



photo by Anoop Sinha

Phred the Pumpkin, weighing in at 96 lbs, 10 oz., was the subject of a Coffeehouse contest. Pete McCann was the winner of the contest, guessing a weight of 98 lbs, 5 oz., and received tickets to Universal Studios Halloween Horror Night. Second place went to Michael Smith, who guessed a weight of 98 lbs, 14 oz.; Michael is now the new owner of Phred.

Marcus Discusses Nobel Prize, PART II

Kevin Du & Anne Dudzik

(This is part two of the interview with Dr. Marcus. Part one was presented last week.)

Du: When you were looking down at this formula and all of your work, did you ever anticipate how widely used it would be?

Marcus: No, definitely not. I regarded it as a way of handling a problem in what seemed to be a relatively small field at the time, the in field of isotopic exchange reactions, and the field of some simple electron transfer reactions of a somewhat different kind called cross reactions, namely electron transfer reactions between two different redox systems. In contrast, isotopic exchange reactions occur between the oxidized and reduced forms of the same redox system.

The thing that has impressed me so much about the whole electron transfer field is how it has grown in so many directions. For example, in electrochemistry, right after this 1956 work, I wrote a paper that I never submitted on electron transfers at electrodes. It became a very widely quoted technical report, in 1957, an Office of Naval Research technical report. Later I published the equations of it in 1959. For a background on electron transfers at electrodes, an area quite new to me, I benefitted from a wonderful article by Roger Parsons which laid out all of the equilibrium theory for electrodes in contact with solutions. I was able to adapt it and treat nonequilibrium fluctuations in the vicinity of the electrode, fluctuations that permitted an electron to go from a molecule in solution or an ion in solution to the electrode, and vice versa. But then I extended this work to many different areas, the biological, for example, or to cross reactions of a type that had nothing to do with electron transfer. I have a slide that I often show at talks which shows many of these extensions. There among the reactions are those occurring at different types of electrodes: modified electrodes or semiconductor electrodes. Again, some of that work is being done by Fred Anson and Nate Lewis here, for example. Again the work on electron transfer in proteins that Harry Gray is doing has stimulated

me to look into long range electron transfer in proteins. Then there's been electron transfer between liquids, between reactants across an interface of two immiscible liquids. The scope, at present, seems to be unlimited. There's a process that's being used to study in detail the behavior and structure of molecules adsorbed on surfaces, scanning tunnelling microscopy, for which the Nobel Prize in physics was given a couple of years ago. We expect that some of the ideas, not the fluctuations aspect but the electronic interaction aspect that's new for us and that we've applied to proteins and other things, can be extended to treat the STM images. We're very much novices in that field, and in fact in the field of the electronic aspects of electron transfers and semiconductors, itself. A new study that people are making experimentally is based on putting ordered monolayers on electrodes and having electron transfer across that. The electronic effects are very important there, so that whole electronic interaction aspect, which is very interesting, is something that

"Nature has far more 'imagination' than we have.... There's a richness and unexpectedness in Nature."

— Rudolph Marcus

we're working on. About five years or so ago inverse photoemission in electrochemical systems was discovered. There are some very peculiar results there that are unexplained so far. You know there has to be an explanation, so that's part of the excitement. What we are going to do there is at least get started on the problem, not knowing the explanation but knowing we can explain parts of the experiment. One has to be willing to get one's feet wet, so to speak, to take a chance on something you don't understand.

D: That's good. So I guess that's really the beauty of it, looking at the unknown and trying to discover things in it.

M: Yes. Of course, not everything is like this. Sometimes one hears of a problem or some experiments and thinks 'That's something we can treat, and it's important to treat it, and perhaps we can treat it as well as or more easily than anyone else.'

Continued on page 7

The Practical Bohemian

Chris Echols

Ed Metzger's presentation on his upcoming one-man act *Einstein: The Practical Bohemian* took place Monday night, October 26, in Dabney Lounge. Sitting before a small audience, he related in his New York accent a lively and entertaining tale about how his show has developed.

The idea of doing a one man show occurred to him in 1976, when he thought about doing one of the Presidents. But this didn't appeal to him, so he searched for other ideas. The idea of a solo on Einstein, a scientist, would surely be boring, he thought, but when he took the idea to his wife, she was enthusiastic. So they went to the library....

They eventually contacted Einstein's son and met with him. His response: "Boy, do you have guts." But Metzger emphasized his underlying motivation to continue: "he [Einstein] touched us in a certain way that I wanted to find out about."

The first show opened in LA,

where it received tremendously positive reviews. He then took the show to New York in March of 1979, where the Einstein family saw him perform. Metzger was later entertained at Einstein's home, where he received only one complaint on his act: "Our cousin Albert...was a womanizer." The audience was quite amused by this and other anecdotes collected by Metzger through his years of work.

As his shown has grown more and more popular, he has been asked to perform at a considerable number of colleges and universities. In fact, Saturday's performance will be his third here at Caltech.

My impression was that Metzger is a very talented and remarkable

performer. His deep interest in his subject was clearly evident throughout his talk. His painstaking artistic efforts to portray the human side of one of the most intriguing men in history was also obvious. His dedication is also outstanding; his years of research were evident as crazy anecdotes about Einstein crept into his story. Metzger, through conversations with Einstein's closest friends and relatives, has learned the subtleties of a man we only know as a great thinker. His act should prove to be a delightful, entertaining insight into the most intriguing character of our time. The show is scheduled for Saturday, November 7, at 8 p.m. in Beckman Auditorium.

ASCIT Committees

Korhan Gürkan

It's once again time for those committees. I have put signups for the Academic Policies, Grievance and Athletics committees outside the ASCIT Meeting Room (next to the DRL's Office) in Winnett. These committees need one or two members each. Also, the Women's Center needs one undergrad on its Advisory Board and one on its Director Search Committee. There are also signups for these. You can signup for both positions. SIGN UP SOON!

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World News

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LETTERS

Environment
and Caltech

To the Editors,

New students as well as returning students have raised voices of concern, if not disgust, regarding some of the Caltech's practices that rub them the wrong way. Immigrants arriving from northern and eastern regions of the U.S. moaned about the incredibly green lawn on the Caltech campus and the effort, i.e., the watering, to keep the lawn so monochromatically 550 nm. "Why are the buildings so well lit at 2am?" another person asked me. "Why is there no campus wide recycling administered by the Institute?" These questions and many others are raised every year, if not every day.

CETF, the Caltech Environmental Task Force, a campus organization composed of students and staff members, has been asking these questions to the administration and has been addressing some of these issues with volunteer efforts. The recycling program that was started a decade ago by Prof. Judy Cohen has been expanded to the placement of over 50 yellow white-paper recycling bins on campus. A team of paid student workers maintain the recycling program. With regard to other issues, CETF has strongly encouraged the administration to appoint a study committee to consider efficient, unilateral, and uniform programs to solve or change Caltech practices that are environmentally unfriendly.

On Earth Day '92, President Everhart appointed the Administrative Committee on the Institute Environment where institute wide policy on the environmental impact is being considered. Physical Plant has been taking measures, e.g., changing the sprinkler heads to ones that uses less water. Caltech has a co-generation plant for campus power supply.

Are we done? No! Is it true that the recycling program is not complete? Yes! Does Caltech need to improve practices with respect to resource conservation and waste reduction? Yes! Are there many other environmental issues which Caltech can address but not raised above? Yes! Is it time to get moving? Yes!

