

D. Korta/The California Tech

Lawrence Krauss, mastermind of *The Physics of Star Trek*, gestures during a particularly emphatic point in his Wednesday lecture, which shined the light of science on everything from worm holes to phasers.

Krauss Muses on Star Trek Physics

By O.J. CARLTON

I guess I'll start with a confession. I only came to Caltech because it was the next best thing to Starfleet Academy. If there's any earthbound institution capable of developing warp drive, it's probably this one. So it's no surprise to me that the turnout last Wednesday to see Lawrence Krauss's talk *The Physics of Star Trek* was nearly double that for the previous Voices of Vision event.

Boasting a list of academic credentials that would rival those of most Vulcans, Krauss has made his mark on academia numerous times as researcher and author in the fields of elementary particles, astrophysics, and quantum mechanics. If he were on a starship, he'd

News Analysis

have a blue uniform, but I digress. Fortunately for his readers and for the crowd at Beckman, Krauss has a keen ability to put physics in down-to-earth terms that even a Ferengi could understand. Borrowing heavily from his best-selling book of the same name, Krauss entertained and enlightened the crowd on such far-reaching topics as wormholes, transporters, and xenobiology.

There were some interesting surprises in the talk, to be sure. Dr. Krauss was kind enough to bring both a warp drive and a worm hole with him, which he had hidden behind the podium. Granted, his implementation was limited to a helium balloon-based universe, but he made his point effectively. Those of us in the audience were

fortunate, however, that Krauss lacked Starfleet security training; if he had managed to actually pop the balloon as he was desperately attempting to, its proximity to his lapel mike would've deafened the people in the first 12 rows or so. He peppered his address with clips from the series that illustrated his points.

The really great thing about Krauss's take on *Trek* is that he shares the kind of enlightened optimism that makes the show so appealing. While he is honest and rigorous in examining the science behind the technology of the 24th century, the reader gets the definite impression that he wants it to work.

On a number of occasions, when dealing with a seemingly totally implausible theory, such as wormholes, Krauss concedes several layers of analysis, but leaves an opening for the dreamers. He cited Kip Thorne's analysis of the impossibility of creating stable wormholes using conventional matter, but quickly noted that, if one uses negative energy, "all bets are off."

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Civil Rights Legend Roberts Shares Past, Present Outlook

By LEA HILDEBRANDT

Last Friday, Terrence Roberts, one of "the Little Rock Nine," spoke at a luncheon at the Athenaeum in honor of Black History Month. The topic of his talk was "Lessons from Little Rock: An Educational Agenda for the 21st Century."

In his talk, Roberts recounted the persecution he faced as one of the "Little Rock Nine," one of the first nine black students chosen to integrate the previously all-white Little Rock Central High School in compliance with the U.S. Supreme Court's landmark 1954 *Brown v. Board of Education* mandating nationwide integration.

Although then-President Dwight Eisenhower sent the 101st Airborne Division to protect the nine students in the face of massive opposition led by Arkansas's segregationist governor, "the Little Rock Nine" were subject to persecution every day of their school career at Central High. They were constantly beaten, spat at and called obscene names. In fact, Roberts said that each of the Nine had a "personal tormentor" who would always be there, ready to hurt him or her in any way possible. But the Nine, in-

structed by Martin Luther King of nonviolence, did not fight back.

The experience of these students in being the first black students to attend Little Rock Central High school was both traumatic and life-changing. As one of the Nine commented in a video that Roberts showed the audience at the beginning of his talk: "That was the end of our youth. We were adults; we could never go back to that precious innocence again."

But, despite the constant torment and discrimination, the Little Rock Nine held on. Roberts said that one of the main things that motivated him was the fact that so many people had given their lives in the struggle for civil rights. "If I did not go through with this, it would be as if I turned around and spat at their graves."

Before the next school year started, segregationist governor Orval Faubus closed down every school in the district in order to avoid integration; this is how opposed he was to white and black children going to school together. When the school reopened a year later, two of the Nine went back and graduated from Little Rock Central

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From Chandler to JPL, CDS Boosts Food Fees

By ADAM SEARS

Caltech Dining Services (CDS) recently raised prices across campus to counteract increases in overhead and cost of supplies. The 5% increase has affected food item prices at every venue from Chandler to JPL, with the only exception being Coca Cola and Minute Maid fountain drinks, whose prices remain flat.

The price hike has briefly brought the topic of board plans and food back into the campus dialogue, giving Techers a chance to complain about dorm food like most college students. Students are concerned with the excessive cost of on-campus living, the inability to escape a board contract, declining portions and formal dinners.

A number of objections are unavoidable due the vast number of students CDS must simultaneously satisfy. Still, large groups of undergraduates obviously have some sort of bone to pick with CDS.

One significant gripe regards off-campus upperclassmen who selectively visit for dinner. More often than not, visits come on the bi-weekly steak night, when they can get the most benefit for their money.

Freshmen quickly learn that costs run high for off-campus students who choose to eat in the houses and that they in fact are paying a fairly high price as well. An average dinner costs over \$7 for freshmen, who are on the Richter "Traditional" Meal plan, and around \$10 for off-campus upperclassmen.

The difference stems from the fact that off-board students are charged the same price as visitors. Many students say they can easily imagine preparing or purchasing a similar meal for much less and are surprised at the necessity of such prices. Bing Huo '06 remarked that given the circumstances, "If they're not making a profit, something is really wrong."

But in reality, even with what seem to be steep prices, CDS is not even breaking even financially. This

is despite the economics of it, with hundreds of undergraduates locked into spending dining dollars around campus, with CDS in complete control of their options.

According to Natalia Deligne '04, student chair of the institute's Food Committee, there are several contributory factors. Food, for one thing, constitutes only about a third of the cost of a dinner; the rest is overhead, staff and cooking costs. This, by the way, is why houses are reimbursed only a portion of the total cost for a missed meal.

Moreover, student waiters, paid for serving and for cleanup afterwards, are provided for out of the CDS budget and are only partially subsidized by the university, which

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BOD DOLES OUT \$10,000 SURPLUS

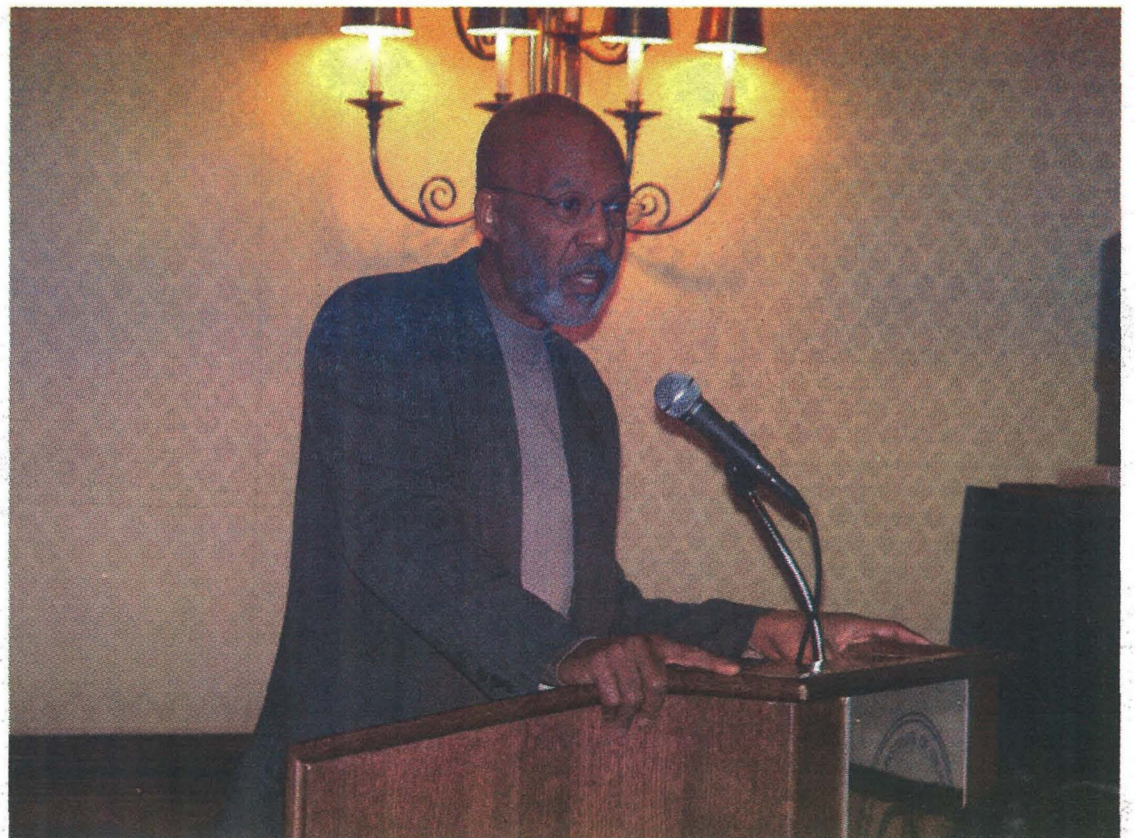
ENTERTAINS MONEY SEEKERS

By MATTHEW WALKER

In their final meeting Wednesday night, the outgoing BoD settled a number of issues, mostly involving spending a \$10,000 surplus before their term's end and the account's Friday closure. BoD members also tied up loose ends on several other financial issues, beseeching funds-seekers to turn in receipts by Friday and accenting the urgency of completing the issues.

The surplus arose from a number of different sources. The social budget had a large surplus due to the low cost of "What I Love About Caltech" and funds that weren't used for a proposed winter social event. The larger freshman class yielded additional dues. Several clubs didn't pick up their funding for the year, resulting in about \$500 of surplus. The BoD forwent food for most of its meetings, leaving still more unused money in the ac-

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D. Korta/The California Tech

One of the "Little Rock Nine"—the first black students to attend Arkansas's Central High School—Terrence Roberts shares his experiences and opinions on race relations last Friday at the Athenaeum.



D. Korta/The California Tech
Iram Parveen Bilal '04 looks over meal costs in the South Kitchen, one of the many food venues slapped with a new round of price hikes.

Demands of Waste, Breadth, 'Flexibility' Force Fresh Round of CDS Price Hikes

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feet just 15% of the cost.

Politics take their toll, when money spent at different venues during lunch must be distributed accordingly. Some seemingly irrelevant campus-wide fees are assessed even for CDS, said Deligne, which further hurts their bottom line.

