

The California Tech

VOLUME CVII, NUMBER 5 PASADENA, CALIFORNIA OCTOBER 24, 2005

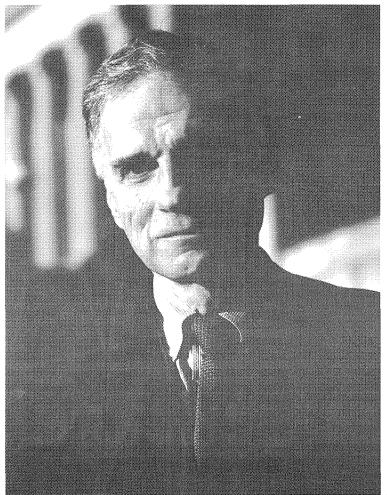


Photo courtesy of voitenader.com

Still Raging Against Various Machines: Ralph Nader Comes to Caltech

By DAVID CHEN

In the latest installment in the Caltech Y's Social Activism Speaker Series, Ralph Nader, consumer advocate and former Presidential candidate, spoke last week about the growing influence of corporations.

He began by stating that "corporate science is taking over academic science," especially in the fields of computer science, biology, and the military engineering. He described academic science as open, in contrast to corporate science, which he described as secretive and often associated with narrow but commercially valuable problems.

Mr. Nader warns against this trend, because the university could possibly lose its independence, which he asserts would do "tremendous damage to society."

As evidence of corporate power in the university, he described the plight of Ted Polsom, a professor at MIT, who has publicly written against the effectiveness of the missile defense program. In response, MIT's administration reduced his status, and no one is willing to debate him.

He claimed that "government has become an indentured servant" of corporations and defined fascism as a government that is controlled by corporate power. As an example of this, he noted that the 1872 mining act, which allows the discoverer of a precious resource on public grounds to purchase the rights at minimal cost, is still utilized. A Canadian company purchased \$9 billion of gold for only \$30,000 and according to Mr. Nader, taxpayers would

need to pay to clean up the cyanide wastes after the operation.

At the beginning of the speech, Mr. Nader noticed that the audience actually had very few students, but still opened with his prepared remark, "You're all very bright. So what?" Later, he questioned what objectives our brilliance will serve. In particular, Mr. Nader expounded on the importance of solving the problems with mass transit, nutrition, the flu pandemic, and so forth.

Mr. Nader explained that he became interested in auto safety when he noticed his friends dying from automobile accidents, inspiring him to investigate the issue of crashworthiness. He said that engineers knew the effectiveness of safety features, such as seat belts, but that the engineers' employers had ordered them to omit such extras.

According to Mr. Nader, employees at corporations are told, "Leave your conscience at the front door," meaning that, although many product defects are known before their shipment, employees' promotions depend on their staying quiet about them.

He then described how we are all "growing up corporate," citing three main examples. First, he noted that we all sign contracts, when purchasing a car for example, without ever attempting to negotiate on the contract. In essence, we have resigned ourselves to the conditions that the corporations provide.

The next example was our modern emphasis on superficial beauty and body shape. Mr. Nad-

Continued on Page 8, Column 1



Image courtesy of kni.caltech.edu

An artist's rendering of the front office of the Kavli Nanoscience Institute. The actual office looks much more realistic.

Kavli Nanoscience Institute Inaugural Symposium to be Held Monday on Caltech Campus

By ROBERT TINDOL

Theodor W. Hänsch, who earlier this month won the Nobel Prize in Physics, will be among the speakers at the Kavli Nanoscience Institute Inaugural Symposium. The one-day event will be held in the California Institute of Technology's Beckman Institute Auditorium on Monday, October 24.

According to Michael Roukes, a professor of physics, applied physics, and bioengineering at Caltech who is also director of Caltech's Kavli Nanoscience Institute (KNI), the symposium will be an overview of the ongoing nanoscience research that includes the creation of extremely small devices, which will ultimately have applications in biomedicine, photonics, and many other areas. Nanoscience involves the understanding of the rules of nature as they apply to devices with dimensions a few billionths of a meter (in other words, a few nanometers).

Roukes will begin the symposium at 8:30 a.m. with an overview of Caltech's "Big Picture on Small Things." Daniel Rugar, manager of nanoscale sciences at IBM Almaden Research, will follow at 9:15 a.m. with "Scanning the Nanoscale: Past, Present, and Future."

Hänsch is scheduled to speak at 10:30 a.m. on the promise of quantum optics on a chip. Steven Block of Stanford University will follow with a lecture on biological nanoscience carried out at the level of individual molecules.

