country MVP for 1996.

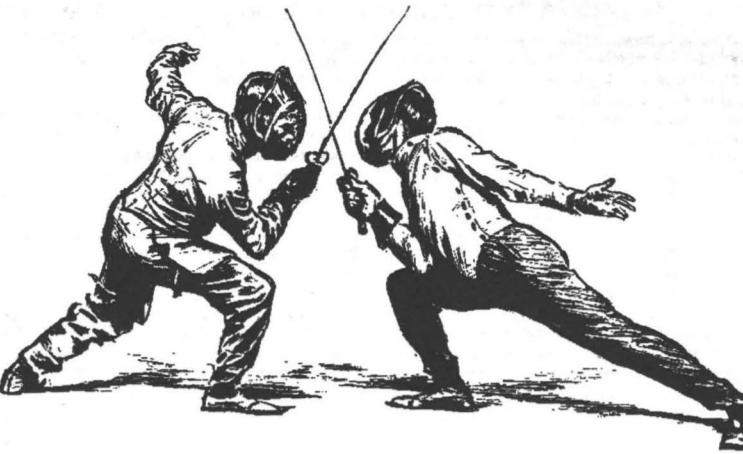
Congratulations, Dan!!!

Coach Bene was pleased with the entire team's performance. Conrad Ziesler finished in 28:45, followed by

Adrian Seymour in 29:22. Ian Shapiro crossed the line in 29:29, Brad Nakatani in 29:40, Arjun Mendiratta in 30:00, and Greg Detweiler in 30:09.

The women came in 6th place as they did in the Multi-Dual meet. Cailin Henderson moved up from 7th place to take 5th in the Championship meet. She finished in a time of 19:40 taking a place on the All-Conference team.

Also winning All-Conference honors was junior Sara Beaber who finished in 19th place with a time of 21:03. Aimee Pierce had a good race with a 36th place finish in a time of 22:13. Phyllis Chen and Karen Bletzer both finished in a time of 22:32 and took 44th and 45th, respectively. Katie Stofer crossed the finish line in a time of 26:31 which is a season best for her.

BY CALTECH SPORTS
DEPARTMENT

The Caltech fencers are gearing up for another strong year.

For the second year, they are under the guidance of Head Coach George Clovis. Key returners for the Beavers include senior Austin Collins. He is a 4 year member of Caltech's IFCSC championship saber team.

Last year, he took first place in individual saber in the conference and took fifth in Western Regionals. Austin is expected to win both IFCSC and WRIFC individual title this year.

Junior returners include Andrew Laucius, who is expected to finish in the top four individual saber. Daniel Hennessy and Wesley Salzillo also return with hopes of finishing in the top five or six.

Sophomores returning include Xavier Fan, Juan-Carlos Chan, Adrienne Bourque, and Joe Cook. The Beavers also have several promising new members who have a positive attitude that will greatly aid the team.

On October 26th, Caltech hosted the inaugural collegiate fencing tournament. It was an open meet with 95 competitors in 5 events:

Men's Foil, Epee, & Saber, and Women's Foil and Epee.

The Beavers came away with 2 medals. Austin Collins won the gold medal in saber, defeating a UCLA fencer 15-4. Adrienne Bourque won the other medal with a bronze in foil. Dan Hennessy, Kristie Armentrout, Cory Loomis, and Xavier Fan all made the final round of eight, giving the team a solid start for the season.

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Events

This week's ASCIT movie will be *Bladerunner*, showing at 7:30pm and 10pm in Baxter Lecture Hall. Admission is \$2 for members, \$2.50 for non-members (cheaper than renting!).

* * * "Science and the Soul: do human beings have a spiritual nature?" is the title of the Newman Center's Albertus Magnus Lecture, on Wednesday November 13th,

Mints

 denotes a new announcement or those @#&! darbs.

at 7:30pm in 24 Beckman Labs. Stephen M. Barr, Associate Professor at the Bartol Research Institute of the University of Delaware, asks whether physics justifies viewing all of reality in purely physical terms. Is the human mind a kind of biochemical computer? Dr. Barr obtained his Ph.D. in theoretical particle physics at Princeton.