When it comes to quitting the Board program while still living in one of the houses, some students feel as though they're getting a raw deal. Students interested in staying on campus but not willing to pay for the full Board program are likely out of luck. That's because unless they have an unavoidable allergy, there's little chance they'll be permitted to drop the plan. In the past couple years, only a handful of students have been allowed to skip out, primarily for religious and medical conditions. The decision to allow students out, however, is handled not by CDS officials but by the student-run Food Committee, so it's unclear where the blame lies.

The issue with formal dinners is a fairly insignificant one. A while ago, head waiters were able to choose which three dinners to serve their house for dress dinner. How-

ever, because CDS must buy its food in bulk and different houses with similar formal dates might choose to serve different entrees, the choices options went up in smoke.

The move is just one of several made in the past couple years to streamline the department and hedge losses. Andre Mallie, the Dining Services director, had his own take on the difficulties CDS faced in serving the undergraduate community. Mallie cited another economic force—the economy of scale—which severely hinders their financial operations.

Frankly, Caltech has a dining system far too complex for the small number of students it is designed for. He explained that “Caltech doesn't have that base of 20,000 students.” With seven dining halls and two kitchens—not to mention Avery, which has its own set of problems—overhead is incredible. Coke machines, waiters and custodial services must be provided for each house, whereas a typical university might have two dining halls supplying the same demand.

But that's not all. It's no secret that dinners at the houses have an unbelievable waste factor. Mallie ref-

erenced a study conducted in Fleming in past years that found around 30% of food at dinner time is wasted, due to expensive traditions and the consequences of an all-you-can-eat mentality.

In addition, CDS must deal with employees who are looking for a full-year job, even though undergraduates are here for only nine months out of the year and an expensive local economy. Also, overhead, security and electricity bills have skyrocketed an extra 150% across campus, over the last year, straining the budget even more.

It's gotten to the point that Caltech has offered its services to local schools to compensate for its losses on campus. We provide food for the Westridge School for Girls in Pasadena, where CDS gets 5% of its revenue. Despite the quibbles many might have with CDS, it's impossible to ignore the super job they do in sizing up the needs of the community.

Like many nonacademic departments on campus, CDS has adapted to fit the requirements of the busy Techer, while at the same time dealing with funding slashes facing every division. The flexibility offered through box lunches, Snake kits, the declining balance system, all-you-can-eat dinners, open kitchen, vegetarian bar, get-well meals, pre-made dinners for athletics teams on the road, etc. is incredibly liberating to a campus that probably wouldn't have time to empty its trash cans if housekeeping didn't.

And all from a department so friendly, that to get anything done all you need is to send an e-mail to Melissa Wettengel, CDS's customer service manager. The extra costs associated with providing vegan food and unlimited fresh pineapple, when only a select group of undergraduates will really appreciate it, is indicative of the dedication CDS has to truly assist students in an environment where on a bad day, it may seem that even the food is against you.

In the end, the minor increase in food and retail items made to compensate for consumer price index, Sept. 11-boosted insurance related costs and other fees is just a red herring. Caltech still offers a comprehensive Board program that's usually \$1000 cheaper than Southern California schools and among “peers such as MIT, Stanford and Harvard, etc.” said Mr. Mallie.

But as long as CDS keeps serving up the same perks for students on board, that's just one more fish we'll have to occasionally put up with.

CALTECH CONVENTIONAL WISDOM WATCH



Off Their Chesst: Wei Ji and Patrick, Ma and Pa of the new chess team, lead their crew to victory, hummeling opponents and Freeing the team of any doubters. A Graham of prevention is worth an ounce of cure.



Physics of Star Trek: Stuck on Data overload, Lawrence has loyal Trekkies Krauss-eyed. Doubters who scoffed at his creations are now fazed at his success. How will his critics worm themselves out of this hole?



A Bone to Pick: Already, eating pizza every day costs a lot of dough, and now even vegan food costs too much green. The meat may be cooked, but this deal is raw. Something's a little fishy.

From Arkansas to Pasadena, Roberts Takes 'Little Rock Lessons' to Heart

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High School.

Roberts moved to Los Angeles after he had attended Central High for one year and finished his high school degree there. He then went on to study at California State University, Los Angeles, where he earned a Bachelor of Arts in sociology. Roberts continued with graduate school and now has a doctorate in psychology.

In 1985, Roberts and his wife moved to Pasadena, just a few blocks away from Caltech on San Pasqual Avenue. After they had moved in, a couple from the neighborhood came by and said that they just wanted to let the Roberts family know that they voted for them at the neighborhood meeting. As Roberts found out, there had been a neighborhood meeting and a vote held before Roberts and his wife moved in to make sure that a majority of the people in the neighborhood approved of a black couple moving there. Roberts' comment: “The surprising thing is not that the meeting was held but that we'd be surprised about it. This is, after all, the United States of America.”

Roberts is in general quite pessimistic about the state of black and white relations in the United States. He believes that the changes that have been made since the 1950s are superficial and that discrimination is still as extensive today as it was back then. Furthermore, Roberts views Little Rock as a microcosm of the United States. What happened there received much national attention but similar things have happened and are still happening, maybe to a lesser degree, all over the United States. Asked what he thinks about the studies that have been made about racism and prejudice in the U.S., Roberts replied, “Why study racism if we don't have the commitment to do something about it?”

Roberts was also asked about his views about color blindness and affirmative action. He is strongly opposed to the concept of color blindness. He believes that this concept is based on trying to make every-

body be the same, which is just not the way the world is. His comment: “difference exists and that's okay. Let's see each other as we are and embrace each other.”

As to affirmative action, Roberts believes that one of the main problems is that “the people who talk about it do not really know what they are talking about.” Roberts defined affirmative action as “affirming the right of people to succeed and of providing all of the opportunities necessary for this success.” In view of this definition, affirmative action has always been important in the United States. “The issue then is not of whether we should have affirmative action but of whether we should include those other people,” he said.

Roberts' legacy dates back to May 17, 1954, when *Brown v. Board of Education* declared segregation in education unconstitutional and ordered schools across the nation to integrate. By 1957, even the schools in very segregationist towns like Little Rock, Arkansas saw them-

selves forced to integrate.

Thus, nine black students, among them Roberts, were chosen to integrate Little Rock Central High School, which had been the best school in the district and previously open only to whites. The black students were supposed to start attending the school in the September of 1957.

But then-governor Faubus declared integration an impossibility and sent 270 national guardsmen armed with rifles to prevent the black students from attending the school. When the students arrived at Little Rock Central High School on the first day of school, they were met by such violent opposition that they had to leave to protect their lives.

But they were not going to give up this easily. Three weeks later they made a second attempt at attending Central High. This time they had a better chance since NAACP lawyers Thurgood Marshall and Wiley Branton had issued an injunction that prevented

Governor Faubus from using the National Guard to deny the nine black students admittance to Central High.

This time, all nine students made it into the building, but by 11 a.m. the situation was again so dangerous that they left through a back door. This prompted President Eisenhower to issue an executive order to send the 101st Airborne Division to Little Rock to protect the nine students, and so began Roberts' career as one of the Nine.

All of the Little Rock Nine are still alive today. They have a foundation, the Little Rock Nine Foundation, with a popular Web site. The main goal of the foundation is to provide scholarship assistance. Roberts encouraged everybody to make a contribution to this cause.

The luncheon was part of a series of programs in honor of Black History Month. The special aspect of this particular program was that it was initiated and planned almost entirely by students: the Black Graduate Student Association of Caltech. Other offices around campus that sponsored this event were the office of Minority Student Affairs, the Caltech Y and the Women's Center.



D. Korta/The California Tech
A student representative speaks at Terrence Roberts' talk, coordinated by a variety of campus organizations in honor of Black History Month.

The California Tech

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ASCIT's Coming at You!

Undergraduate Body Calls For 'In-your-face Democracy'

By TOM FLETCHER

You may notice I'm dividing this column up into subsections. I realized it would be a good idea when last week's column was somewhat unreadable, even by the author. Gotta start rolling with the punches sometime.

First ASCIT BoD Meeting

Anyway, the new ASCIT BoD took over Friday night. Our first meeting is going to be at noon on Wednesday, right in the middle of the Olive Walk. I assure you it will be impossible for you to miss it. The current plan is to draw up a large version of the agenda so everyone can see it and to allow everyone who so desires to observe the meeting. I expect we'll have some amusing glitches we'll need to work out—rain, seating, whisper chippers; who knows?—But I'm committed to making these meetings work.

Administrators to whom I've spoken are enthusiastic about actually getting to see our decision making process, which will allow them to know exactly how we feel. My real goal is that we, the students, find it exciting to be able to witness the meetings and participate. This is America, land of participatory democracy and town-hall meetings—my government teachers in grade school convinced me that self-government should be fun—and I think it would be reassuring to find our voices heard, at least on a small scale.

So, you've all been duly informed. We'll make a ruckus come Wednesday. I encourage you to get your food to go, bring a bean bag, blanket, chair or sofa and sit down for what should be an interesting experiment in student government here at Caltech. And hey, if it doesn't work and people still don't take an interest in what we do, we'll just have to try something else until everyone is involved.

Whom did I meet with this week?

As ASCIT President, I had three meetings this week. Two were with Margo Marshak involving many issues, but mostly Prefrosh Weekend. Sadly, due to budget cutbacks at Student Affairs, Prefrosh Weekend will be only three days this year with the prefrosh going home on Saturday. In my meetings, I impressed upon Margo and Admissions that students really enjoy Prefrosh Weekend, mostly because of the opportunities to interact with new people and talk to people about Caltech. Along those lines, they hope to work with the Prefrosh Committee, with one representative from every house, to find a way to preserve every house's traditional event in a way that is hopefully satisfactory.

Nevertheless, if you feel strongly about this, I encourage you to sign the petitions going around the houses so that admissions knows next year to put and end to this experiment. Also, talk to your prefrosh representative so he or she knows how you feel and can make your opinions known to admissions and other administrators.

Another interesting outcome of the meeting was Margo's push to "disarm" both sides on the issue of representing Caltech. She urged admissions to put on a more truthful face of Caltech life—no more covering up the darker side of life here.

Along the same lines, she asked that we the students move to represent ourselves more truthfully in our discussions with students. If you hate this place, say so, but she asks that we please not scare them by portraying only the bad.