Here are some things that you can do. When you receive wasteful campus mail items such as a pink sheet of paper with some notice, send it back to the sender requesting that such notice not be sent to everyone but posted on the bulletin board by the mail boxes, and if that is not possible, at least use half sheet of recycled white paper for such notices. When you see broken sprinkler heads, call 4717 to let the

repair crew know. Turn off lights if you are the last one leaving a room or a building. Recycle. Get that Saturday morning exercise by carrying a bundle of newspaper over to the recycling center located at the north end of the Chester parking lot—north of the Beckman Auditorium.

Complete the recycling circle by buying recycled products. Recycled products are recyclable for real, not just theoretically recyclable as many items labelled "recyclable" are. Take your own non-disposable mug to seminars and beer hours. Shower efficiently. Don't flush the toilet more than necessary. The list goes on for a long, long time. Please don't be restricted to these suggestions but creatively expand or add to them.

So, what is Caltech's program for environmental protection? You—for now. There should be institute policies. But since there is no comprehensive institute policy, yet, a grass-root lobbying for the enactment of such a policy is necessary.

In the meanwhile volunteer force must be employed for conservation and education. If you would like to join the recycling crew handling the white paper recycling and the maintenance of the recycling center, contact Chris at the Caltech Y, ext. 6163. (Work-study students are welcomed!) If you would like to join a group of voices advocating environmentally friendly policies, CETF meets every second Wednesday of the month at 5 pm in Clubroom 1 in Winnett. Happy conserving!

Sincerely,
Sakae Suzuki
Chairman, CETF

Clinton and
the Gay and
Lesbian Vote

To the Editor,

Many of us claim to have a personal stake in the outcome of next Tuesday's election. A flagging economy, runaway federal deficit, abortion rights, and an increasing gap between rich and poor are just a few examples of issues which may impact our lives in a personal way at some point in the future. Presidential candidates Clinton, Bush, and Perot offer us a spectrum of positions encompassing substantive difference on some issues (e.g., abortion) but very little in others (e.g., defense spending). To gays, lesbians, and bisexuals, however, Presidential candidates in this election present far greater differences on issues of personal importance than ever before.

In past elections, gays and lesbians have not voted as a bloc, since

party lines were not so clearly drawn on the issue of gay rights. This is dramatically illustrated by the inability of a leading gay magazine to decide between Dianne Feinstein and Pete Wilson in an endorsement for the California gubernatorial race. Two years ago, Governor Wilson made campaign promises to sign gay rights legislation, while a thriving gay Republican organization, the Log Cabin Club, supported him directly. Democratic candidate Dianne Feinstein, though mayor of a relatively progressive San Francisco, had shown herself to be surprisingly cautious about politically risking too much in support of gay rights. Gays and lesbians thus did not perceive a clear difference on their behalf between parties or candidates; our vote was not substantially different from that of a similar non-gay sample of the population.

Much of this began to change one year ago. With the veto of AB 101, a bill to prohibit job and housing discrimination on the basis of sexual orientation, Wilson raised the ire of gays and lesbians across California. He was widely perceived as breaking his promises in order to satisfy demands of far-right religious elements in the Republican party. His recent signing of a similar, but watered-down bill (AB 2601) came at a time when polls showed Americans responding negatively to a display of bigotry and hate spewed by religious conservatives at the Republican National Convention. It was interpreted by many as a disingenuous political move. Indeed, even the Bush campaign has back-pedaled on the meaning of their "family values" agenda ever since the Convention. With Wilson's veto of AB 101, gays, lesbians, and bisexuals have been persuaded that GOP pandering to the religious far-right renders every Republican candidate a risk in the fight for civil rights.

Bill Clinton has offered enough promises to warrant clear endorsement from every gay rights organization in the country. Clinton has promised to overturn the ban on gays and lesbians serving in the military. He has also promised to issue executive orders to ban discrimination in federal hiring, contracting, and the provision of government services, and has promised to sign a federal gay civil rights bill banning discrimination in housing, employment, and access to businesses and public institutions. His program on AIDS includes appointing an AIDS policy director to head a "Manhattan Project" to implement the recommendations of the National Commission on AIDS. These recommendations were completely ignored by the Bush administration, prompting resignation of Commission member Magic

Johnson. While many gays and lesbians are understandably skeptical about Clinton's determination to fulfill all of these pre-election promises, we find them clearly preferable to anti-gay rhetoric placed in the Republican Party platform. Come election day, the "Lavender vote" will be united!

The Caltech Gay and Lesbian Society (CLAGS) is watching this Presidential race with passionate hope. Come election day, we will join together to watch incoming returns; we expect to celebrate the dawn of a new political era for the Gay, Lesbian, and Bisexual community. New supporters are welcome to join us. For information, call 792-2729.

Sincerely,
David Koerner

Remember
Barry Robert
Krueger

To the Editor,

Last night, on the way back to my room, I happened to stop off in the Fleming House Library. After looking around, I noticed that the portrait of Barry Robert Krueger (July 19, 1965 - October 29, 1990), former Resident Associate of Fleming House, was crooked. So, I stood on the table to straighten it. It was at this time that I noticed that some one had taken some sort of a pin and poked a hole where each of Barry's pupils should be. Needless to say, I was extremely disturbed, but I wanted to calm down before I did anything.

Today, hoping that I was mistaken, I stopped again in the Library, this time with a friend. Upon inspection, it turned out that not only were there holes, but some one had also drawn over the pupils with a black ball point pen. After finding this, I took the portrait down, because, at this point, I don't think the Library is secure enough to store such a valuable possession.

As yesterday (Thursday) was the two year anniversary of his death, my discovering this is ironic and perhaps even tragic. I can only hope that the responsible person(s) did not know Barry, because any one who did would be completely incapable of doing him, his family, Anita Harper, the remaining RA, and the members of Fleming House such a dishonor. Barry was always there to greet you with a big bear hug and his bearded grin (usually in a worn-out rugby shirt). I feel proud to know that Barry was a big part of my life here at Caltech. He was one of the nicest people I will probably ever have the pleasure to know, and I miss him dearly. We, the members

of Fleming House, will never forget him. Ever.

I am not sure why I am writing this. On the one hand, this shows complete disrespect for the Honor Code here at Caltech, as well as to Fleming House as a whole. Remember, the Honor Code applies to all facets of life, not just academia.

I think my main point is that I want everyone to Remember Barry Robert Krueger. One of the most important things anyone can do during their "college experience" is to remember, and to pass this recollections on to the next class of students. When I think of all of the people of which there are many distasteful and infamous memories (who will remain nameless), I am relatively sure that these stories will continue to grow and live for years to come. I am saddened by the fact that memories of wonderful people are not passed on as well. Barry was a Material Sciences graduate student whose brilliant life was cut short because of a motorcycle accident. He was a wonderful asset to the House and the Caltech community as a whole. There is no reason why he, and other notable people who have touched our lives, should be forgotten.

I don't expect the guilty party to come forth. I just want them to know just how serious their little prank is. Irreparable damage has been done, and money has nothing to do with it. Please take a few more moments to remember, and to pass that memory on.