Caltech is sponsoring a two day blood drive which will be held in the Winnett Student Lounge on Wednesday, November 13th, between 10:15am and 3:30pm, and on Thursday, November 14th, between 12:15pm and 5:30pm. Please contact Vilia Zmuidzinas via e-mail at hrvez@hr.caltech.edu or at x6001 for an appointment. Walk-ins are also welcome.

Travel lecturer Rick Ray will narrate his Armchair Adventures travel film "Raise the Bamboo Curtain: Viet-

nam and Burma (Myanmar)" on Friday, November 15th, at 8pm in the Beckman Auditorium. Tickets start at \$7 from the Caltech Ticket Office.

* * * Kevin P. Austin, Ph.D., Director of Caltech Student Counseling Services, will present a one hour talk entitled "Understanding and overcoming procrastination" in Winnett Lounge on Tuesday, November 19th, at 12pm.

Dr. Austin will discuss the psychological reasons that people procrastinate and give suggestions on how to overcome procrastination. This talk is for graduate and undergraduate students. Students are invited to bring their lunch.

The Aero Association of Caltech (aka CIT/JPL Flying Club) will hold its biannual General Membership Meeting on Wednesday, November 20th, 1996 at 7:30 pm in

Room 269 Lauritsen at Caltech. All members, pilots, and prospective pilots are welcome to attend. Former club member John Kounis will speak on "Flying Throughout Africa and Europe."

Dr. Angela N.H. Creager, Assistant Professor of History and History of Science at Princeton University, will be holding a Science, Ethics, and Public Policy Seminar entitled "Viruses In Campaigns And Crystals: Wendell Stanley's Polio Research" on Thursday, November 21st, at 4:00pm in the Judy Library, Baxter Building.

The Great American Smokeout is Thursday, November 21st. Since 1976, the Great American Smokeout has been held to encourage people to stop smoking and to increase public awareness of the harmful effects of smoking and tobacco use. For more information, contact the Health Center at x6393.

The Caltech-Occidental Concert Band will be holding a free concert directed by William Bing on Friday, November 22nd, at 8pm in the Beckman Auditorium. All are welcome.

From the Counseling Center

Looking for a safe and supportive place to discuss issues such as coming out, being out, dealing with family, coping with a homophbic culture, and being GLB at Caltech? Want somewhere just to make new friends? You are invited to the Gay/Lesbian/Bisexual Support Group, which meets on the first and third Tuesdays of each month from 7:30pm till 10:00pm in the Health Center lounge. This is a confidential meeting and attending does not imply anything about a person's sexual orientation—only that he or she is willing to be supportive in this setting. The group usually discusses a particular relevant topic and then moves on to the general discussion. Refreshments are served. If you would like more information, please call x8331.

Fellowships and Scholarships

From the Fellowships Advising and Resources Office, ext. 2150, e-mail lauran_stolper@starbase1.caltech.edu.

* * * The Department of Defense National Defense Student Education Grants are now available to all seniors and first year graduate students; the Fellowships Advising and Resources office will receive applications by next week. The application will also be available from the Web within the next week or so at <http://www.battelle.org/ndseg/ndseg.html>. The NDSEG supports work in almost all fields of science and engineering. The NDSEG provides three years of support for graduate study. No military service or sponsorship of the Department of Defense is required of applicants. This year's application deadline is January 15th.

* * * All Juniors, Seniors, and graduate students are invited to a Rotary Scholarship Meeting on Tuesday, November 19th, at 12 noon in Winnett Club Room 1. The Rotary has several programs: a one year fellowship for study in any Rotary country, a multi-year program for those who wish to earn a degree abroad, and a short-term 3 or 6 month fellowship to support language study. Juniors should plan to attend this meeting in particular as the application process takes place in the winter with finalists announced in the spring/summer. Winners of this year's competition would not leave to study abroad until fall of 1998. Seniors should not be discouraged from applying as there are productive ways to use this interim year. A pizza lunch will be served at the meeting. All wishing to attend this meeting are asked to RSVP to the Fellowships Advising and Resources Office via e-mail with your name and favorite pizza toppings by Friday, November 15.

* * * The Lady Davis Graduate and Post-doctoral fellowships and visiting professorships are tenable at Hebrew University of Jerusalem or the Technion Institute of Technology in Haifa for the 1997-98 academic year. Fellowships are open to candidates of any race, creed, sex, or nationality. Fellowships are tenable for 9 to 12 months for grad students and post-docs and for one semester to one academic year for visiting professorships. The application submission deadline is November 30th. Applications are available in the Fellowships Advising Office.