For ASCIT's part in the matter, we plan on posting the committee findings from the Student Faculty Conference along the Olive Walk, and in other clever ways so that the prefrosh can see them, so that they get the most honest glimpse possible. We're also starting to think about a special issue of the *Tech* for that weekend with students writing about aspects of life here. If you're interested in contributing to making a more "truthful" Prefrosh Weekend, talk to the *Tech* editors.

Another subject of our meeting was the letter you may have read in the last *Tech*. Administrators have read the letter and are crafting their responses. Hopefully, action will be coming soon.

The third meeting I had was with Tom

Mannion and Matt Brewer about our money and our plans for the next year. According to finance, ASCIT is flush with cash—how empowering!—and we've transitioned most of it to Caltech's internal system. We used to do our banking with Bank of America, but have switched over now to hopefully keep better track of our money. Caltech has also volunteered to file our taxes for us for free, so ASCIT no longer needs to shunt money off to an accountant and neither will it miss its taxes again.

Represent!

There's a Faculty Board meeting coming up in the beginning of March. For the most part, it's a sober, boring affair with some faculty monologues and some cookies. It's also the one place, however, where things get done, because this the body in which the faculty votes to change things.

The new pass/fail policy was approved by this body last month. The agenda for March's meeting is not yet up, but it will be posted online soon for all to see at <http://www.its.caltech.edu/~offoffac/>. Previous student representation at these meetings was a little lax, but I've talked to the head of the Faculty Board, Marianne Bronner-Fraser, and we now have two permanent spots there: myself and Galen, as ASCIT vice president.

We were also granted a third guest spot for another student to attend; the reason we all can't is because there is only so much space in the Millikan Board room and it may be a

while before they decide to meet on the Olive Walk too. My intention is for this spot to rotate amongst interested undergraduates so that they can have an idea of how the school is run. Since I have no idea how strong interest is, right now I'll just ask for volunteers. Now if you all

get as excited about student government as I hope you do, we'll have to come up with a better system later. Until then though, e-mail me if you want to come.

My desire is to see interested freshmen and sophomores come so that future classes of student representatives will have some idea of what they're getting into and adapt accordingly. Let me know what you all think of this.

Your Moment of Zen

I thought I'd keep closing out this column on a humanities note, if anything to disprove the *L.A. Times*. So I was listening to music in the shower today and was struck by how the last stanza resonated with how I was feeling. Maybe it captures how you're feeling too, maybe not. Heck, maybe it'll lead to some discussion and debate. We can never have too much of that and Locke would be proud.

So now as I'm leavin'
I'm weary as Hell
The confusion I'm feelin'
Ain't no tongue can tell
The words fill my head
And fall to the floor
If God's on our side
He'll stop the next war.
"With God On Our Side," Bob Dylan, 1964.

Peace out,
Tom Fletcher

P.S.: Really, the jefe bylaw is coming. Are you excited yet?

Question of the Week

Will Fletcher's BoD really be more 'transparent' than past BoDs? Will you attend his Olive Walk meeting?

Let Prefrosh Weekend Provide 'Prospectives' With Perspective

By MATTHEW WALKER

This past week, the administration announced a decision to shorten Prefrosh Weekend by one day. This year, the prefrosh will arrive on Thursday and leave Saturday, effectively giving them one day to experience Caltech. This shortened period for prefrosh to experience Caltech would not have beneficial consequences.

Obviously, if prefrosh only have one day to meet students and find out what students are like, it will be a lot harder for them to get an accurate impression of Caltech. The least happy students at Caltech are people who don't like their house and don't get along with other students. Less time for exposure to these important aspects of Caltech life will undoubtedly cause more unhappy students who didn't have a chance to find out what Caltech is really like before they came.

Another drawback that this decision causes is that students won't get to see the social character of Caltech. Thursday night is the busiest homework night of the week for a lot of students. A lot of hosts will have to abandon their prefrosh to finish sets. A consequence of the tough academic work Thurs-

day is that neither Thursday nor Friday are very social, as students recover from the previous night's work on Friday. Without exposure to Caltech social life, a lot of the more-rounded students, that is, the ones who would make positive contributions to Caltech social life, will decide not to come to Caltech because they will think that Caltech is all work. One component of Caltech character that sets it apart from other universities is the "work hard/play hard" mentality. Much of this impression will be lost on the prefrosh without a chance for them to experience the social events that usually occur Saturday evening.

While there is the opinion that social life during prefrosh weekend is portrayed inaccurately, the only inaccuracy is the amount of things that happen. While most other weekends would be hard pressed to have so many interesting social events, none of the events are things that wouldn't happen at other times in the year. For instance Lloyd House hosts a capture the flag game, an event which is repeated by other houses a couple of times per year. Ruddock House hosts Ruddock Greens, which reflects, in a scaled down way, the con-

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Letters: Prefrosh Weekend 'Outrage,' Fire, Racial Slurs

Trimmed Weekend Disappointing

Dear editors,

We would like to express our outrage and disappointment with the changes made for this year's Prefrosh Weekend. At the first Prefrosh Weekend representative meeting this Monday, the representatives, one from each house, were informed that among other changes, Prefrosh Weekend had been shortened by a day. Furthermore, instead of hosting all prefrosh in the seven houses, prefrosh could additionally be hosted by students living in Avery.

These changes were made without any student consultation. This reflects the growing trend of making decisions that affect students without student input. Eliminating activities traditionally slated for the Saturday of Prefrosh Weekend will deprive the prefrosh of interaction with current students. In the past, student hosts had little interaction with their prefrosh until Friday night and Saturday as most of Thursday night and Friday is spent working on sets. Furthermore, Saturday is traditionally full of house activities, such as tie-dying in Dabney, miniature golf in Ruddock, etc. Without the opportunity to participate in such events, prefrosh will meet fewer students and not get a good feel as to the uniqueness and culture of Caltech.

Hosting prefrosh in Avery will further im-

pair prefrosh from getting a good feel of the undergraduate community. Freshmen are required to spend two terms in one of the seven houses; prefrosh should thus be well exposed to the house community during Prefrosh Weekend. Avery is a long walk from the seven houses; prefrosh living in Avery will not have much motivation to spend as much time as they otherwise would in the houses and with undergraduates. Moreover, it is one thing to visit a house but it is completely different to live in a house. This may also deceive prefrosh into believing that Avery is a housing option for them at the beginning of freshman year.

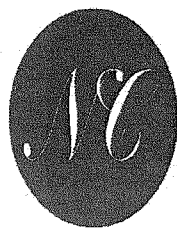
These proposed changes to Prefrosh Weekend are detrimental to interaction between prefrosh and Caltech students. Not only does it shorten the "weekend" to effectively one day, but also it eliminates student-planned activities on Saturday, forcibly cramming all social events into Friday night. It also impairs certain prefrosh from getting a sufficient exposure to undergraduate culture by hosting them away from the houses.

We are outraged that no students were consulted prior to making these changes and disappointed in the decisions made. We hope that in the future such serious oversights will not be made.

Sincerely,

The Interhouse Committee

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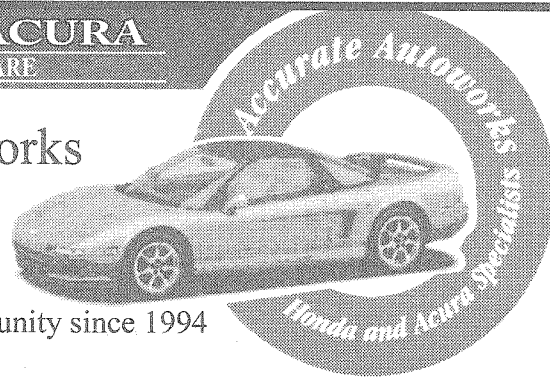
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ASCIT Minutes
February 26, 2003
Present:

BoD: Ted, Joe, Kim, Marcus, Basit, Neda, Andrea. Absent: Vikram, Jialan.

Guests: Tom Fletcher, Galen Loram, Anna Sczaniecka, Joanna Cohen, Jeremy Pitts, Corinna Zygourakis, Shane Arney, Spencer Rarrick, Dylan Simon, Keris Allrich, Eva Murdock, Ewan Murphy, Matt Walker.

Meeting called to order at 10:26 p.m.

The last meeting of the 2002-2003 ASCIT BoD convenes and we are in a spending mood tonight! It's in the spirit of "midnight appointments," except this time it's more like "midnight apportionments." Joe feels like John Adams anyway.

Guests:

"Give me money," says Shane. "OK," says the BoD. The IHC Ath Man has come to request funding, already budgeted, to subsidize letter jackets for varsity athletes. \$1000 is approved, 5-0. Keris, Eva and Corinna would like to take Prof. Tirrell to lunch, which is approved, 5-0.

Dylan is here on behalf of the ASCIT DVD Library, which apparently still hasn't restocked itself from all of the lost DVDs or missing and damaged DVD cases, although there is money left in the budget for this. After a long and entertaining story from Ted about how we discovered a box containing several thousand dollars in cash and Tim Wan spent that instead of the budgeted money, the BoD agrees that they can spend the rest of the DVD money. Joe notes approvingly that the list Dylan passes around includes "Apollo 13." \$2000 is allocated, 5-0. Eric Tuttle would be proud.

Spencer has priced speakers at the guitar store, although he thinks that's probably not the cheapest place to buy them. Two cabinets, a subwoofer and amps would make up the minimum system we would want to buy, he says. JBL offers reasonable quality, with speakers \$1500 each, subs \$600-1000 and an amp \$2000-3000. EAW is higher quality speakers for \$2500 each. Despite the tempting potential to spend an awful lot of money all at once, the BoD decides it's probably best to wait on this purchase, since it's substantial and would definitely be worth our while to do some price comparison. But Spencer will not leave empty-handed: Ted remembers that our Jamroom Manager and his partner Joe Olivier are owed \$50 each, plus a potential \$50 bonus, for their work this year. Spencer laughs and openly says he doesn't deserve a bonus since he didn't do anything. Noting that the Jamroom seems to still be functional, at least, the BoD approves a total of \$100 to split between the two, 5-0. "Don't spend it all in one place," we admonish.

General Meeting:

Neda has money-spending ideas including concerts and sumo-wrestling on the Olive Walk, but no one has answered her e-mails, so we agree that none of them are doable by Friday. The senior class is requesting money, approximately \$900 each for fruit trees, but that won't happen by Friday either.