Following lunch, Jim Heath of Caltech will speak at 1:20

p.m. on "The NanoSystems Biology Cancer Center and the KNI." The other afternoon speakers, all from Caltech, will include Christina Smolke, "Programmable Molecular Switches and Sensors: Devices for Converting Biochemical Information into Biological Function"; Pat Collier, "Molecular Circuitry: Construction and Characterization of Coupled Biomolecular Dynamics"; Michael Elowitz, "Slow, Noisy, and Out of Control: Gene Circuits at the Single Cell Level"; Axel Scherer, who will give an overview entitled "Frontiers and Applications of Nanophotonics at the KNI"; Oskar Painter, "Geometry and Scale in Photonics"; Erik Winfree, Algorithmic Self-Assembly of DNA"; and Bill Goddard, "Functional Nanoelectronics Devices from First (and Second) Principles".

The KNI was founded in 2004 with funding from the Gordon and Betty Moore Foundation and the Kavli Foundation. The purpose of the institute is to foster innovative research at the frontiers of nanoscale science and engineering, with special emphasis on efforts transcending traditional disciplinary boundaries; to create new research opportunities to attract the best researchers and students worldwide; and to support the cross-disciplinary community through significant infrastructure investment and renewal.

According to Roukes, the initial work of the institute focuses upon nanobiotechnology, which merges nanodevice

engineering with the molecular and cellular machinery of living systems; and nanophotonics, which employs new materials technology and nanofabrication processes to develop novel devices such as optically active waveguides and microlasers.

Caltech has had an ongoing interest and presence in nanoscience and nanotechnology-or the engineering of such devices-and, in fact, one of the Institute's most renowned researchers is credited with the origin of the concept.

In 1959, Caltech physicist Richard Feynman gave a now-famous lecture titled "There's Plenty of Room at the Bottom," in which he mapped out possibilities for extremely small devices, consistent with the principles of quantum mechanics. Since that time, research at the Caltech campus and other institutions has led to discoveries that are, step by step, bringing about a realization of Feynman's early vision.

Founded by Fred Kavli in 2000, the Kavli Foundation supports basic research in the fields of nanoscience, astrophysics, and neuroscience, primarily through an international program of research institutes and the support of endowed chairs. In 2008 it will inaugurate the Kavli Prizes, three \$1 million awards to recognize scientists who have made seminal advances in these three research areas.

The symposium is open although space is limited. More information is available at kni. caltech.edu.

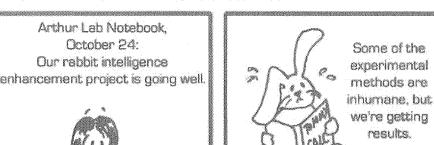


Visit G.L.O.M. on the web at http://www.its.caltech.edu/~citcappy/

By Nathan Lau

Zhiyun Guan

Irrational Exuberance



There is the slight risk that the rabbits will become vicious abominations if things go awry...

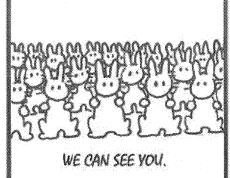
...but that will only happen if they are exposed to particularly noxious chemicals.

And what are the chances of that happening?



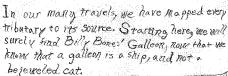










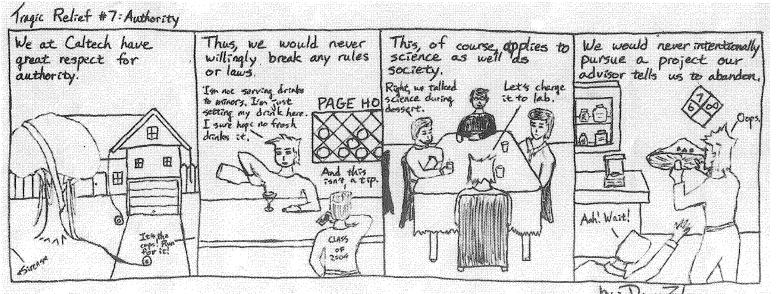






We Like Coquettish Kali-Tech Bread Life

By Adam Craig



The California Tech

Caltech 40-58, Pasadena, CA 91125 editorial desk: (626) 395-6153 advertising desk: (626) 395-6154 editorial e-mail: tech@tech.caltech.edu