Sincerely,
Jessica Anne Nichols, '93

THE CALIFORNIA TECH

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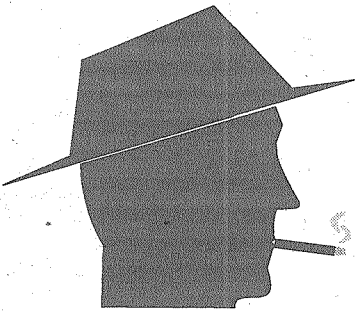
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Crime & Incident Beat

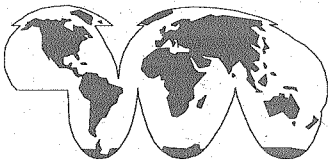


crime tip: Don't leave your sleeping roommate behind to protect your goods.

- 10/21 A Scurve left her room unlocked while attending classes. When she returned she discovered that her answering machine had been stolen. (\$100)
- 10/22 A car parked at the Tournament Park parking lot was stolen. (Sunkown)
- 10/22 The cable TV box was stolen from the Braun House Lounge. The cables were cut. (Remember that these folks had their television stolen over the summer). (\$200)
- 10/23 A black leather jacket was stolen out of an open office on the first floor of BBB. (\$200)
- 10/23 Dabney's traditional autumn courtyard fire was extinguished by the Pasadena Fire Dept. A neighbor on California Blvd. reported the blaze. (\$0)
- 10/24 The rear wheel was stolen from a Peugeot bike locked on the south side of Steele Lab. (\$60)
- 10/25 A student from the first floor of Page left his room door open for a short time. When he returned he found a guy leaving his room carrying his boom box. The student yelled after the thief, but he didn't stop. When the student entered his room he found that \$100 cash was also missing. His roommate slept through the entire episode. (\$300)
- 10/25 One of the Ricketts pinball machines had its coin box pried open. (\$28)
- 10/26 Fire alarm in Fleming was set off by a frisbee. (\$0)
- 10/26 Over past month, the lightbulbs in the walkway by Annex have been deliberately unscrewed on six separate occasions, thus making the walkway quite dark at . (\$0)
- 10/27 A juvenile was found stealing aluminum cans from the recycling center. He was advised that he was trespassing on private property. (\$0)
- 10/27 A very careful thief apparently stuffed a paper towel in the strike plate of a room on the third floor of Noyes. Then when the office was vacant for a short period of time, the thief returned and stole a bicycle from inside. Nothing else appeared to be taken. The paper towel was found still jammed in the strike plate. (\$300)

This Week's Total: \$1188

World



News

Huy Le

U.S.-Vietnam Relations

President Bush announced that the Vietnam War is nearing its complete end as Hanoi agreed to open its archives on missing American soldiers and that both nations are approaching normal relations. He has already authorized humanitarian aid to the Vietnam but is still seeking a full account of the 2,226 Americans still listed missing.

Canada

A package of constitutional amendments, written to keep the country united, was put to a national referendum and rejected by Canadian voters. The future of Canada now remains uncertain: the French-speaking province of Quebec might now move toward independence, and the current Prime Minister may be replaced.

Yugoslavia

Election votes at the end of the year will offer the people of Yugoslavia a choice between peace or condemnation as an outlaw state. However, a ballot for peace, which will depose the current Serbian President, Slobodan Milosevic, may spark civil war if Milosevic goes to extremes to stay in power.

Bosnia

A new study conducted by the U.S. government at the request of

the U.N. Security Council reveals thousands of atrocities committed during the continuing ethnic struggle in the remains of Yugoslavia. Serbian forces were accused of most, but Muslim Slavs and Croats were also held responsible.

Another U.N. report warned that the Muslims in Bosnia-Herzegovina are facing virtual extinction from ethnic cleansing by the Serbs, unless foreign countries act to save them before winter.

Czechoslovakia

Czechoslovakia is officially breaking in two, as a result of the Slovak republic's declaration of independence, which was not contested by the Czech state. The dissolution of the country is a result of Slovak beliefs that their counterpart state was receiving preferential treatment from the federation.

Egypt

A luxury cruise and a tour bus full of tourists were shot at by Islamic extremists, who have decided to target Egypt's tourist industry, the country's biggest earner, after high-level political leaders. The fundamental group wants Islamic law to be implemented in Egypt.

Israel

Prime Minister Yitzhak Rabin, tired of the feuding that is afflicting the government, threatened to resign unless all parties of his cabinet supported him in seeking to form a more broadly-based and stable government.

In response to a bomb attack that killed five of its soldiers, Israel heavily bombarded suspected guerrilla bases in Southern Lebanon. The Islamic group Hezbollah, thought to be responsible for the first bombing, then retaliated in a rocket attack on northern Israel. Casualty reports are sketchy. Prime Minister Yitzhak Rabin announced

that the guerrilla attacks would not disturb his efforts for Middle East Peace. Later on, he said that he will try to reduce the tension, even as he mobilized forces into the southern Lebanon "security zone."

Russia

A conservative opposition to President Boris N. Yeltsin's government conducted its strongest protest by rallying demonstrations in 60 cities. As a result, Yeltsin banned the National Salvation Front, the opposition group, in a move that even his allies have denounced as anti-democratic, as well as Parliament's elite guard unit.

China and Hong Kong

The Chinese government threatened to confront Hong Kong if they continued on with democratic reforms before the colony returns to China in 1997. China plans to undo any reforms it disapproves of.

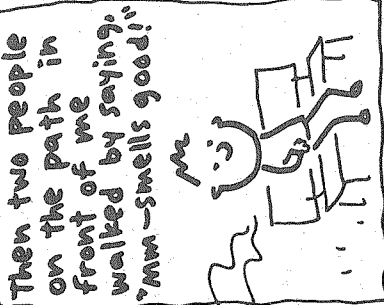
Sino-Japanese Relations

Japanese Emperor Akihito, visiting China to improve relations between the two countries, expressed deep regret for Japan's aggression on China in the past. The apology now opens doors for economic cooperation and greater diplomatic closeness.

Japan

Japan's Liberal Democratic Party which has been in control since 1972 is nearing schism as its parliamentary faction chose a controversial new leader. A majority of the faction's steering committee approved Keizo Obuchi as chairman of the faction. However, followers of Ichiro Ozawa, who was the faction's deputy chairman under the previous leader Shin Kanemaru, said they will not accept the decision.

The Tech will meet in the Coffeehouse at 12.15 PM today. Come and explore opportunity. Free Pizza will be provided.



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ASCIT Minutes October 27 Meeting

ASCIT Election '92

The election results are in:

Bylaw Amendments

Proposal 1 ("Undergraduate Only" clause):

Yes:	213
No:	15
Abstentions:	7

Proposal 2 ("Associate Dean" clause):

Yes:	206
No:	19
Abstentions:	7

Proposal 3 ("Sidebar" clause):

Yes:	213
No:	14
Abstentions:	8

Director for Academic Affairs

John McDunn:	103
Craig Smith:	38
Selaka Bulumulla:	15
Angus:	4
Egon Pasztor:	2
Jason Curtis:	1
Jason Lee (Jr.):	1
Morpheus:	1
"My Mom"	1
"No"	42
Abstentions:	27

Last week, we did not have a meeting since there was not a quorum. This week, we even have a new member; Jonathan McDunn, the new Director for Academic Affairs. Welcome aboard, Jon!

Yes, Fru is back. How is the sound system, Fru? This time the problem is that the ASCIT Movies people have been missing Friday dinners since they're setting up the equipment. Fru wants some money for pizza and stuff. The BOD thinks he should approach Lee Reeves first.