We decide to put \$100 in each of the house accounts that we have established under ASCIT for the purpose of providing tax deductibility for alumni contributions to the houses. This amount, the BoD feels, will encourage house treasurers to learn how to use the accounts, if only to get at the money. \$700 is approved, 5-0.

Tom Fletcher brings up a secret "black" project regarding academics. It's been in the works for quite awhile, but he has apparently just learned of it and is very enthusiastic. We resolve to hide it in the Dept. of Agriculture's budget.

The Student/Faculty Conference will be in Ramo Auditorium—capacity 300—unless funding can be found for Beckman Auditorium, with capacity 1100.

Tom announces that he plans to replace Friday morning ASCIT Donut Man donuts with Winchell's donuts and—gasp!—bagels. The old BoD enjoys a wry and hearty laugh at the idea of venturing once more into that particular breach, but Tom is serious. "There's a war on terror right now. It's unpatriotic not to support my reduced oil consumption from saving trips to Glendora," he explains. The new BoD agrees to meet weekly during lunch on the Olive Walk, setting Wednesday as the first day. They may also buy beanbag chairs.

BoD members transfer keys, passwords and instructions to their successors. In one last item of fairly important business, Ted, Joe, Marcus and Neda are elected "by acclamation"—like Popes!—to represent the BoD on the CRC Rep Appointing Committee, which will meet next Wednesday.

We wish the 2003-2004 ASCIT BoD all the best and good luck. And on a personal note, it has been a joy and an honor to serve the student body these past two years. Thank you for the chance, everyone.

Meeting adjourned at 11:49 p.m.
Respectfully submitted,

ASCIT Secretary
Y News

Upcoming Events:

- On-campus tutoring, 3/4 and 3/6, Winnett 4-6 p.m.: Stop by Winnett and tutor a local middle or high school student. No experience necessary, drop by as your schedule allows. Contact y-veep@ugcs if you'd like to join the tutor mailing list.

- Reading to Kids, 3/8, 8:30 am to 12:30 p.m.: Read to children at a library in downtown Los Angeles. You must register with the Reading to Kids organization online at www.readingtokids.org before attending. Contact Sidharth Jaggi at jaggi@caltech.edu

Factoid: Did you know that March is Women's History Month? This Saturday, March 8th, is International Women's Day - a day of global celebration for the economic, political and social achievements of women. Check out the Women's Center for more information: www.womenscenter.caltech.edu

Y Not Join Us?

Come to an ExComm meeting! All meetings are open to students, staff and faculty - every Monday at noon in the Caltech Y.

The Y x6163 is located on the first floor of the Student Services Building, south of the Holliston parking structure. If you are interested in a Y activity or have questions about the Y, please stop by or send an e-mail to the Vice President at y-veep@ugcs.

Signups are up for IHC Secretary, IHC Ath Man, Food Chair and CRC until Tuesday March 4th at 5 p.m. Interviews for IHC Secretary, Ath Man and Food Chair are Tuesday, March 4th starting at 10 p.m., interviews for CRC are Wednesday, March 5th. Signups for interview times are posted outside Sac 33.

Interested in Amateur Radio? Electrical Engineer? Want to talk to others all around the world? Come to the Caltech Amateur Radio Club Meeting: 6 p.m., Saturday March 8, Winnett Club Room.

Caltech Opera Club is meeting on Friday, March 14, 12-1 P.M. Brennen Conference Room, 3rd Floor, Center for Student Services

Topic: Wagner's Der Fliegende Hollander, The Flying Dutchman

The unforgettable romantic tale of a condemned sea captain and the redemptive power of woman's love.

Please bring your lunch and friends. Hope to see you all there.

Library Classes. The following sessions are approximately one hour of formal instruction in the Sherman Fairchild Library Multimedia Conference Room in Room 328. Walk-ins are welcome, but pre-registration

is preferred.

Thursday, March 6, 2 PM: "Endnote for Absolute Beginners"

Thursday, March 13, 2 PM: "Endnote Forum"

You may register for these and other upcoming classes at library.caltech.edu/learning. For further information, please contact Kathleen McGregor at x6713 or kathleen@library.caltech.edu.

S.P.E.C.T.R.E., Caltech's science-fiction club will be presenting a talk by Caltech Alumus and science fiction writer David Brin, "Probing For Quicksand: How We Peer a Bit Ahead, Into Tomorrow's World."

The new millennium has people pondering the future as never before. We already devote much of our economy to all kinds of forecasting, from weather reports and stock analyses to financial and strategic planning, from sports handicapping to urban design, from political prophets to those charlatans on psychic hotlines. Which variety of seer you listen to can often be a matter of style. Some prefer horoscopes, while others like to hear consultants in Armani suits present a convincing "business case." The talk will be held Wednesday, March 5th at 7:30 p.m. in Dabney lounge. Contact spectre@its to win a chance to have dinner with the author.

The Literature Faculty is pleased to announce the Annual Hallett Smith Competition honoring the finest essay devoted to Shakespeare. Only full-time, officially registered undergraduates are eligible to enter the competition. All submissions must be typed and double-spaced and should not exceed 4,000 words. The essay may be one prepared for a humanities class or may be specifically written for this competition. No student can submit more than one essay. All contestants must submit two hard copies of their work to Professor Jenijoy La Belle, Division of the Humanities and Social Sciences, 101-40, no later than April 17, 2003. This year's prize will be approximately \$300, though the judging committee may divide the award in case of more than one outstanding submission. For more information, contact Prof. La Belle, extension 3605 or Bar-

bara Estrada, extension 3609

The Literature Faculty is pleased to announce the 57th Annual McKinney Competition. The Mary A. Earl McKinney Prize is awarded each year for excellence in writing. Only full-time students officially registered at Caltech as undergraduates are eligible to enter the competition. This year, prizes will be given in three categories: poetry, prose fiction and nonfiction essays. All submissions must be typed and double-spaced. Include your address and phone number. In the poetry category, entrants may submit up to three poems. Submissions of prose fiction should not exceed 12,000 words. Essays may be ones prepared for a humanities class or any good piece of original writing on a topic relevant to the humanities. The prize in each category will be \$300. Each student is entitled to only one entry in each category. Contestants should submit work to Professor Jenijoy La Belle, Division of the Humanities and Social Sciences, 101-40, by no later than March 6, 2003. No entries will be returned. Each category will be judged by a committee from the Literature Faculty. Essays will be judged on the quality of thought and the effectiveness of the writing. Winners will be announced in May and the names of the winners will appear in the commencement program. The Committee may divide the award in each category in case of more than one outstanding submission. Previous winners in any one category are not eligible for the competition in that category. If you have any questions, contact Prof. La Belle, x3605 or Barbara Estrada, x3609.

Bellydance Workshop at Caltech! Learn Basic Bellydance Technique with Leela, one of Los Angeles' most popular Bellydance Performer/Instructors. Experience the Exotic Rhythms and Sensuous Moves that make Bellydance so Exciting and Mysterious: it's great for your body, it enhances your creativity and it's FUN!

Saturday, March 8th; 2:30 - 4 p.m.; Braum Multipurpose Room FREE for Students. Sponsored by Caltech Dance Troupe Caltech contact: Liz Jones lizjones@caltech.edu.

Gladiator OPI. At the height of Roman might, citizens of Rome were known for their daily festivities. One man, Emperor Vespasiano, had a greater vision. In 72 AD he commissioned the construction of the greatest entertainment structure in history. When it was completed in 80 AD, the Coliseum sat over 50,000 spectators for what must have been one of the most spectacular sports in history. Featuring gladiator fights, staged naval battles, and wild animal hunts, the Coliseum was the most popular weekend destination of the time. In festive Roman spirit, Ruddock House welcomes all to Gladiator OPI this Saturday, March 8, 2003 in the Ruddock House courtyard. Featuring two dance floors, including an impressive bi-level replica of the Coliseum, and music to satisfy all tastes, Gladiator OPI will be the place to be. From nine p.m. to two a.m., enjoy food and drink, including Ruddock's famous milk shakes. Remember, how you party in life echoes in eternity. Come to Gladiator OPI.

Matthew Walker '06



Courtesy of J. Pitts

Ruddock members labor on an extensive enclosure for their gladiator-themed annual inter-house party.

CRIPPLING DEPRESSION

HEY, WHAT'S THAT?

OH, IT'S MY NEW PDA. I'M FINALLY KEEPING TRACK OF EVERYTHING!

YOU'RE NOT GOING TO LET THAT THING RUN YOUR ENTIRE LIFE, ARE YOU?

NAH, YOU KNOW ME

BEEP! BEEP!

WHAT'S THAT?

TIME TO PEE

GUIDE TO SLEEPING DURING LECTURE:

POSITION 1: Head Back Risk: Low Comfort: Low

POSITION 2: Drooling Wombat Risk: Low Comfort: Medium

POSITION 3: The Sick Whale Risk: Medium Comfort: High

POSITION 4: Cocoon Risk: What are you, stupid? Comfort: Very High.

AMHHHHH! THE SECOND WAVE OF JUSTICE LEAGUE ANIMATED FIGURES ARE OUT!!

YOU KNOW, THEY'RE JUST TOYS

BATSUPWONDERWOMAN!!!

WAS THAT ENGLISH?

YOU KNOW, IF I HAD A CAR I PROBABLY COULD FIND MORE TOYS... AND PICK UP CHICKS

AMHHH! WHERE ARE ALL THE JUSTICE LEAGUE TOYS?

SIR, CALM DOWN

TARGET

WHERE ARE THEY?

SORRY, WE DON'T RESTOCK UNTIL 9:00

TARGET

LISTEN HERE. IF YOU DON'T BRING OUT A WONDER WOMAN FIGURE, I'M GONNA POP YOUR PIMPLES THE HARD WAY!

THERE THERE, MY BABIES. THE MEAN OLD MAN DIDN'T HURT YOU DID HE?

CD CONTENTIONAL ARROW WATCH

Crappy Comics: CD gets away with another strip with NO original art

TIP: Try reading the Dean's Corner all the way across the page, ignoring the columns. Makes more sense that way.

Arrows Amok Alliteration: Screw Newsweek arrows. How about some DDR?

Pun Pain: Kevin't take puns? Bartz they are so clever.

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Anti-War Protest: Most Students Apathetic Towards World Politics

By DARIO AMODEI

The social critic Neil Postman has warned that the greatest danger American democracy faces is not an Orwellian dictatorship but a culture that makes politics and public discourse irrelevant. Postman believes that our society has turned into a circus, so impatient and obsessed with trivialities that it is losing the capacity to make intelligent large-scale decisions. To paraphrase Postman, we fervently fight to protect our democratic rights, but we often have little desire to use them.