VOLUME CVII, NUMBER 5

Adam Craig Editor Lisa Tran Business Manager

Alex Sheive Lavout Manager

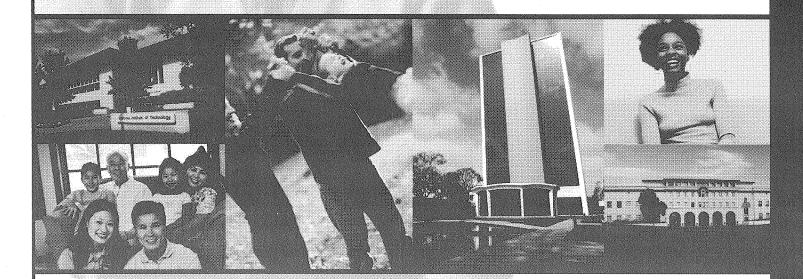
Robert Morell Circulation

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

Letters and submissions are welcome; e-mail submissions to tech@tech.caltech.edu as plain-text attachments, including the author's name, by Friday of the week before publication. Sorry the Tech does not accept anonymous contributions. The editors reserve the right to edit and abridge all submissions for any reason. All written work remains property of its author.

The advertising deadline is five p.m. Friday; alladvertising should be submitted electronically or as camera-ready art, but the *Tech* can also do simple typesetting and arrangement. All advertising inquiries should be directed to the business manager at business@caltech.edu. For subscription information, please send mail to "Subscriptions."

YOU'RE IN GOOD COMPANY



CALTECH EMPLOYEES FEDERAL CREDIT UNION ...

The Smart Choice for People with High Expectations!

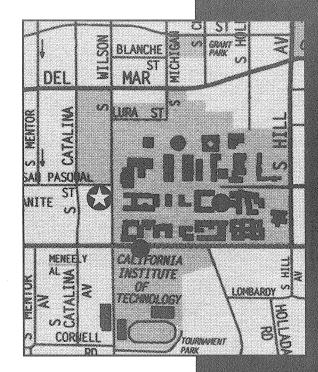
With one of the nation's foremost scientific communities as our membership base, it's not surprising that Caltech Employees Federal Credit Union provides some of the smartest financial choices in the nation.

Our superior values — including higher rates on savings and lower rates on loans — are available exclusively to our unique membership. This is your chance to join us!

You'll also enjoy unparalleled convenience, with an on-campus branch...on-campus, fee-free ATMs...online access...

low-cost VISA...revolutionary, moneysaving home equity lines...and the highest savings rates in the country (higher than many certificates!)

So, go ahead. Expect more from your Credit Union. Come into our on-campus branch or any other convenient office to join today and Share the Success at CEFCU!



Federal Credit Union

CAMPUS OFFICE: 515 S. Wilson Ave. • (626) 395-6300

CAMPUS ATMS: Winnett Center & Keith Spalding Building

FOOTHILL OFFICE: 528 Foothill Blvd. • (800) 592-3328 • (818) 952-4444

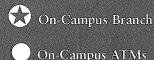
JPL OFFICE: 4800 Oak Grove Dr., Building 218 • (818) 354-3280

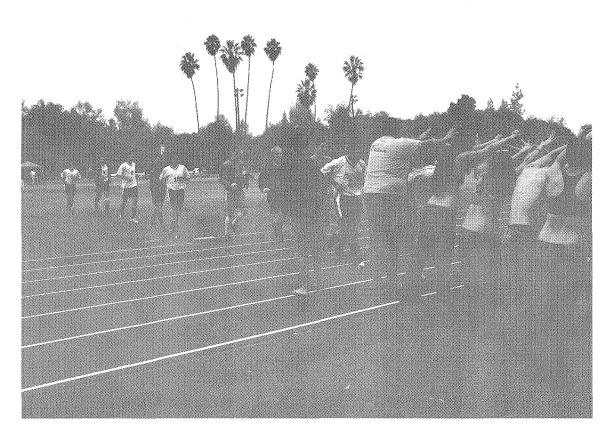
WEB SITE: www.cefcu.org

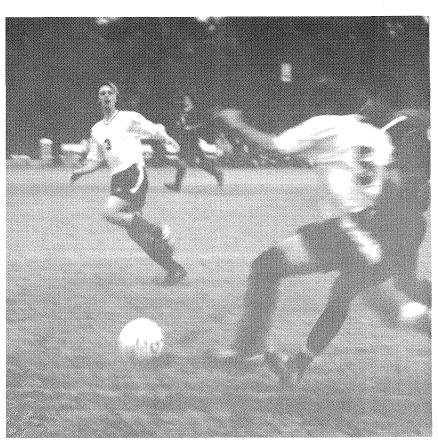
NCUA Your savings federally insured to \$100,000 by the National Credit Union Administration, a U.S. Government Agency.