Mudeo: Stan is busy getting ready for Mudeo. TFM is supplying the food and Stan is asking for support from ASCIT, Y and Dean's Office. He needs \$175 from ASCIT. The BOD decides that the money should come out of Derek's Budget (7-0-0).

Speaking of Derek, there is no Halloween Party this weekend mainly because the houses could not get together due to some orga-

nizational problems. I guess we'll have a party at the new gym some other time. Well, as for this weekend, go to some other school.

Meanwhile, Blacker gets their \$300 for the term.

At this point, Amit realizes that it's about time that he introduces us to our newest member. Hi Jon, this is Ben Smith, the IHC Cha.....Ben... Ben...Hello... I guess Ben is not at the meeting again. WHERE IS BEN?

Jon is sworn in. It's now official.

By the way, all the BOC amendments and the paid BOD trip to Mayorka were approved at the elections on Monday. (Alright, I just made up the last one. Relax, it's not true.) Mike thanks everyone who voted. Speaking of elections, all foreigners, don't forget to mock the vote on Friday at the Red Door Cafe. I guess the rest of you will have to wait for Tuesday.

President's Dinner: The student officers were at a dinner earlier on this evening with some administrators. Our kind hosts were Mr. & Mrs. Everhart. (Nice house by the way) We discussed a lot of different issues concerning the undergraduate life at Caltech. Both parties seemed to have a positive attitude in trying to solve the problems. But, I guess the bottom line was communication. Folks, if you have a complaint let people know about it, especially the ones in charge. It's important that both parties have an understanding of each other, so that better things can be done.

Committees: SIGN UP!!! I have put signups for the Academic Policies, Grievance and Athletics committees outside the ASCIT Meeting Room (next to the DRL's Office). Also, the Women's Center needs one undergrad on its Advisory Board and one on its Director Search Committee. There are also signups for these. You can signup for both.

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ENTERTAINMENT

Fixin' to Die is an informative, and touching, depiction of Lee Atwater

David W. Hogg

This article is the first in a series of reviews of arts-related activities that can be performed without a great deal of money or the use of a car. This week, I review a play at the small, inexpensive Tamarind Theatre in Hollywood: "Fixin' to Die: A Visit to the Mind of Lee Atwater."

Lee Atwater (1954-1991) was the engineer of George Bush's 1988 presidential election campaign. Before that, he had worked on the campaigns of several southern Republican senatorial candidates, and on the presidential campaign of Ronald Reagan in 1984. Among other instances of negative campaigning, he is credited with masterminding the "Willie Horton" ad campaign, which, in effect, accused the Democrats of being responsible for a rape and beating by Mr. Horton while he was out of jail on a weekend furlough. Mr. Atwater was a great demographer in that he understood the American populace, and he knew how to appeal to their senses of injustice and disillusionment. He realized that MTV was the key to converting young audiences, and that a concentration on welfare spending and crime would

attract the white lower-middle class. His success with the 1988 presidential campaign secured him the Chair of the Republican National Party, which he held until he died of a sudden brain tumor in 1991. It is widely believed that the 1992 Republican campaign has suffered enormously from the loss of Mr. Atwater.

"Fixin' to Die" is an attempt to depict Mr. Atwater (played by Bruce McIntosh) during the times that the American public never saw him. Robert Myers's script portrays Mr. Atwater as he tries to convince Ronald Reagan to advertise on MTV, as he gets the idea for the Willie Horton campaign at a motorcycle convention, and as he explains his overwhelming stress and nagging depressions to his wife. Mr. Myers points out, correctly, that Mr. Atwater did not invent negative campaigning; he was just very good at using it. He was hired to get Republicans into office, and he succeeded.

The performance is very fast, funny, and informative. It concentrates on the political and not the personal, but despite this we do get a sense of Mr. Atwater as a very driven, energetic, and somewhat

unjustly-vilified individual. Those that called him "racist" and "hateful" may have been projecting onto the man characteristics of the system that employed him. By the end of the play, the audience is sad to see a man die, not relieved to see a bad influence removed from American politics.

"Fixin' to Die" is a one-man show, with all characters played by either Mr. McIntosh or life-size cardboard cut-outs. The staging is simple, and the style is reminiscent of stand-up comedy, which augments the script's humor. I feel compelled to complain about the sluggishness of the Tamarind's spotlight, but other than that, the minimal production works well on a piece devoted to a single mind.

I expected "Fixin' to Die" to be a somewhat tasteless diatribe against Mr. Atwater's political activity. However, it turned out to be a fairly humane and sympathetic portrait of a man who was widely regarded as neither humane nor sympathetic, and whose influence on American politics was huge. I strongly recommend this play, both as a document of history and as a piece of art.

* * *

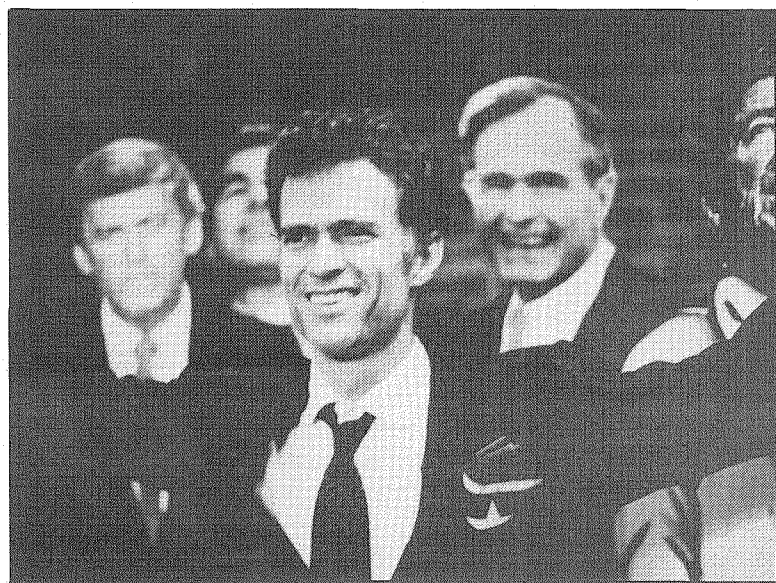


Photo by Tom Kendall

Bruce McIntosh plays Lee Atwater in *Fixin' to Die* at the Tamarind Theatre.

After the show, check out the Bourgeois Pig (5931 Franklin Ave., Hollywood, 213.962.6366), a couple of store-fronts up the street. The espresso is thick and smooth, if expensive, and you can cut the melodramatic, post-modern atmosphere with a knife.

* * *

"Fixin' to Die: A Visit to the Mind of Lee Atwater" at the Tama-

rind Theatre, 5919 Franklin Ave., Hollywood, 213.465.7980, Thursdays and Fridays at 8:00 p.m. through November. Tickets are \$15. RTD instructions: Take the 180 or 181 from (e.g. Lake and Colorado in) Pasadena to Gower and Hollywood Blvd. Walk North to the next major street, Franklin, and the theatre is three short blocks East.

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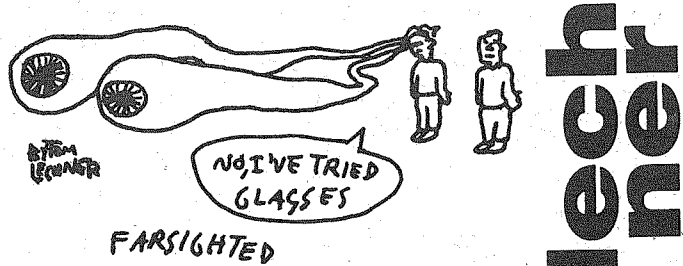
Katy Quinn

Happy Halloween everybody! How are those midterms? Mine are pretty scary, ha-ha. Talking about scary stuff, how about that presidential election coming up? Time for an editorial aside; please note that the views of yours truly do not reflect those of the Caltech Y, I am just blatantly abusing my position as editor of the Y News.