Living at Caltech is a forceful reminder that Postman was right. This collection of the world's future top scientists is also almost entirely indifferent to the political decision-making process of our nation. We are distracted not by the sex scandals and sensationalism of the rest of the world, but by problem sets, computer games and bizarre arguments about the availability of donuts. We, who have so much power to influence the future, have bafflingly renounced our right to it.

For months now the Bush administration has rattled its sabre at Iraq, increasingly against the grain of world opinion. The debate has risen to a deafening crescendo, but one would never know it by the mood on campus. I've rarely heard the subject mentioned in casual conversation, except where I brought it up myself. Aside from news articles on the Social Activism Speaker Series, which I commend, the only mention of the war in the *Tech* was Abe Fetterman's flippant pro-war article in late November. In it he makes up a cute little dialogue between Bush and the U.N., explaining to us why the army and not the CIA, should take down Saddam. In fact, I don't think a serious opinion on the war has ever been published in the *Tech*.

Last week I went to a meeting to help organize Caltech's participation in the national walkout day this Wednesday. The leader of Caltech's Peaceful Justice Coalition told me an interesting fact: several hundred people are on the PJC interest list, but only a handful of them are consistently active. The problem isn't that everyone is just peachy with the idea of bombing Iraq; it's that most people are opposed in principle but refuse to give one millisecond of their time to the issue.

This needs to change, right now and without delay. On Wednesday

at lunch, PJC will be in front of the Red Door with petitions and anti-war literature. Stop by on your way to lunch and sign our petition. Pick up a flyer. Listen to what we have to say. Spread the word and raise the alarm.

What's that you say? You think the war's wrong but it's too far away to affect you? Think again. This is not just some quick bombing operation. Invading and administering Iraq will cost hundreds of billions, maybe trillions, of dollars. Remember the recession after the last Gulf War? Well, this time around isn't going to be any better. This time there's no one to share the financial burden because the world doesn't want this war. This time the economy is bad even before the bombing has started. What do you think will happen when you look for a job in two years? Even better, why do you think Caltech just raised tuition by \$2,000?

An increased U.S. military pres-

"The only thing necessary for the triumph of evil is for good men to do nothing." Edmund Burke

ence in the Middle East is the best thing we can do to make sure September 11 happens all over again. A CIA report commented that Saddam was unlikely to use weapons of mass destruction or seek collusion with terrorist groups unless he was attacked. Even military leaders like former NATO supreme commander Gen. Wesley Clark claim that war will "supercharge recruiting for Al Qaeda." If the Los Angeles city center is blown to bits by terrorist attack, do you want to feel like our bellicosity made it possible, that we could have prevented it by being reasonable?

What's that you say? You don't think your few minutes can make a difference? Nonsense. Every major reform movement has been started by a lot of people with, individually, very little influence, not leaders who spontaneously decided to have a conscience. We have the privilege and duty to preserve the ethical integrity of our community, our nation and humanity. If we fail to do so, we are just as responsible

for the consequences as Donald Rumsfeld is.

What's that you say? I'm an idealistic hippie who's totally wrong about the war? Come out and argue your case. Engage us in debate and discussion. So far I have not heard a pro-war argument that can't be refuted in a single sentence:

"There's a link between Al Qaeda and Iraq. Saddam could give weapons of mass destruction to bin Laden." Patently false. Even the CIA is doubtful and not one piece of evidence has been made public.

"Saddam refuses to disarm. We have to confront the threat and get rid of him before he becomes like Hitler." Iraq probably has a few weapons of mass destruction, but is no threat whatsoever compared to North Korea and al Qaeda. In any case inspections have already destroyed some of these weapons and Iraq cannot hide them all indefinitely. IAEA chief Mohammed El Baradei has concluded that it will take only two more months to determine decisively whether Iraq has any potential for nuclear weapons and that this checking can be done without Iraq's cooperation.

"We should free the Iraqi people of a brutal and evil dictator." Yes, we should. There are international mechanisms for indicting these people, such as the world court, which the U.S. refuses to support because it has repeatedly pointed out American crimes against humanity. Do you have better arguments than these? Come and challenge us.

All the great idols of Caltech, from Richard Feynman to Linus Pauling, have understood the need to be citizen-scientists, to contribute their analytical skills to the enormous forum that is our democracy. We who seek to emulate them scientifically should also do so politically. We should never let ourselves be reduced to amoral technicians who run the machines of war as casually as we do our computations.

Once again, please make your voice heard on Wednesday's national day of protest. Noon to 2:00 p.m. in front of the Red Door. Learn about Pasadena's march and rally planned for the day the war starts. Sign our petition and speak out. Tell us we're wrong if that's how you feel. But for God's sake, don't just walk by because you want an extra minute to finish your ACM set.

Massive Attack's 100th Window A Mixed Bag

Latest Electronica Album 'Shows Great Improvement'

By BEN MATHEWS

In their first two studio albums, Massive Attack managed to create a lot of songs that made good background music—if you didn't pay much attention, the songs sounded great, but once you listened more closely, you realized that each individual song was quite repetitive. They improved with their third album, *Mezzanine*, which had a few energetic, dynamic songs, but still half of the album was a little tedious.

100th Window, their latest album, shows great improvement on this and many other fronts. To be sure, a bit of patience is still needed to make it through the album, since the shortest song is five minutes long and many reach almost eight minutes. But this time, nearly all the songs have climaxes and progressions which make them interesting to listen to. The notable exception is the last eleven minutes of the CD, which consists of a slowly-varying low-pitch electronic noise. As far as I can tell, there's no musical value to this part of the album—it's more of a test to see how long you can stand it before you have to stop your CD player.

As is usual for Massive Attack, many of the lyrics on *100th Window* are extremely hard to understand. In a first for them, however, lyrics are included in the booklet for all but one of the songs on the album. They don't always help, however—the song "Butterfly Caught," for instance, begins with: "Weightless falls, honeysuckle, strangers, strange this, lights from pages." By the end of the song, it isn't any clearer what the song means.

Not all the songs are so cryptic, however. For three songs on *100th Window*, Massive Attack collaborated with Sinéad O'Connor, the controversial and extremely short-haired Irish pop star. Because of O'Connor's more mainstream influences, these three songs, when compared to the rest on the album, are easy to understand, have lyrics that make sense and are extremely vibrant and energetic.

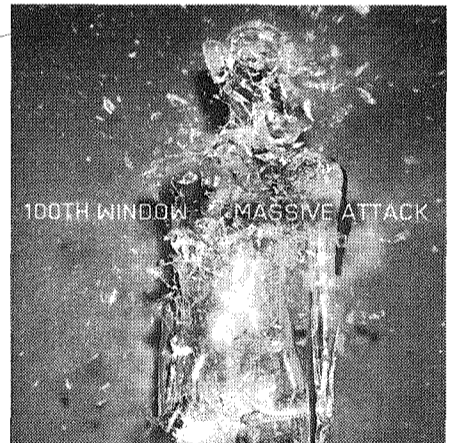
One of the three, "Special Cases," is the first single off

the album and is an excellent example of how O'Connor and Massive Attack are extremely complementary. O'Connor's plaintive voice soars over Massive Attack's haunting electronic background; together they create an extremely unnerving atmosphere.

Occasionally, O'Connor's lyrics are a bit too simple—for instance, in "What Your Soul Sings," she gives the listener the all-too-common advice that he should follow his own desires: "Don't be afraid—open your mouth and say—say what your soul sings to you." Even if her lyrics aren't extremely inventive, her voice still sounds good against the drum loops and synthesizers.

The remaining six songs, which O'Connor did not work on, are also good. They are slow and less climactic than the three O'Connor songs, but they are still well done. The only great disappointment on *100th Window* is the lack of a follow-up to *Mezzanine*'s instantly catchy single, "Teardrop." To be fair, *Teardrop* felt out of place on *Mezzanine*, but it was such a good song that it really didn't matter. It would have been nice to have a new single of similar quality, but I can understand why there isn't one, too.

Overall, I think that *100th Window* is quite a good album. Those who liked previous Massive Attack albums should enjoy this one; for those who haven't heard Massive Attack before and are curious about them or about electronic music in general, *100th Window* is a pretty accessible starting point.



Courtesy of B. Mathews

Prefrosh Need Protracted Glimpse Into Campus Life

Continued from Page 3, Column 4

struction houses do for parties. Blacker House hosts midnight ultimate, another popular social event throughout the year. The wide range of social activities allows everyone to participate in something they could be interested in. Shortening prefrosh weekend will only limit the variety of interests that is displayed.

According to Vice President of Student Affairs Margo Marshak, "The reason that Prefrosh Weekend is being shortened is financial." The major costs seem to be food, plane tickets that Caltech offers to women and underrepresented minorities and possibly increased liability insurance. The prices of plane tickets increase significantly for many origins if prefrosh weekend is shortened to Saturday. This means that many prefrosh who pay for their own plane tickets may stay until Sunday anyway and that Caltech will pay more if it hasn't done away with that practice. A major avoidable cost of food is providing for

the entire campus on Saturday. Students have expressed willingness to host barbecues for prefrosh on Saturday. If each house sponsored its prefrosh, a significant financial burden could be lifted from the Institute. Prefrosh would get another chance to interact with students and stay for the night's activities. Incidentally, the houses can probably provide the food for less than half the cost of Caltech Dining Services, since they don't have a lot of overhead and they don't pay themselves to cook.

Many students came to Caltech based on their experiences at Prefrosh Weekend and several have said it was the single biggest factor in their decision to come. Depriving prefrosh of the chance to fully experience Caltech will only hurt the student character that makes Caltech unique. If the students are willing to share the cost to preserve this important event, administration should be willing to negotiate to prevent its loss.

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Honoring the Code: Fairness in BoC, CRC

By JEAN-PAUL REVEL

We talk Honor Code, some of us dream Honor Code, many study under the Honor Code, most live by the Honor Code. Students tell us they come to Caltech because of the Honor Code.

Yet, in spite of all this interest and attention, there seems to be a great deal about the Honor Code that remains mysterious. It should not be. You can read about the honor system and how it is applied "everywhere": there is an honor code booklet handed out to students when they get to Caltech. At present displayed is the 1999 version, not the latest, but it'll do in a pinch. Much information can also be gleaned in the *little t*, starting at the bottom of page 259 in this year's edition. Short descriptions of the Honor System at Caltech can be found also in the material at the Caltech main site aimed at incoming students. With all of this exposure to the requirements and workings of the Honor System, it is always surprising to me how often people still end up appearing in front of the Board, claiming that somehow they "did not know."