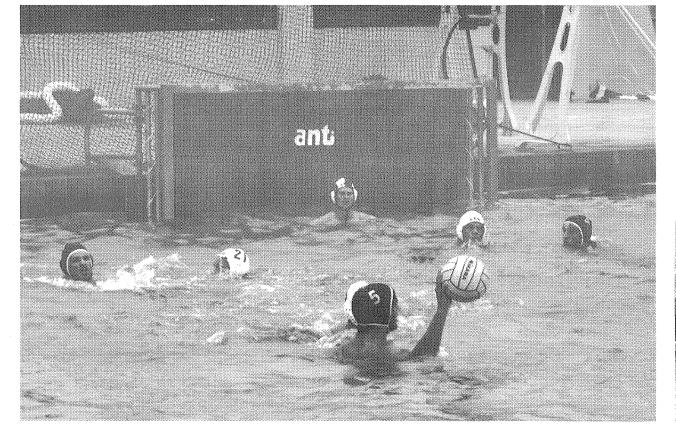
Equal Housing Lender. Equal Opportunity Lender.

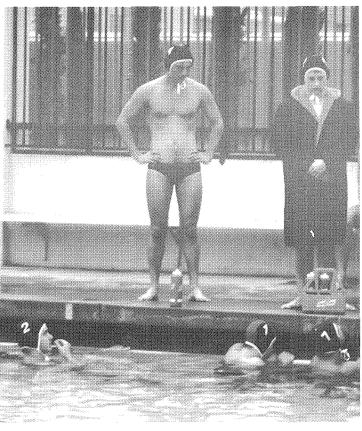




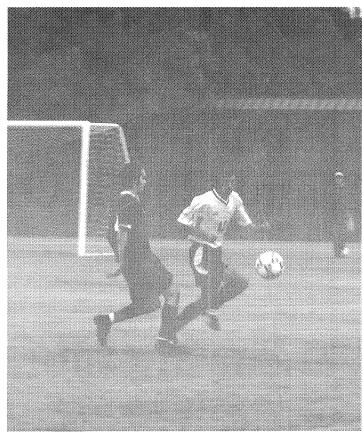


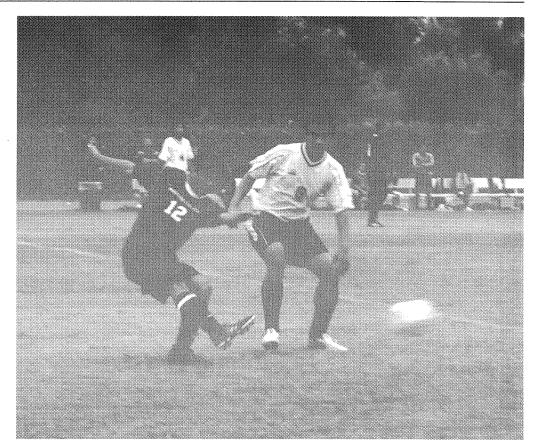






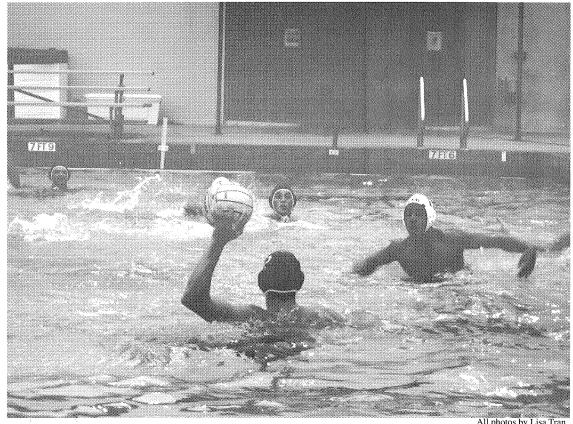


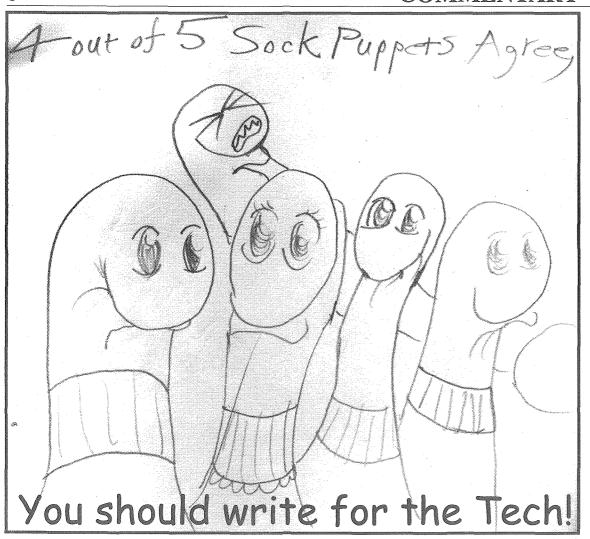












Free lunches at the Rathskellar* for interested writers, Fridays at noon.