Being a non-citizen, this is the first American presidential election that I've seen and frankly I'm a little confused. Someone was trying to explain how the "electoral college" works and it was pointed out that someone could become president with just 26% of the votes of the actual population. Sort of throws some of the arguments for a two party system as opposed to a multi-party system out the window. Maybe I'm just a confused Australian. Or maybe not.

Let's see what's happening in our own little slice of America. Upcoming events at the Y are a Meditation workshop in Clubroom 1, November 4, 7:30 pm; a free preview lecture with Ed Metzger who will portray Einstein in a one-man show in Beckman Auditorium, November 5, 7:30 pm. The Y also has \$7.50 tickets for his November 7 performance. We have tickets to the Pasadena Symphony (\$7) and to AMC, UA, and Pacific Theatres (\$4).

The Caltech Y is open 9 am to 5 pm, Monday to Friday, on the second floor of the Winnett Student Center (across from the Red Door Cafe). Come on up and say "hi", chances are we'll say "hi" right back to you.



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The program provides the opportunity for professional development through on-the-job experience and exposure to the Bank Group's operations and policies. Young Professionals start their work in the Bank Group with two six-month assignments in different departments. Treated as full-fledged staff members with specific responsibilities, they are expected to make significant contributions to the work programs of their departments. Each assignment typically involves at least one field mission.

Each year, about 40 people are selected for the Program, following an international competition to which more than 3,000 people apply. Candidates for the Program must have a master's degree or equivalent in economics, finance, or a technical field used in the Group's operations—plus a minimum of two years' work experience in areas relevant to the Bank Group's operations, or academic study at the doctoral level. The technical fields of particular interest to the Bank Group are agronomy (extension services, irrigation), civil engineering, environment (solid waste management, industrial pollution control, water sanitation), and public health. All candidates are expected to have superior academic records. Work experience in a developing country is also a strength, and is particularly important in technical fields. In addition, fluency in English is required, and speaking proficiency in one or more of the Bank Group's other working languages—Arabic, Chinese, French, Portuguese, Russian, and Spanish—is a plus. Candidates must be 32 years of age as of next July 1 to be eligible.

The Program looks for five characteristics when recruiting Young Professionals:

- Strong analytical skills, demonstrated by academic success and other achievements;
- Flexibility and the capacity to work in more than one part of the organization;
- Enthusiasm for, and a commitment to, development work;
- Maturity, tact and diplomacy;
- Interpersonal and communications skills for working in an international organization.

Most selected candidates exceed the minimum criteria of education and experience. In the past, more than half have had training at the doctoral level, and those with master's-level education typically had more than three years' professional experience.

Applications for the Young Professionals Program must be received by November 10. Offers are made to successful candidates the following March. Applications may be obtained by writing to:

The Young Professionals Program
The World Bank
Room 0-5083
1818 H St NW
Washington DC 20433

State Ballot Measures: Propositions 155 - 167

Chris Echols

Proposition 155

Would authorize the State to sell \$900,000,000 in bonds to fund the building and renovation of K-12 schools. Total cost to the State, over 20 years, is estimated at \$1,600,000,000.

Pro:

1. Increasing enrollments demand more schools.
2. Schools need to be made earthquake safe.
3. New school construction and old school renovations will create jobs and boost the economy.

Con:

1. The State's budget needs to be cut; the State cannot afford another bond issue.
2. The State is required to spend at least 40% of its budget on schools—that would be plenty if it weren't wasted by inefficiency.
3. Private schools are better than public schools.

Proposition 156

Would authorize the State to sell \$1,000,000,000 in bonds to finance the construction of the State-owned

transportation system. LA Blue, Green, and Red Lines and Metrolink are eligible for funding. Intercity rail service would also be financed. If the bonds are sold at 7% interest, the cost to the State would be \$1,700,000,000.

Pro:

1. Would reduce traffic congestion and air pollution.
2. Would put people to work.
3. Would fund projects that are already planned and ready to go.

Con:

1. Too expensive.
2. Transportation bonds authorized in 1990 are not all sold.

Proposition 157

Would make toll roads owned by the State and leased to private companies free after 35 years or when the company's lease expires.

Pro: We already pay taxes to support roads. There is no reason for tolls.

Con: After 35 years, the public would be stuck with worn out highways. Also, the money for the roads would have to come from somewhere—probably higher taxes.

Proposition 158

Would create the Office of California Analyst to replace the current Legislative Analyst's Office. The new office would be a part of the State constitution.

Pro: Putting the office in the constitution guarantees the survival of a valuable non-partisan voice in the State government.

Con: The measure is an attempt by incumbents to circumvent the spending limits imposed by Prop. 130 and funnel money into perks and personal staff.

Proposition 159

Would put the Office of the Auditor General in the State constitution. The Office of the Auditor General, which was cut from the government by Proposition 130 in 1990, would audit state agencies and programs.

Pro: In the past, the auditor general has saved taxpayer's money through non-partisan, objective audits.

Con: This is a move by the legislature to increase payrolls of political staffers.

Proposition 160

Would give property tax exemption to the surviving spouses of people who died in active military duty.

Pro: The current law is unfair because it provides property tax exemption to disabled veterans and their spouses, but it does nothing for the spouses of veterans killed while on duty.

Con: Prop. 160 is unfair because it discriminates against those whose spouses died after leaving military service and those whose spouses died in other dangerous services such as the police.

Proposition 161

Gives the mentally competent adult the right to request assistance in dying from a willing doctor when a terminal condition is diagnosed.

Pro: Concerns consenting adults.

Con: The State shouldn't allow

people to make their own decisions.

Proposition 162

Would give the governing boards of various public pension systems, such as the Public Employee's Retirement System, control over their own assets.

Pro: Would prevent the legislature from taking money from the pension funds of state employees.

Con: Would give control of public pension funds to governing boards that aren't controlled by any elected body.

Proposition 163

Eliminates sales and use taxes on certain foods, including candy, bottled water, and snack foods. "Snack foods" are cookies, crackers (but not graham crackers), potato chips, snack cakes and pies, corn and tortilla chips, pretzels, things made out of granola, popped popcorn, fabricated chips, and fabricated snacks. Prop. 163 would reduce State revenue by \$330,000,000 and local governmental revenues by \$120,000,000.

Pro: Sales taxes on food products places a greater tax burden on those who can least afford it—the poor.

Con: The State needs money.

Proposition 164

Places a term limit on members of Congress from California. Beginning in 1993, Prop. 164 would limit the terms of Representatives to six years out of eleven, and Senators would be limited to twelve out of seventeen years.

Pro: This measure will keep legislator's "in line" and will prevent career politicians.

Con: California's will constantly have junior Congressman and will therefore lose power in Congress. The proper way to remove politicians is not to vote for them.

Proposition 165

This measure concerns two things.

First, it requires the governor to introduce a State budget by March 1. A budget must be passed by June 15. If one is not passed, the governor and legislators will lose their salaries until a budget is passed. Also, the governor's powers on budget matters would be increased, subject to certain conditions, in the event a budget is not passed by July 1. Second, it reduces AFDC (Aid to Families with Dependent Children) cash grants by about 15%.