There are two groups these days who are entrusted with the duty to protect us from those who would take "unfair advantage." One, the Board of Control, has ended up in the main dealing with academic transgressions. It is composed of eleven students. The chair, also the vice president of ASCIT, and the secretary are elected by the student body. Each house sends a representative to the board, the "house rep." with whom you can discuss the workings of the Board or problems you might have in applying the Honor Code. There are also two reps at large appointed by the Board from the whole student body. The Honor Code as it is implemented at Caltech leaves our students in charge of policing themselves.

Another body, the Conduct Review Committee, only a few years old, deals with personal disputes, problems involving large numbers of students, in some instances with problems affecting a whole house or several groups. Such things in the past had been arbitrarily dealt with by either deans or the director of

Residence Life. The CRC contrary to the BoC is composed not just of students but also members of the other tiers of the community. There are two co-chairs, the associate dean and a student, elected by peers. More students, members of the staff and the Faculty complete the committee roster. A "routing group" meets weekly to review new cases and assign them to one or the other group or to the deans.

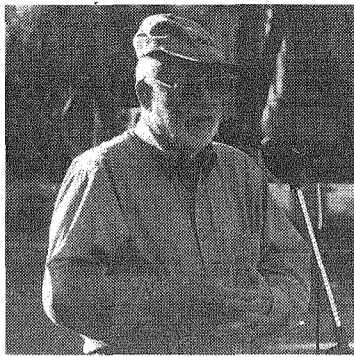
Both BoC and CRC work very conscientiously in enforcing the code. In the case of the BoC, cases are usually reported by a professor or a teaching assistant. The chair and secretary then investigate the particulars. If they feel that the evidence suggests the case should go forward, they bring it to the full board, which examines the evidence, discuss the matter with the defendant and among themselves and then vote on whether there was indeed a violation of the Honor Code. If so, they decide how to nullify any advantage that might have been gained, most commonly by removing credit for the falsified work.

"[In] an atmosphere of secrecy... uncontrolled rumors breed well and spread far."

In a second step they decide what to do to protect the community, taking whatever steps seem necessary to prevent a recurrence. In all cases their decisions are recommendations to the deans who, after appropriate review, are charged with enforcing the board's decisions. In some instances the deans may reverse the decision of the board or ask it to review its decisions or take some other action.

In my tenure as dean I have found it inspiring to work with the dedicated students who give up so much sleep and time and who expand so much energy to make sure that students suspected of deeds seen as "taking unfair advantage of others" get a fair hearing.

Part of ensuring fairness, the wish of avoiding opprobrium for a possibly innocent student leads the



board to maintain strict privacy. The files of the proceedings are kept strictly confidential. "All those appearing before the board and the board itself, are expected to maintain absolute secrecy... divulgence of any of the proceedings shall be considered a violation of the honor system," reads Board of Control rules of procedure item "w." Everyone, defendant, witnesses and the Board itself are sworn to secrecy. Not even the meeting place is supposed to be revealed. It is only after completion of a case that the defendant can release information and only if he does, do the witnesses also have the right to discuss the case. An unfortunate consequence of such an atmosphere of secrecy is of course that uncontrolled rumors breed well and spread far.

As part of the effort to protect defendants who might be innocent the BoC meetings often take place very late, I should say early. The disregard by students for the sleeping customs of ordinary mortals is well known. It is often seen as a badge of distinction not to go to bed until the rooster crows; the problem of course is made worse by the fact that there are not many roosters between Del Mar and California Blvd. The late hour of the meeting and the hush-hush location of the meeting place can suggest that something inappropriate is going on, that it is not a quasi-judicial process but an inquisitorial proceeding.

Because the CRC has a mixed membership, its meetings take place in broad daylight and while secrecy is equally important to protect the innocent, there is less of a threatening aura to its proceedings. I must say that although protection of the defendants is important I have often wondered whether there would not be advantages to more open proceedings. A wider knowledge of what is happening and an open account of the outcome might discourage other potential breaches of the code. To be continued, *tres bientot*

Jeffrey Phillips '06

Zhang Racial Views Flawed

Dear Libin Zhang,

How about a little history: Fob is a which was first used to designate Italians and other groups and has only recently been used for Asian-Americans. I've never heard of people being lynched while the crowd screamed for the "fobs" blood. I've never heard of Southern politicians running on the platform of putting "fobs" in their place. I've never heard of non-Asians calling themselves "fobs" because they thought it made them

'From New Angles': Law, Honor and Self-governance

By SAM THOMSEN

Dean Revel,

I am writing in response to your article in last week's *Tech*. First of all, the views I expressed in my article are not unique to me. I was expressing ideas held by many fellow students, most notably Scurves, but also members of other houses. There may be Caltech students who disagree with the points I made, but I have received no negative responses from them and many positive responses. Furthermore, if my views were idiosyncratic, that would not affect their validity.

I want to prevent any misunderstanding about my intentions. My article was not advocating the violation of federal law, city ordinance or institute policy, nor was it an attempt to justify certain mistakes made by members of Ricketts. Also, I want to make it clear that I am not trying to promote an "us v. them" fight. In most cases I think students trust that "the administration" will make decisions that are best for us. However, every time we feel that we are being cut out of the loop, it adds to a sense of frustration that has been growing now for at least a year, beginning with the events leading up to the well-intentioned student-faculty convention last spring.

I am speaking out not against the administration, but to let the administration know that the students are an important part of Caltech and many are eager and willing to help shape the future of this school. The particular vision of the future we are advocating is one where Caltech continues to be as creative, unique and independent as it has been in the past.

What we really wish is that Caltech didn't buckle to societal pressures. Doing so is against everything we stand for, such as idealism and a certain kind of elitism. Again, we're not advocating in any way the violation of rules set up by society. We're simply asking for a certain kind of honesty. For example, how big a factor is the threat of being sued in recent Caltech policy changes? Why was a committee set up to decide what the Dean's role is in undergraduate life, without consulting any undergraduates?

I take issue with several statements you made about the reasons for which students *should* decide to come to Caltech. Instead of gawking at all the original groundbreaking research presently going on, should I have been impressed by all the distinguished awards the faculty has received over the years? Rather than marveling at the opportunities for participating in research, should I have gaped at the number of faculty compared to students? Should I not have come here for the unique form of student self-governance, but to enjoy the maximum prestige for my dollar? Instead of coming here to push my intellectual limits, should

cool, then turning around and using the same word to put Asians down.

Now a little personal history: I knew someone in high school who spent a few days in the hospital after being attacked after a basketball game. He was beaten by a group of white kids screaming "nigger" and other racial slurs. But hey, you know more about what the words mean than I do.

I'm sure you think using "nigga please" and other stereotypical language in your article was clever. I'm sure you think that making fun of my honest reactions to the word "nigger" was clever too. Maybe if you weren't so ignorant you would

I have come here to hang with people just as genius as me? Should I have realized that an honor code which allows students to exercise their good judgment isn't half as appealing as a set of rules telling me exactly how to behave?

When deciding to come here, I sincerely believed in approaching problems from new angles and finding solutions no one has ever thought of before. I even had the mistaken impression that the laws of physics were the only laws that could never be broken. But it turns out that the laws of bureaucracy don't in fact break down as one crosses the event horizon of a black hole, because they are actually denser and more robust, subsequently swallowing the black hole in litigation. If I ever saw this occur, I'd have no choice but to accept the fact that other people always know better than me.

I did not come here to live with "smart" people. I consider people in the arts and humanities just as "smart" as scientists and the ability to think for oneself just as important as the ability to do lots of messy algebra. I think I can speak for many undergraduates when I say that I came here for three main reasons: the challenge, the research and the honor code, all three of which require unmatched creativity and independence.

Furthermore, I want to make it clear that Ian's statement, "The laws of physics determine what is safe," was inserted for effect. It's true to a certain extent, but it is an oversimplification and skirts the real issues. The incidents you cite are not entirely analogous. The nightclub accident in Chicago involved over a thousand people, the use of pepper spray—no fire—and a narrow stairway as the only exit. On occasions when 40 people enter or exit the courtyard in a rush—as with doughnuts in the courtyard, for example—there is no problem. Most importantly, there is a fire hose and garden hose within easy reach of the center of the courtyard. Ricketts house has recently been working with the fire department to determine what kind of new structure we can build that will be safe and to work out a set of rules for its use, for example, that all exits must be left unobstructed and that only a certain amount of wood and paper can be burned at a time.

Or maybe you're right. Instead of fighting to keep our traditions—since I was born too late to enjoy the primal rituals of fire, alcohol and thinking for myself—I should do everything in my power not to hurt myself. In fact, I'll take up Dungeons and Dragons again. Maybe even some good old-fashioned Starcraft to avoid the dangers of socializing and creativity. After all, my brain was made to compute according to strict rules and any deviance from such behavior is old-fashioned and wrong.

realize that hearing a few rap songs and seeing a couple of movies doesn't make you an authority on what you call "black-on-black" usage of language. Maybe you would realize that you don't know a thing about how race and culture matter in this country, at least to some of us.

You say you're sorry if I was offended, then you slap me in the face with my own article. You don't care about racial sensitivity? Fine. You want to make fun of someone who wrote a completely honest letter? Fine. At least use your own words next time.

Lionel Jingles '05

Letters: Making Own Mistakes, Part Two in Zhang-Jingles Debate

Continued from Page 3, Column 5

Response to Revel

Dear Dean Revel,

In the case of a chained courtyard, you're absolutely right. Ricketts should not have cut off exit ways. However, your article also demonstrates a fatal flaw in the reasoning of the administration here and in that of the entire country. You wrote, "Customs which might have been allowable at one time are not necessarily applicable today. Young adults today were just born too late..." What, pray tell, has changed?

Society calls for scores of new restrictions every year to better protect humanity from itself, at the cost of giving up a little freedom. Instead of seeing a decrease in fatalities, more people die this year than in any previous. We have entered into an arms race between the regulators and those who wish to circumvent those regulations with clever new horrors and as the events of the past few years have shown, the hor-

rors are winning.