Get paid for any content we use! (Note: Money can be used to purchase good and services.)

Send submissions, questions, avian flu to: tech@tech.caltech.edu

(in the basement of the Atheneum)

The Fat Lady Sings On: London Remains a City of Operatic Splendour

By MAYRA SHEIKH

To all the scientists, mathematicians, and engineers,

I am still reeling from recently seeing a Ballet composed of three pieces entitled "La Fete etrange," "Pierrot Lunaire," and "Margue-rite and Armand" at the Royal Opera House. Ballet is amazing; the performers are not just dancers, but mimes and actors as well. Their movements have to be a part of the music to be able to tell a story. The way they can move, bend, and spread their bodies is quite fantastic. And, they can do it all perfectly and in stride with the music. It makes me want to pirouette down the corridor (I will students). I love films and the way they can use special effects, but the cinema cannot emulate on-stage, live performance. It an experience everyone should have at least once in a lifetime.

Thought sometimes the plot lines of Ballets can be clichéd, there are the deviations. Pierrot Lunaire is not a conventional piece by any means. The performers wore odd costumes and had painted faces. The dance moves themselves are out of the ordinary and the piece has some explicitly sexual overtones. It is a nice contrast to the other, more conventional pieces that, of course, involve a love story. But honestly, doesn't all of life revolve around lovers, marriage, and sex.

The Royal Opera House is also worth seeing in itself, it a lovely building that looks quite modern on the outside. There is red carpeting in the entrances as well as displays full of jewelry used in famous performances. The Opera House also has its own bar and restaurant, which are rather posh. There is also a terrace with a lovely overhead view of the bar area. The actual seating area has wood paneled floors and the seats are plush red velvety material. The balcony has little lamps that look like candle with red shades, as well as cherubs, floral patterns, and an immense amount of gold colored gilding. The ceiling is dome shaped with an intricate gold pattern. One could stare at the ceiling forever, if the performance didn't begin.

However, London is a city full time there are at least 30 different plays, musicals, comedies, ballets, and operas being performed all over town. The performances include contemporary works, as well as classics such as "Les Miserables" and "Phantom of the Opera," and other well known works like "Chicago" and "The Producers" There are more than 20 theatres that are walking distance from UCL campus, making it easy for students to attend performances. Most theatres have evening performances Monday through Saturday, with one weekday and one weekend matinee. Evening curtains are usually between 7:30 p.m. and 8:30 p.m., while matinee curtains range from 2:30 p.m. to 4:30 p.m.

There are many half-price/discount theatre ticket booths at Leicester Square, which is a 15 minute walk from UCL campus. Tickets bought the day of the show or standby are even cheaper. For

the Ballet and Opera, students can sign up for a promotional service, which lists discounted student tickets at the Royal Opera House for 10 GBP at least 24 hours before a given performance.

Smaller performances can also be found around the city. UCL's Bloomsbury Theatre has performances including comedians, plays, and musicals such as "The Jungle Book" or "The Nutcracker." There are free afternoon musical performances during the week at St. Martin's Church (a donation is requested). St. Martin's also conveniently has a religious/souvenir shop and a Café in the crypt – Yes, a place where people used to be buried, part of the flooring is epitaphs.

While on the topic of performances, I must remind you that Caltech's Office of Public Events (OPE) coordinates events at Beckman and Ramo Auditoriums. Conveniently, all shows are at a cost of \$5 for Caltech students. OPE has an amazing variety of shows including plays, ethnic dance performances, political satire, and even our very own TACIT productions with real live techers. If \$5 still seems too much, you can sign up to be an usher for OPE and you can sign up to work the performances you want to see and get paid for it. For more details on that, email Ram Basu at rbasu@ope.caltech.edu. I know when I get return, I will definitely be at most performances, and maybe I will see you there.