Pro: Would prevent budget deadlocks and get more people off of Welfare.

Con: Gives the governor too much power over the budget and would hurt people who are dependent on the State.

Proposition 166

Would require employers to provide health insurance to employees who work more than 17.5 hours per week, with most of the expenses going to the employer. The State would help out small business of 25 or less employees by means of a tax credit.

Pro: Four million uninsured employees would be provided with quality health insurance.

Con: Just what is the role of government, anyway?

Proposition 167

State sales tax would be reduced from 6% to 5.25%. Tax rates would be increased 1% (from 11 to 12%) for couples earning over \$500,000 and individuals earning over \$250,000. Tax rates for corporations would be increased, tax rates on insurance premiums would be increased from 2.35% to 2.46%, and oil pumped from the ground would be taxed at a rate of 3%.

Pro: Punish those who succeed! They don't have a right to their money!

Con: Maybe we should think about what government is really for. Maybe the guys who wrote the Constitution had something else in mind....

Bridge Without Sam

Jeff Goldsmith

Hamilton

Playing in a regional open pairs against a famous pro on my left and a client on my right, I pick up in second seat

♠KQ10975 ♥3 ♦J3 ♣K932

The client opens a weak two in hearts on my right and I have a problem. A 2♠ bid is technically an overbid, but passing may end up letting them play the hand when we have a game. Remembering the advice that the partner short in the preemptor's suit should strain to bid in order to take pressure off partner, I overcall 2♠. The pro raises to 3♥, and after pronounced agony, partner jumps to 4♣, ending the auction. The pro leads the ♥Q and I get this dummy:

♠ AJ
♥ J1065
♦ K954
♣ AQ7

N
W E
S

♠ KQ10975
♥ 3
♦ J3
♣ K932

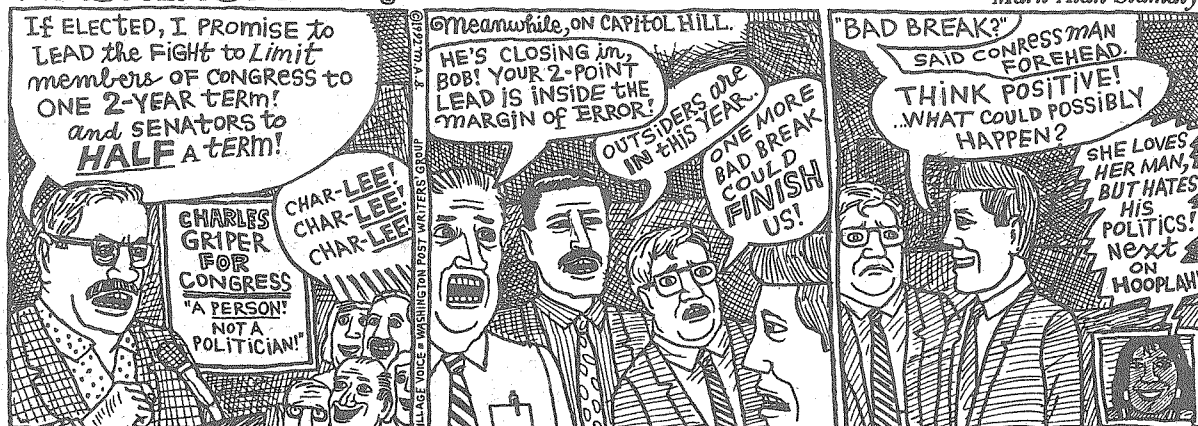
While laying down the dummy, partner says, "Don't make seven." LHO, famous for his reserved manner, replies to my partner, "What have you been smoking?" After a few guffaws from around the table and a red-faced partner, the ♥Q holds and the pro continues with the ♦A. He exits with a low diamond and I win with the King. I cash the trump Ace and everyone follows. I continue with a diamond from dummy and RHO pitches a heart while I ruff. I cross back to the ♠J and RHO pitches another heart. What is going on?

RHO had one spade and two diamonds. He also probably had six hearts and four clubs. I ruff a heart from dummy and LHO follows with the deuce, so I can claim, "Drawing trumps, double squeeze." The pro looks at my hand and says, "Play it out." I reply "It is actually a single squeeze played as a double. Your partner will be squeezed in hearts and clubs, but if you had held the club guard, I would have had you in clubs and diamonds. Making five?" He still wants me to play a few more cards, so I draw trumps keeping three clubs and a heart in dummy. The pro follows to all the trumps (HE wasn't squeezed,) but his partner refuses to part with any cards. By this time, we all have four cards and he has six and has tried to throw in his hand three times. Finally (I am playing this hand face up since the claim,) the pro acquiesces and we score +450 for a surprising 11+ out of 12 matchpoints.

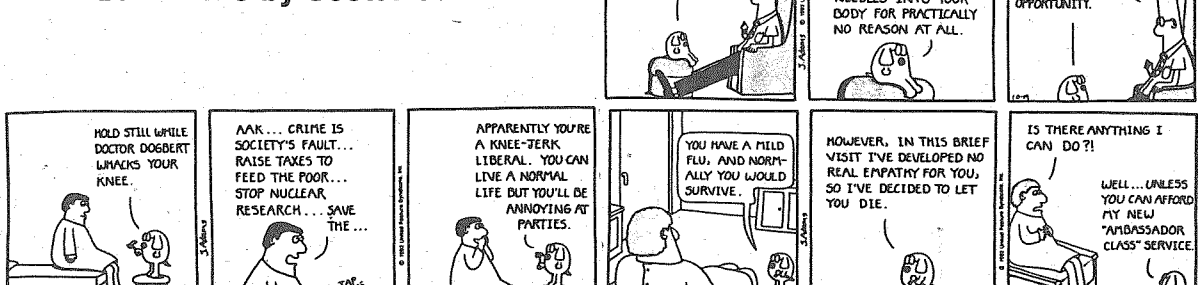
The Caltech Bridge Club meets every Monday night at 7:15 in Winnett Lounge. Everybody is welcome; call Jeff Goldsmith at x2818 for details.

Tuesday, November 10th is a special opportunity for students to win a \$500 scholarship. We will be holding the North American Collegiate Bridge Championship and the highest scoring pair on the west coast will win \$500 each. We won last year. Even if you don't win, there will be free pizza and soft drinks and a fun game.

WASHINGTON.



DILBERT® by Scott Adams



Continued from page 1

Marcus

There are some problems like that. Here, it's the experiment that's new, and hasn't been treated before and we know we can do it. For example, in the liquid-liquid electron transfer, we've published several papers in which we have now been used to compare with the experiment and results. It has turned out that certain aspects are just fine, but there are some results we just don't understand yet—there's something missing, and by significant numerical factors, some sort of discrepancy. It could be due to various possibilities. The topic was something we thought would be easy, that we would derive the equations and see relationships. Now that we've studied it we see that there are things in it that are not yet understood. There is a clear need for more experiments. At present there's only one experiment, so to speak. But we need a whole family of experiments to see whether the deviations that have been found are systematic or not, and what their nature is, what their nature is. One needs more experiments of rapid electron transfers of metal electrodes, since we use such data to treat these liquid-liquid electron transfer results. In any event, the comparison of the theory with the experiments suggests new experiments and may, if necessary, lead to refinements of the theory for this particular system. Anyway, a problem we thought would be a snap but that should be treated turned out to be more than we anticipated, and certainly stimulated the experimentalists involved to design other experiments related. So even the problems you think will be no problem may turn out to have puzzles in them. But certainly some

of the puzzles we worked with had puzzles in the very beginning. One difference between research and solving problems, math problems for example, in courses is that in the former you often don't know if you will find a solution.