From the Financial Aid Office, 515 S. Wilson, second floor

* * * The College Women's Club of Pasadena Scholarship Foundation is beginning its scholarship selection for the 1997-98 academic year. To be eligible to apply you must be a woman who is a U.S. Citizen, a sophomore or higher, and have a minimum 3.0 G.P.A. Applications are available from the Financial Aid Office, and must be returned to the Financial Aid Office by February 7, 1997.

The American Electropolaters and Surface Finishers Society is offering scholarships to undergraduate juniors and seniors and graduate students who are interested in careers in the electroplating and surface finishing industry. Undergraduates must be full-time and must be majoring in metallurgy, metallurgical engineering, materials science or engineering, chemistry, chemical engineering, or environmental engineering. Applications must be submitted by April 15th, 1997.

Northrop Grumman is beginning their scholarship selection for 1996-97. They will be offering one scholarship to an undergraduate who has a career interest in the Aerospace/Defense Electronics Industry. Applicants must be U.S. Citizens, full-time students in 1996-97, and must have a GPA of 3.0 or above. Applicants must also be majoring in one of the following fields: Electrical Engineering, Mechanical Engineering, Aerospace Engineering, Computer Science/Engineering, or Manufacturing Engineering. The deadline has been extended. To apply submit a resume and an academic transcript to the Financial Aid Office by November 1st, 1996.

The John Gyles Education Fund is offering financial assistance to students in Canada and the United States Canadian or American citizenship and a minimum 2.75GPA is required. Selected students will receive up to \$2,500. The deadline is November 15th (postmark date). To receive an application, send a stamped (U.S. \$32), self-addressed No. 10 envelope to: The John Gyles Education Fund, Attention: R. James Cougle, Administrator, P.O. Box 4808, 712 Riverside Dr., Fredericton, New Brunswick, Canada E3B 5G4.

Applications are now being accepted for the 1997-98 National Academy for Nuclear Training scholarship. Scholarships are \$2,500 each and will be awarded to eligible students majoring in nuclear engineering, power generation health physics, or chemical, electrical, or mechanical engineering with nuclear or power options. Applicants must be U.S. Citizens, have minimum 3.0 GPA and be full-time sophomores, juniors, or seniors in 1997-98. Preference will be given to students demonstrating specific preparation for employment in the U.S. nuclear power industry. Applications must be postmarked no later than February 1st, 1997.

The American Society of Naval Engineers is offering \$2,000 scholarships for academic year 1997-98 to students who are interested in naval engineering. Applicants must be U.S. Citizens, must demonstrate a genuine interest in a career in naval engineering, and must be applying for either their last year as an undergraduate or for one year graduate study (doctoral candidates not eligible). The deadline to submit applications is February 15th, 1997.

The Jewish Family and Children's Services is pleased to announce the continued availability of financial support for Jewish individuals and their families. JFCS provides hundreds of students loans, grants, and scholarships to Jewish students. Individuals may apply for up to \$5,000. Special scholarships are available for study in Israel. To be eligible, students must have financial need, have at least a 3.0 GPA, and be residents of San Francisco, the Peninsula, Marin or Sonoma counties, or the Bay Area. There are no deadlines—applications are accepted throughout the year and are available in the Financial Aid Office.

The Elie Wiesel Foundation for Humanity announces the 1997 Essay Contest for the Elie Wiesel Prize in Ethics. The essay contest is open to full-time juniors and seniors. First prize is \$5,000, second prize is \$2,500, and third prize is \$1,500. Essays must be accompanied by completed entry form. To obtain an entry form, send a self-addressed, stamped envelope to: The Elie Wiesel Foundation for Humanity, 1177 Avenue of the Americas, 36th Floor, New York, NY 10036. Essay entries must be postmarked by January 17th, 1997. For more information about the contest, come to the Financial Aid Office.

Women who are full-time juniors in 1996-97 are invited to participate in GLAMOUR Magazine's 1997 Top Ten College Women Competition. This competition recognizes exceptional achievements; the vision, determination and academic excellence of female college juniors from across the country. Winners will receive \$1,000, the opportunity to meet with top professionals in their field, and national recognition in GLAMOUR's October 1997 issue. Applications are due January 31st, 1997.

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