Cheers, Mayra

Grab a BLT, Crank Up Your MP3, and Check Out the Books at the LGBTQ Lending Library

By NATALIE SZWEDA

The campaign for homosexual equality most recently found its way into the public eye nearly two years ago with the marriages of homosexual couples in San Francisco. For many, this movement is the biggest social revolution of the decade, but more importantly, it has confirmed that homosexuality is something that society neither can nor should continue to overlook. Despite many Caltech students' apathetic attitude towards politics and the events of the outside world, a number of students and faculty feel it is important to observe current social issues and provide support for students who must deal with them.

It has been a goal to create a library that caters specifically to the needs of lesbian, bisexual, gay, transgender and questioning, LBGTQ, members of the Caltech community. Thanks to donations from the Moore Hufstedler Fund and the President's Diversity Initiative along with the coordination of several staff members from the center for student services and the Prism club, just such a library has been established. The library

is located in the visible yet adequately private lounge on the second floor of the center for student services. The check out system allows users to remain anonymous and relies on the honor code to ensure that books are returned.

The library contains over 200 books, DVDs, and magazines that pertain to all members of the LBGTQ community from the experimenting student to the supporting friend to the settled adult. Topics of the books include historical information, autobiography, politics, support, health, and fiction. While some titles, such as Mom, Dad, I'm Gay lend themselves to the typical mockery and jeers associated with any controversial issue, these books provide a useful aid to anyone who is struggling with or knows someone who is struggling with her or his sexuality. Several titles also tackle other serious issues faced by homosexual couples including Couples of Mixed HIV Status and Same-Sex Parenting.

For more information on library holdings, check out http://rainbow.caltech.edu.

Real Dow Reflects Real Need for Caution in LongTerm Stock-holding

By EDWIN HAMILTON

In the U.S., common stock share prices are in U.S. dollars, and so are the various averages and indices of these share prices. This includes the Dow Jones Industrial Average, the DJIA or Dow, the market indicator the media most often quotes.

The purchasing power of the U.S. dollar has shrunk over time. In September 2005, \$100 bought what \$77, \$54, \$27, and \$16 bought 10, 20, 30, and 40 years earlier, respectively.

So, any meaningful examination of the Dow over time must look at what it can buy. The Dow shown as purchasing power is called the "Real DJIA." For

elaboration of the foregoing see: "The compelling Real DJIA, 1924-now" at http://homepage. mac.com/tsmyf.

The long-term Real DJIA is a severe roller-coaster on a 3.5 decade time scale. The Real S&P is similar. This dominant historical reality is overwhelmingly relevant to long-term stocks-holders and to the Social Security personal accounts issue but is well-ignored by the financial services industry and by the financial news media; this is the great misdirecting omission. For their own gains, these two entities treat the people like mushrooms.

Top Ten Reasons for Visiting the Health Educator, Jane Curtis

By JANE CURTIS

- 1) To find out what kinds of programs she offers that will help me achieve academic success.
- 2) Mid-terms are approaching, and I need to ask her about my study
- 3) To borrow a book on exercise, self-esteem or nutrition and find out what other resources I can check-
- 4) She is a confidential resource I can bounce ideas off of pertaining to roommate concerns, relationship issues, sleeping patterns, eating healthy, etc...
- 5) To pick up free health-related brochures, condoms and pencils.

6) To learn how she works with the Counseling and Health Centers to meet students' health needs.

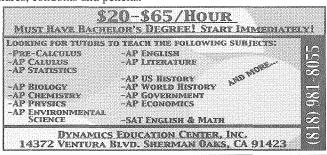
7) Confirm when her drop-in hours counseling hours are.

8) I think it would be smart to do so before I may need help.

9) To hear what other Student Affairs resources are available in the Center for Student Services building

10) To say hi.

Jane Curtis, ext. 2961, jcurtis@studaff.caltech.edu www.healtheducation.caltech.edu



Contribute to the Student Health Advisory Council

Monday, Nov. 7, 2005, 7:30 – 8:30 p.m. Health Educator's office,

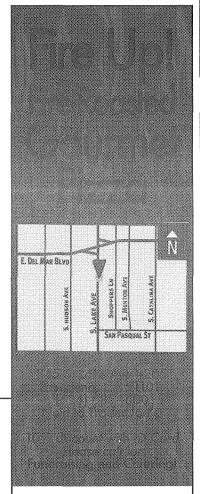
Center for Student Services Bldg., Room 248 RSVP: ext. 2961 or email jcurtis@studaff.caltech.edu

Learn more at www.healtheducation.caltech.edu

All students and ideas are welcomed!