There is another aspect to research that sometimes we don't recognize. Nature has far more "imagination" than we have, and if we try to work on the experiments that Nature provides, there is, in many cases, a chance of doing things that are more interesting than if we just wander around with a theory looking for the experiment. Sometimes that works, but perhaps one gets the unusual theory by trying to understand some experiments that are new and that do not cover well-mined material. There's a richness and unexpectedness in Nature.

D: Are there any changes in how you students regard you.

M: I hope very much there aren't any changes, because I don't feel any internal change. I've always been friendly to the students, and hopefully it will just be the same way.

WASHINGTON.



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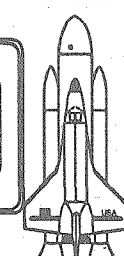
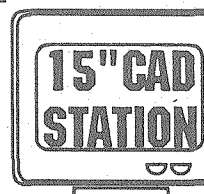
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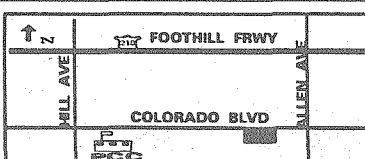
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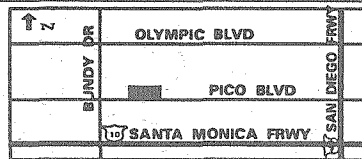
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WHAT GOES ON

NOTICES

Attention Swimmers - All Caltech and JPL personnel are invited to join the Caltech Masters Swim Club. Practices are held Monday through Thursday evenings and Saturday mornings at the Braun Pool. Three very experienced coaches conduct the workouts, providing sets to improve speed and endurance as well as stroke technique. Swimmers' ability levels range from basic lap swimmer to collegiate champion. The cost is \$25 dollars per month (\$20 for Caltech students). Contact Suzy Dodd at JPL 393-1281 for more information.

Bookstore Delivery Service - The Caltech Bookstore has implemented a new delivery service. Any in-stock items can be delivered the next day when you call or fax us by 3pm. Imagine the convenience at 12% discount, plus we deliver to your door. Minimum \$10 order required. Look for our cart, "Vincenzo", around campus.

Caltech Film Club - The Caltech Film Club holds meetings every other Wednesday in SAC room 25 at 8 pm. For further information contact Alex Protapapas.

Caltech Y Excomm meeting - The Y invites anyone who wishes to cosponsor an event to attend on Monday, November 2 at noon in the Wes Hershey lounge on the second floor of Winnett.

Hold The Date! - Auditions for the upcoming Winter musical will be held on Saturday and Sunday, November 21 and 22. We want students actors, singers, technicians, musicians and more. Start preparing. For more information call Elizabeth x2935.

Part Time Job for a Work Study Student - Professor Bjorkman's lab in Biology needs a laboratory helper. The duties would be as follows: Autoclave glassware, pick up clean glassware and reshelve, make bacterial medium, go to the stockroom to purchase necessary supplies. A Biology major is preferred. Estimated hours per week: 10. If you are interested, please call extension x8351 and ask for David Penny or Peggy Fahnestock.

Arroyo Singers - The Arroyo Singers Women's Chorus is seeking male Tenors and Basses to join them in performing the Vivaldi Gloria #7589 on December 6, 1992. Familiarity with the piece and/or the ability to read music is required. For more details, contact Director William Aardappel at (818) 457-1785.

EVENTS/SERVICES

A Skeptical Seance with mentalist Mark Edward on Oct 31 at 2pm in Baxter Lecture Hall. Magic and paranormal in honor of Houdini and Halloween. Sponsored by the Skeptics Society. Admission is \$5 for students, mebers and senios citizens, \$8 for the general public.

Friday Prayer - Prayers organized by Caltech Muslim Students are held in the Caltech Y lounge at 12:30 pm every Friday.

Caltech Hillel/Jewish Community Weekly Meeting - An informal gathering, every Thursday at noon in the Y lounge. For information call Caty Konigsberg at 213-259-2959

Mass - Thursday at 8:15 in the Y lounge and Sunday at 10 am in Winnett lounge. Sacrament of Reconciliation (confession) is given 20 minutes before masses. Refreshments are served after mass.

Bible Study and Discussion - Every Wednesday at noon in the Y lounge. Bring your own lunch. For more information call Mike Gerfen at 356-4886.

Gay, Lesbian, Bisexual Support Group - Meets the first and third Tuesdays at 7:30 pm 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. On November 10 we will continue our focus on "Discovering One's Sexual Orientation". Refreshments are served. For information, please call 356-8331.

CLAGS Hosts Political Party - The Caltech Lesbian and Gay Society will come together on election day for a political "party". Supporters of Bill Clinton's gay right's objectives are welcome to join us on November 3rd for a pot-luck barbecue and return-watching fest. The get-together will be held at 611 N. Chester. Come any time between 5:00 and 11:30 p.m. (after you VOTE). Please bring meat for yourself and one side dish (e.g., salad, chips, dessert, etc.). For other information, call 792-2729. Latecomers also welcome!

Adult Children of Alcoholics - A 12-step group meets on campus every Tuesday, from 12 noon to 1 pm, in "Club Room Two". The group is open to any student, staff or member of the faculty who grew up with family alcoholism and other problems. For more information call Dinah Lee Schaller at 356-8331.

Open Line - Open Line meets every Tuesday in the Y lounge upstairs during lunch, between 11:30 and 1:00. Topics discussed include developing a youth center for ages 5-12 for tutoring services, activities and cultural development for the children of Caltech students, staff and faculty, developing a multicultural book for the understanding of all nationalities, traditions and customs. Open to all of the Caltech community.

Preschool Playgroup - The Caltech Women's club sponsors structured activities for mother's, father's and their children, on Tuesday, November 3 in the Caltech Villa Apartments, from 10 am to noon. For further information contact Valerie Murray at 287-8960.

Baby Furniture Pool - The Caltech Service League loans out baby furniture to students and postdocs on Wednesday at 324 S. Chester from 10 to 11 am. For more information call 952-1631.

Women's International Friendship Group - at 9:30 am at 415 S. Hill on Monday, November 2. All women from foreign countries are warmly invited. Children will be supervised. Sponsored by the Clatech Women's Club. Form more information call Susan Dimotakis at 794-2594 or Kay Corwin at 447-1081.

ENTERTAINMENT

"Sea and Shore of Baja" - Dr Theodore Walker personally narrates this Airmchair Adventures travel film. In Beckman auditorium at 8 pm on Wednesday, November 4.

"A Man for All Seasons" - Theater Arts at Caltech presents presents the play based on the life of Sir Tomas More in Winnett Lounge, Nov 6-Nov 8 and o Nov. 13 to Nov. 15. 8pm on Friday and Saturday and 2pm on Sunday. Admission is \$6.

"Albert Einstein - The Practical Bohemian" - Ed Metzger portrays the brilliant scientist in a one-man show on Saturday, Nov. 7 at 8 pm.