Are these new regulations and revisions to history helping the students? Not really: if anything, preventing accidents only means that students will never learn things by themselves. The only people satisfied by these new boundaries are the aging administrators who can look back on all the things they've done and tell us not to do them. You tell us things are different, but that's wishful thinking on your part: the world is the same place it always was, with the same risks and dangers it always had; you just see them better in retrospect. You tell us not to have fires when you surely built bonfires in your youth. You tell us many other things, like not to drink, but isn't the drinking age in France something like 14?

I came to Caltech for all the reasons you listed in your article, but also for the article's title: common sense. I looked forward to an administration which would way its rulings against practicality and common sense and legislate less rather than more, unlike so many

institutions. This administration locks a door to the courtyard of student rights with every regulation it imposes. Some people in Ricketts thought that being locked up would make them more secure and you chastised them for that. Will you now make the same mistakes and hope against hope our fire doesn't spread?

MATHEMAGICAL!



Master magician Bradley Fields stimulates creative thinking and inspires curiosity by revealing the secrets behind startling magic tricks at his performance last Saturday in Beckman Auditorium. His show, *MatheMagic!* aims to demonstrate the beauty of math.

P. Dormiani/The California Tech

Worm Holes, Warp Drive And a Visionary Physicist

Continued from Page 1, Column 3

Krauss later summed up his position on the possibility of extraterrestrial life by saying, "I firmly believe there's life elsewhere in the universe." He added that unfortunately, it's unlikely we'll ever encounter it.

It would not have been difficult for Krauss to write the book from a completely different angle, slamming the show for numerous inconsistencies and irrelevance for real science. His choice to keep an open mind about the myriad of implausible possibilities makes him a better scientist, a better daydreamer, and a much more successful author. Every Trekkie remembers arguing with a science teacher over why the light speed barrier can't be insurmountable. Screw relativity; all you have to do is cut a whole in the fabric of space-time, go through it, come out the other side, and sew it back up...

The single most frustrating thing in all of modern physics is knowing that there's an essentially infinite universe of worlds to explore, and our best minds are telling us that we can't go there—or if we did, we couldn't come back in the lifetime of our friends in the Terran System to tell them about it. I know some really smart physicists are painting some relatively bleak pictures of superluminous travel, but as long as there's room for hope,

that's enough for me.

The style of the talk was well-rehearsed and fluid, owing in no small part to the fact that he'd likely given it countless times before. Despite this repetition, there was no sign of his being bored with it; he answered questions with an earnest interest characteristic of the best teachers—and Starfleet officers—I've had the privilege of knowing. His undaunted curiosity was perhaps influenced by his *Trek* mania, and he later admitted that whether his interest in physics prompted his interest in *Star Trek* or vice versa was a "chicken and egg question."

Krauss is of course not the only real-world thinker with a little spark of Spock in him. One doesn't have to look far to see where science has caught up with science fiction. It seems that if anything, Roddenberry underestimated our progress in some areas, to the degree that technology is outpacing the writers' creativity.

While audiences scoffed at Kirk's handheld communicator, in retrospect one could fit four cellular phones in that space today. The CAVE, a predecessor to the holodeck, is being used in industry to evaluate automobile prototypes without ever building them. This month's *Popular Science* describes the first Airborne Laser capable of destroying missiles—or other tar-

gets—a device that isn't far removed from a phaser. I've heard of vague reports of research into warp drives, impulse engines, and even transparent aluminum—well, aluminum oxide, but close enough.

The list continues: videoconferencing, voice-controlled computers, the hypospray, multiple advanced medical technologies including laser surgeries, artificial hearts, cloning and genetic technologies, synthohol, nano-robotics, tricorders, androids, and doors that slide out of the way automatically upon being approached. In some areas, the technology of today has even surpassed that of the *Enterprise* crew: the Tablet PCs make Personal Access Display Devices look antique, and don't get me started on user interface design; if you think Windows is bad, try typing an e-mail using an LCARS interface. If you don't get it, don't worry; it just means you're cooler than me.

Last but far from least, a private lab in Portugal has brought sight to a blind man using an artificial eye hardwired to his brain stem, while similar results in countries limited to more conservative human experimentation methods are forthcoming. The Genesis project is sadly much further behind schedule, as funding for terraforming Mars is in short supply.

I'm going to go out on a limb here and say there probably isn't another series that comes close to this level of technological prediction, although in some cases it's difficult to determine which came first. *Baywatch* was a quality show, to be sure, but even the most optimistic viewers aren't holding their breath waiting for a world populated by Pamelas.

I have a feeling that the reason *Star Trek* technology is being realized at such a high rate is that a significant number of the best minds in the world have grown up with the series. According to Krauss, essentially everyone in physics is at least familiar with it, and many find it something of an obsession.

Krauss first spawned most of his groundbreaking ideas in his book, from which Krauss drew the material almost verbatim for his talk. If you liked the talk, you'll love the book, and if you loved the book, then the talk is okay. The only problem is if you'd read the book recently, then you found yourself predicting what he was going to say. Of course, for a Trekkie, that's nothing new; most of us are accustomed to predicting lines with the precision of an android.

So, if you haven't read the book, read the book, and if you've never seen *Star Trek*, for the love of Q, start now. If you're a physicist, stop being so whining and dig me a worm hole. If you're a biologist, I want a tribble—preferably fixed, although given that they're born pregnant, this might prove difficult. Props to the computer scientists out there; ya'll're doing your part. As far as cybernetics is concerned, Honda is in the lead, but Asimo is a far cry from Data. The only thing stopping us is us.

GEOLOGISTS WIN ICE SHELF FOR RESEARCH

By ROBERT TINDOL

There aren't too many living individuals who can go to the mall and buy a globe with their name printed on it, but the California Institute of Technology just added two.

Barclay Kamb and Hermann Engelhardt, longtime researchers on the workings of the Antarctic ice streams, have been honored by the American Advisory Committee on Antarctic Names (ACAN) with the renaming of two features near the gigantic Ross Ice Shelf, a Texas-sized mass of floating ice. Hereafter, the feature informally called "ice stream C" will bear the formal name Kamb Ice Stream and "ice ridge BC" will be formally named the Engelhardt Ice Ridge.

Dr. Kamb, a geology professor, is still active in attempting to understand the rapid flow of the Antarctic ice streams and its potential effects on the health of the great ice sheet that covers 98 percent of the Antarctic continent. If the ice sheet were to float rapidly outward into the circum-Antarctic Ocean and melt, the addition of the huge volume of meltwater to the oceans would raise the sea level and have a drastic impact on coastal cities throughout the world. Dr. Engelhardt, a senior research associate in geophysics, has collaborated with Kamb for years in the research.

They have undertaken a number of expeditions to Antarctica to collect ice-stream data by drilling boreholes down through the ice to the bottom and sending down instruments such as temperature sensors, pressure gauges, ice corers, sediment corers and borehole video. Previously, they had used these techniques to study surging—"galloping"—glaciers in Alaska.

Actually, the news for Caltech's division of geological and planetary sciences is even better, because two of Kamb's former students were

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Surplus Blesses Movies, Tax-free House Funds

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counts. In the end, many such unspent small budget items snowballed into the \$10,000 surplus.

ASCIT staff proposed several ideas for the extra cash. The movie chairs received up to \$2000 to purchase movies and extra cases. They plan to buy movies from the list of those lost two years ago and from the list obtained from last summer's survey. Approximately 100 movies have not been repurchased from the list of those lost. Another 150 remain from the list that were suggested by students on the survey.

Last year, however, the BoD found a "box of money," apparently left over from the days when ASCIT charged for admittance to ASCIT movies. The few thousand dollars in the box went to replacing as many of the lost movies as possible.

The BoD also approved a motion to put \$100 in each of the house funds that were set up earlier this year to allow people to donate to the houses tax-free. The aim was to entice house treasurers to learn how to use the account by giving them a little money to withdraw from it.

There was some debate about how much money should be given, with some suggesting house disbursement proportional to ASCIT membership. Since the \$10,000 has accumulated over several years, to be fair, past membership numbers would have to be taken into account. To simplify the matter, the BoD approved \$100 per house.

A request from the senior class for assistance in buying fruit trees as their annual senior gift was left to the incoming BoD to decide. The seniors are interested in apple, tangerine and kumquat trees, which cost \$900 each. In recent memory, ASCIT has not subsidized the senior gift.

Page Resident Associate Dylan Neiman suggested that ASCIT host an athletic event that includes teams from every house. Events such as sumo wrestling, jousting and slip-'n-slide would be fun for all of the houses, he said. ASCIT could also provide food and have a barbecue.

The price of the event was estimated at \$2,000 for renting equip-

ment and buying food, but the outgoing BoD left the suggestion to incoming BoD for consideration, since the proposed event would take place during their term.

Jamroom Manager Spencer Rarrick '04 presented some information he had found doing research for a new ASCIT sound system. A bare-bones system, he said, would consist of at least two cabinet speakers, a subwoofer and supporting amplifiers.

Spending economically, ASCIT could purchase JBL brand equipment, getting the speakers for \$1,500 each, the subwoofer for between \$600 and \$1,000 and the amplifiers for between \$2,000 and \$3,000. Higher quality, EAW brand speakers could be purchased for between \$2,500 and \$3,000, with the other costs remaining roughly the same. Rarrick advocated more research into the matter, so the BoD didn't set aside money for it.

Citing accounting procedures, the BoD turned down a request for money by BoC chair Galen Loram '05. Loram requested money to fund food for cases, which helps entice BoC representatives to show up to cases, citing an increased case load since he took office. Since the freshman class seemed to be the major focus of the cases, Loram proposed new BoC talks to emphasize the honor code. He would need money to buy food for these, which he hoped would increase attendance. The need for the talks was emphasized by threats of two professors to discontinue use of the honor code in their classes.

While the BoD agreed that the BoC needed more money, the easiest way to fund them would be through refunding receipts, so they advised Loram to submit a larger proposed budget for the next year to the BoD.

Two minor ideas also came to the table: buying food for the Ricketts Bonfire, to which all houses are invited; and sponsoring a concert. Both elicited little discussion. In addition, a request by Jeremy Pitts '04 for money to subsidize OPI was denied.

LUKE'S LAND ACQUISITION STILL IN FLUX

By IRAM PARVEEN-BILAL

Caltech is moving forward on a plan to purchase property currently host to St. Luke's hospital in northeast Pasadena on East Washington Blvd., said Vice President of Business and Finance Albert Horvath Thursday.