BUSINESS PLANS FINANCIAL MODELS

Free Small Biz Documents and Forum TheSmallBusinessOwnersManual.com





CALL FOR ENTRIES

MAKE A VIDEO PRODUCT REVIEW EARN \$200 IN AMAZON.COM GIFT CARDS.

Send your videos to Expo TV by October 31st. Enter to win \$2500 of free products, and maybe get on TV!

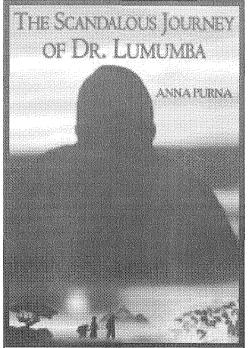
Go to www.videopinion.com for details.

No purchase necessary. Vold where prohibited. Open to legal U.S. residents 18 and older. For rules, visit www.expotv.com. Ends October 31, 2005.

Are linear accelerators the ultimate phallic machines? Is gravity to blame for the war between the sexes? Was Schrödinger's cat in heat?

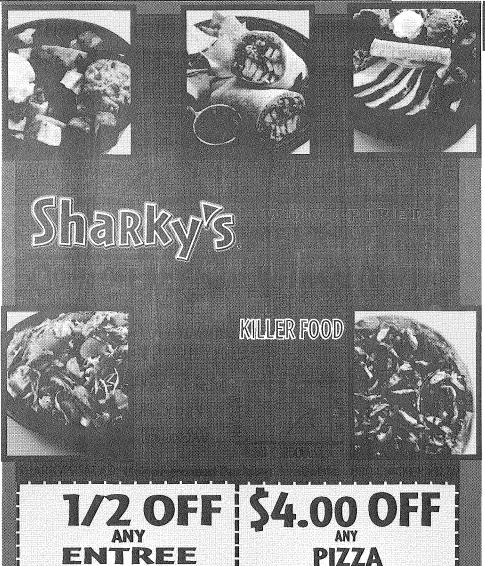
Follow Dr. Lumumba as he discovers the orgasmic nature of particles and a revolutionary Theory of Everything.

Theoretical physics will never be the same!



To order call 888.280.7715 or visit www.authorhouse.com.

\$5.00 OFF ANY CATERING ORDER



One coupon per guest per visit. Cannot be combined with any other offer. Valid at Burbank and Pasadena locations only. Expires 10/31/05 One coupon per guest per visit. Cannot be combined with any other offer. Valid at Burbank and Pasadena locations only. Expires 10/31/05

OOGS HATURAL GROWN CHICKEN BREAST 🖊 Jud Antibiotic fee

Always Natural, Always Fresh!_"

ns only. Expires 10/31/05 locations only. Expires 10/31/05
1000% CERTIFIED DRIGANIC & GMO FREE TOOM CERTIFIED ALL HATERAL BEE

With the purchase of side caesar salad.

All Grain Fed ∠ No Artificial Ingredient
✓ No Added Hormones of Chemicals

TOOPS PREFERRE GRADE FISH

Sharky's

With the purchase of any beverage.

→ Black Peans → Pinto Beans
→ Long Graph Rice

7 No Added Growth Hormones No Added Preservitives

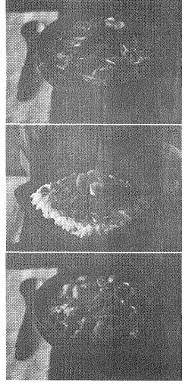
Sharky's



851 Cordova Street Pasadena

626.578.1862 (FAX) 626.578.7507

www.hanagrill.com



WE DELIVER/CATER

Hours: 11am-9pm Daily • WE VALIDATE UNDERGROUND PARKING



Continued from Page 1

er claimed that this demonstrates the commercialization of art. He mentioned the people of China are now trying to emulate our aesthetic standards.

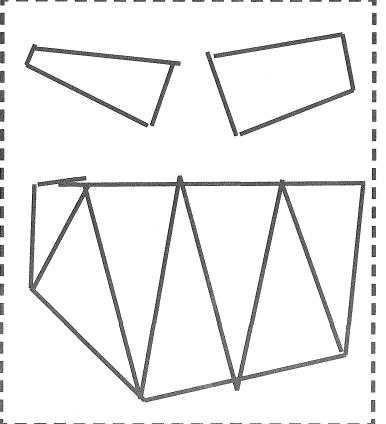
The third sign was the ownership of the commonwealth and public goods. According to Mr. Nader, half of the federal budget outside medicare goes to the military. He accused the military of creating more terrorists through its search for Al-Qaeda.