Zombies and SPECTREs - S.P.E.C.T.R.E.'s next regular meeting will continue the theme of Science Fiction Genius, and will feature "Young Einstein" and "Doc Savage: Man of Bronze," at 7:30pm November 3rd in room 35 of the SAC. But the next S.P.E.C.T.R.E. event is the Second Annual Party of the Living Dead, which starts Saturday October 31st, 7pm in the CatIII Rec Room. We will be showing George Romero's zombie trilogy "Night of the Living Dead, Dawn of the Dead, and Day of the Dead" as well as the 'true life story on which the trilogy was based' "Return of the Living Dead." Everyone is invited to this gruesome Halloween fest. Refreshments will be served for those who can hold them down. Contact Gorm @568-9168 with any questions.

Hot & Sweet Freebies After Dark - The Red Door Cafe will be offering free cookies, coffee, and espresso drinks evenings during the first week of November. The newly expanded evening hours are 8-11 PM Monday-Thursday, 8-12 PM Friday, in addition to the continuing morning and afternoon hours of 9-10:30 AM and 2:30-5:30 PM weekdays. The Red Door resumes its Friday night live music November 6 with the jazz guitar duo of Daisy & Ken. Please drop by and check out the Red Door After Dark.

International Folk Dancing - Tuesday night in the Dabney Lounge. Beginning instruction starts at 7:30 pm; intermediate at 8:00 pm and open dancing takes place from 9:00 till midnight. Donations are accepted for more information call Mike Mckenna (310) 692-0366.

Israeli Folk Dancing - Sunday in Winnett lounge. Beginning instruction starts at 7:30 pm, intermediate at 8:00 and open dancing goes on from 8:30 to 10:30. For information call Nancy Macmillan at 795-3655. Admission is \$2.00.

Scottish Country Dancing - On Wednesdays in Dabney Lounge from 8 until 10 pm. Beginners are welcome and no partners are needed. For more information call David Hills at 354-8741.

Music with James Boyk! - Pianist James Boyk gives a performance each Wednesday from 4:30 to 6 pm in Dabney Lounge. The performance is open to the public and free of charge. Feel free to come late or leave early. For more information call x6353.

LECTURES/SEMINARS

Color film developing class is held by Dark Room Users Group on Sunday, Nov. 1, in the Dark Room (SAC 39). For more info, please contact Alex Zeyliger x3739, or Tim Shoppa x4256.

"Magnetite Biomineralization in the Human Brain: What Does it Mean?" - Dr. Joseph Kirschvink, Associate Professor of Geobiology at Caltech will give this Ernest C. Watson lecture on Wednesday, November 4 at 8pm in Beckman auditorium. Admission is free.

Not to be Missed - Legendary professor of the history of architecture, Dr. Vincent Scully of Yale University, will speak in Beckman Auditorium, Thursday, November 12th, 8:00 pm. Title: "Louis I. Kahn: The Ruins of Rome." The lecture is free. Students who would like to be invited to dinner with Dr. Scully on Friday evening, November 13th, should contact the MOSH at x6295.

SCHOLARSHIPS & COMPETITIONS

USA Today - USA Today is beginning its annual search for the nations best college students. Sixty will be named to USA Today's 1993 All-USA Academic Team. Chris Ho won last year. The twenty first team members will receive a \$2,500 cash prize and their awards in a ceremony in Washington D.C. Winners will be selected by a panel of judges who will select students excelling in scholarship and leadership roles on and off campus. For copies of the application form send your campus mail address to editors@tech.caltech.edu.

"Progressive Social Change in the 1990's" - *Monthly Review*, an independent socialist magazine, announces an essay contest for people 25 and under. Entries covering such topics as, How can we change progressive change in US society today? Are emerging movements creating new ideas and posing potential solutions? In what ways can new social institutions be constructed?, should be 2000 words or less, written in English and typed double-spaced. First prize is \$500, second \$300 and there is a \$100 third prize. All contestants will receive a free one-year subscription to *Monthly Review*. Send submissions to *Monthly Review*, 122 W 27th Street, New York, NY 10001. For more information call (212) 691-2555. The deadline for submissions is March 1.

The Future of Computing - The Institute of Electrical and Electronic Engineers Computer Society, NCR Corporation and *Computersworld* magazine are sponsoring a \$60,000 international essay contest on the future of computing. The contest is open to undergraduate and graduate students. First prize is \$10,000 and a NCR notebook computer. For more information, send requests and campus mailing addresses to editors@tech.caltech.edu.

Hughes Predoctoral Fellowships - The Howard Hughes Medical Institute will award 66 fellowships toward a M.S., Ph.D. or Sc.D. degree in biological sciences. The fellowships provide an annual stipend of \$14,000 and a \$12,700 annual cost-of-education allowance, effective June 1993. The fellowship is for both U.S. and foreign students and is aimed at students who have completed at least one year of graduate study. The application deadline is Nov. 6. Call (202) 334-2872 for an application.

Fritz B. Burns Prize in Geology - Undergraduates in the division of Geological and Planetary Sciences are encouraged to apply. The award(s) will be made up to \$1,500 for the best proposals for undergraduate research in the fields represented by the Division. If interested, submit a short statement (less than one page) describing the research you would like to do. The submission deadline is December 1, and they should be sent to Professor Kerry Sieh, Division Academic Officer, Division of Geological and Planetary Sciences, Mail Stop 252-21.

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

The Northrop Corporation is offering a \$3,000 scholarship at Caltech for the 1992-93 academic year. The scholarship is open to freshmen through seniors in Electrical Engineering, Mechanical Engineering, Aerospace Engineering, Computer Science/Engineering or Manufacturing Engineering. Students must show evidence of a strong academic record and a career interest in the aerospace/defense industry. The applicant must be a U.S. citizen and may be a concurrent recipient of another company's scholarship. Resume's and academic transcripts must be received by the FAO by 5:00 pm, Friday, October 30, 1992.

The annual Mensa Scholarship Essay Contest is here again. The essay should present clearly and concisely the applicant's academic, vocational and career goals. The only requirement is that the student be enrolled in at an accredited college/university for the 1993-1994 academic year. All entries must be postmarked on or before January 31, 1993.

The Society for the Advancement of Material & Process Engineering (SAMPE) is announcing its 1993 Undergraduate Awards Program for Engineering. Application packages must be submitted postmarked no later than February 1, 1993.

The American Society of Naval Engineers is a sponsoring a \$2,000 scholarship for the 1993-94 acadmeic year. The candidate must be a U.S. citizen, demonstrate a genuine interest in a career in naval engineering, and be applying for support for the last year of a full-time program or for one year of graduate study. Financial need may also be considered. Deadline for receipt of scholarship materials by the ASNE offices is February 15, 1993.

The American Scandinavia Foundation of Los Angeles will distribute five \$1,000 scholarships in 1993 to upper division and graduate students with a demonstrated interest in Scandinavia. Applicants must have strong academic qualifications and must show finacial need. Two letters of recommendation, a transcript and the completed application are due by March 15, 1993.

American Elexctroplaters and Surface Finishers Society (AESF) is offering scholarships for the 1993-94 academic year to students of at least junior standing. Awards are not necessarily based on financial need. Field of study for this scholarship is in chemistry and/or the enginnering sciences. The application and all requested information and documentation must be postmarked by April 15, 1993.

The American Physical Society (APS) is offering \$2,500 scholarships to African-American, Hispanic-American or Native-American undergraduate freshman or sophomore students majoring in Physics. The deadline to submit completed applications to APS is February 26, 1993.

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