"We started looking at the possibility of acquiring St. Luke's last summer," he said, "and since then we have been trying to analyze the value of the site to Caltech and are tying loose ends that could ultimately lead to a negotiation."

In the summer of 2002, a committee undertook analysis of the site's structural value to Caltech and took evaluations from focus groups that had representatives from all campus constituencies. In addition, they visited the site and were initially considering it as an appropriate "swing space" for accommodation of undergraduates during the planned renovation of the houses. That plan was dismissed instantly, however, thanks to its distance—over four miles from campus—certainly an inconvenience.

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D. Korta/The California Tech

Lawrence Krauss explains the motivations behind *Honda*, *Asimo* and *Data* in his *Physics of Star Trek* lecture last Wednesday.

VP HORVATH TEAM SEEKS TO EXPAND

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Currently, the analysis is still going on and additional groups, such as the environmental group, are taking a look at the site from their respective areas. A team comprising prominent Caltech figures such as the president, provost and Mr. Horvath himself led a presentation to the Board of trustees on January 28 on the matter and received an approval to continue their analysis.

Mr. Horvath hopes that a final decision will come soon. "I am hoping that in the next three to five months," he said, "we can know if the signal to acquire the property is red or green."

Of course, the team must first face underlying problems: issues like the requirements that the City of Pasadena might put on Caltech for acquiring the property, how exactly Caltech would use the site and the property's state of telecommunications.

Mr. Horvath's suggestions for use ran the gamut from graduate and postdoctoral student housing to the possible relocation of big research projects—projects that would not be hindered by geographical detachment from campus.

He further mentioned that the buildings are visually in decent shape and that they cover an area of 13 acres, roughly a tenth of the size of campus. Regarding the site's distance from campus, he mentioned the successful operation of the Jet Propulsion Laboratory, which was running successfully despite its location and its many attachments to Caltech.

After Regional Success, Chess Team Takes On MIT

By JENNY IOFINOVA and
ARTHI SRINIVASAN

After a sensational victory in a tough team championship, the newly formed Caltech chess team took on MIT in a friendly online match. The team, which consisted of Wei Ji Ma, Eugene Yanayt '06, Graham Free '04 and Howard Liu '06, had a surprising victory during President's Day Weekend in the U.S. Amateur Team Championship West.

In this tournament, the average rating of the team must be less than 2200. Caltech played without its strongest player, Patrick Hummel '06, who spent the weekend with his family. His absence, however, allowed the team to play the next four strongest players, which would have been impossible otherwise because the team average would have been too high.

The tournament consisted of 42 teams in the Western United States and Caltech was ranked 11th. There are six rounds during which a team of four takes on another team of four. Each round is worth one point for a win and a half-point for a draw. After the first round, teams play only against other teams with the same number of points. The team with the largest number of points at the end of the tournament wins. In this scenario, it is possible for more than one team to have the same number of team points at the end of the competition.

This time, however, Caltech was the only team to end up with 5.5 points: five wins and one draw. According to Ma, the only graduate student on the team, most teams had three strong players and one weaker player. There was nothing weak about Caltech's fourth board,



D. Kortz/The California Tech

Caltech's chess team ponders its moves yesterday in a long-awaited Internet matchup with MIT. The team took 11th in the recent regional U.S. Amateur Team Championship West.

Howard Liu '06, however. He and Ma both won five of six matches and achieved a draw in one.

The National Amateur Championship is slated for March 15. That day, the same team from Caltech will take on the champion of the Midwest division, while the South division winner plays the one from the East. The winners of the two matches will then play each other for the championship.

The team seems surprised and pleased by their victory at the recent tournament. Yanayt remarked,

"It's very exciting for us, because we were the underdogs, without our best player, Patrick." Hummel further noted that the victory was due in large part to the victories of Liu, who "had surprisingly good results which were better than you could have possibly guessed; that's where the victory really came in."

The victory will also affect the individual rankings of the participants. According to Hummel, "the rankings of the top board and the fourth board are going to go up quite a bit, especially the fourth board, since he was playing someone ranked higher every time."

The results of the tournament are even more surprising and gratifying since this is the first year that Caltech has had a chess team. The team was formed in October 2002 by Patrick Hummel, Graham Free and Wei Ji Ma. Notably, five of the top eight boards, including first board Hummel, are freshmen. "Before, I hadn't met anyone who played until my sophomore year, when my RA mentioned Wei Ji," said Free.

Yesterday, the team played a long-anticipated Internet match against MIT, the results of which were not available at press time.

The backdrop for the MIT match was the Internet Chess Club, which is the largest online chess community. In this match, each player played a single game in which the player had 60 minutes to make all of his moves. On Caltech's side, players convened in Steele's computer lab for the contest.

Before the match, all of the players said that it was sure to be closely contested, but that Caltech had a good chance of beating MIT. As Yanayt stated, "the match should be very interesting because we look better on the top boards and MIT looks better on the bottom boards; the match will be decided by the middle boards."

This match is Caltech's first with

MIT, which had no chess team until two years ago. The MIT chess team was started two years ago by then-freshman Yelena Gorlin, a good friend of Ma. The idea for the Caltech-MIT match was spawned through an e-mail correspondence between the two. The match will be "good for promoting chess on the campuses and if it works out well, we could make it an annual event," remarked Ma.

Many of the players commented on the differences between online games and traditional board games. For some players, such as Hummel, playing online is more difficult. "All in all, playing online is different; I'm personally worse on a two-dimensional board, but the difference is usually not that significant," Hummel commented.

Other players, like Yanayt, are as comfortable playing over the computer as in person. Likewise, many of the Caltech players have been playing online for a while. As Yanayt, who has played "thousands" of online games, put it, "I usually play a lot of quick games online. I can play 20 online in the time I play one real game."

Still others were introduced to the experience by the match against MIT. Hummel commented that "Wei Ji is now terribly addicted to playing blitz games online."

The newly formed Caltech Chess Team has had a phenomenal year thus far and if this year is any indication, promises to bring back many more victories in many more years of competition.

"The team thing is quite nice; it's almost like a sports team," said Ma. "There are other people to encourage you and if you lose, you don't feel so bad, since the team won." He added that it would be nice if more faculty and graduate students came out to play. The team meets in the dining hall of Page House on Fridays from eight p.m. to 9:30.

Duo Praised for Ice Stream Research

Continued from Page 7, Column 1

also honored with an Antarctic naming. Ice ridge CD has been formally named the Raymond Ice Ridge after Charlie Raymond, and ice stream F has been named the Echelmeyer Ice Stream after Keith Echelmeyer. Raymond, who earned his doctorate in 1969, is now on the University of Washington faculty; Echelmeyer, who finished his Ph.D. in 1983, is a faculty member at the University of Alaska at Fairbanks.

In announcing the namings on behalf of ACAN, glaciology professor Terry Hughes of the University of Maine said, jokingly, "It looks like Caltech made almost a clean sweep of the ice streams." The ice streams in Antarctica move through the ice sheet somewhat similar to the way an ocean current, such as the Gulf Stream, moves through the ocean. Most of the ice sheet flows a few meters a year, but in those places where ice streams form, the flow of the ice is roughly a hundred times faster, approximately one meter per day. The ice streams are usually about 30 to 50 kilometers wide, 300 to 500 kilometers long and 1 to 2 kilometers deep.

Why do they move so fast? "That's what we're trying to find out," said Dr. Kamb. After 10 years of study, the researchers have demonstrated that the temperature at the base of the ice streams is at the melting point, whereas it is below freezing at the base of the ice sheet outside the ice streams. The ice streams' basal melting condition allows water pressure to build up under the ice, which tends to lift the ice mass above and to weaken a layer of glacial sediment—clayey gravel called "till"—that underlies the ice streams in a thickness of about one or two meters.

Both of these effects of pressure are capable of increasing flow of the ice streams, which are propelled downwards by gravity, with the soft, weak, till layer acting as a sort of basal "lubricant." The researchers believe that an increase in basal water pressure should result in a marked increase in ice-stream flow, but so far it has not been possible to observe and measure this expected effect in the actual ice streams.

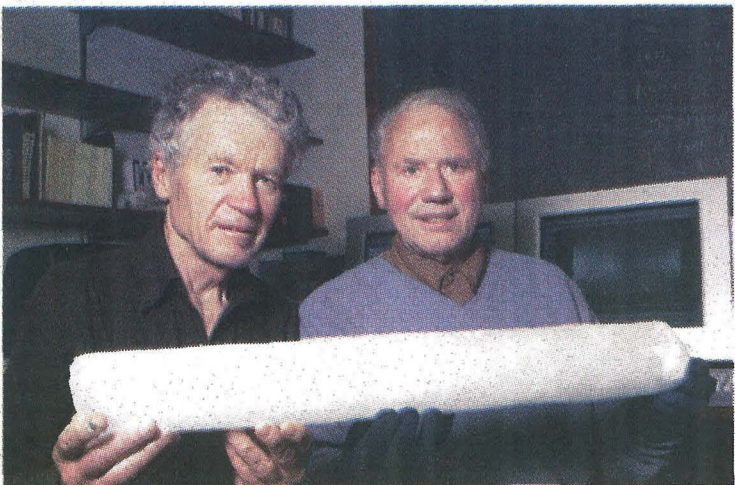
It is believed that friction at the lateral shear margins and at bedrock

humps under the ice—also called "sticky spots"—prevent the velocity from getting out of control.

"The question is what will happen to the ice streams in the future," said Dr. Kamb. "Will they cause a big enough effect on the flow of the ice sheet to contribute appreciably to future sea-level rise? The big issue as to the future behavior of the Antarctic ice sheet is whether it will cause global sea level to rise."

To study the ice streams, Dr. Kamb and Dr. Engelhardt have made about a dozen National Science Foundation-funded expeditions during the Antarctic summer, in the period from late October to late January. Working in teams of about 13 or 14 people, including Caltech graduate students and support staff from the McMurdo base, the group drills a number of vertical holes, six inches in diameter to the bottom, at a depth of about 1,000 meters. Some of the holes are used to take core samples, while others are used to lower equipment.

The instrumental work has to be completed within about three or four hours after borehole completion, because by that time, the borehole freeze-up process has already progressed to such an extent that the ice "grabs" the equipment still in the hole.



Courtesy of R. Tindol

Geology professors Barclay Kamb and Hermann Engelhardt display a slab of ice from the Antarctic ridge that now bears their name.

The California Tech

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