He also warned that biotechnology, robotics, and nanotechnology are three of the great technologies coming soon, but that no watchdog groups are watching the usage of these technologies. Mr. Nader contrasted this to the situation with nuclear missiles, which had many groups watching their development.

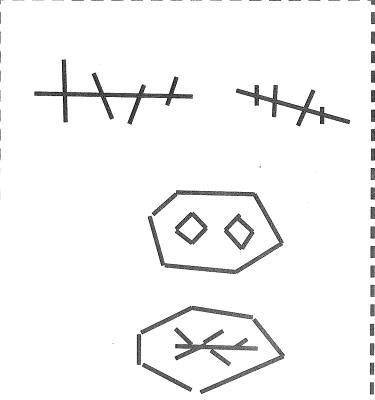
Mr. Nader also criticized aspects of modern popular culture. He proclaimed that we are living in one of the most intensely silly society in history, highlighting the reality shows on TV as a prime example. He contrasted modern TV news reports with those from a few decades ago, when thy still closely followed and reported the actions of civic leaders. In a hilarious passage, he parodied the line-up of a modern news program, particularly the time spent on weather forecasts.

He emphasized the importance of individual participation in a democracy. He concluded that "half of democracy is just showing up" and that it is very hard just to get people to show.

HEY KIDS!



FREE MASKS



Directions:

Sylvanus Griswold Morley Mask:

1.) Cut along dotted lines.

2.) Study civil engineering.3.) Go on to attend Harvard Uni-

on to attend Harvard University as an undergraduate.

4.) Make a significant contribution to the defining of a particular "Santa Fe" style of pre-Columbian architecture.

5.) Establish a trustworthy reputation with the local Yucatec Maya people around Mérida.

Henry Wadsworth Longfellow Mask:

1.) Cut along dotted lines.

2.) Create in the American people and your students in particular a new consciousness of the literature of Spain, France, Italy, Germany, Norway, and Iceland.

3.) Marry Mary Storer Potter.

4.) Meet with an Ojibway chieftan while doing research for your

5.) Be the subject of an angular Halloween mask published in the California Tech.

ADULT SUPERVISION REQUIRED! THESE MASKS MAY

THESE MASKS MAY
INSPIRE STRONG
LANGUAGE, ADULT
SITUATIONS, AN
INTERNATIONALISTIC
WORLD VIEW AND
CHIRROSIS OF THE
LATUS RECTUM.

ASCIT Minutes

By PETER FOLEY

Minnits - 19 Oct 2005 started 12:10

Present:

Warner, Peter (minitser again!), Todd, Ryan the robot, Dima, Kelly, Wendy (but she can't vote, fools!), Michelle

Guests

Nobody. Everyone hates us. We cry ourselves to sleep at night.

Justin Lazear came later. He loves us a bit.

Mike Turk came and visited us and lectured us on the importance of being pretentious and self-centered. This surprised me since such speeches are usually made only by Lloydies, and Mike's a Rudd.

Coffeehouse is gonna be in Chandler, opening in a week or two.

DVD library will have to be figured out, we don't know how it'll get into Chandler and such. We'll need to talk to folks and see if things will work.

Why do people always try to take away our waited dinners? It makes me very sad and is a bad idea.

They aren't very expensive, either.

Justin Lazear wants to take visiting prof Yavetz to lunch with Ryan Bogner and Mark Polinivski. Peter moves to give him cash monies, Michelle seconds, passes 5yes-0no-0abstain.

Big-T update from Wendy - it's not done yet, not coming out yet. It's really bad that it's not out yet, but it should be pretty looking when it does come out.

Bylaw voting will start Monday morning at 12:01 AM. It never ends. Actually, it does. It's open for about a week, ends 11:59 PM or something on the next Sunday. You'll get an email about it. They will have passed or not. If that wasn't obvious, you're a moron.

Mike went to a meeting. Tim is interested in the possibility of buying an industrial-strength blender for each house to make some deeeelicious (virgin) margaritas. They might not be used, though, so we'll talk about it more. Warner asserts that I use industrial-strength blenders with my special places. This is not true. I don't even know what that could mean.

"Early November is a time," declares Warner. He then climbs to the roof over the mailboxes between Page and Lloyd (ie House of Chump-Without warning Bots). (though he is a warner), the man leaps off said roof into the center of our wee lil' meeting circle. Blood sprays over all the BoDders hot bods, and as the ambulances comes to drive the poor boy's carcass away, a voice calls from the heavens, asking, "I didn't get any on your back, did I?"

Why won't Mike Turk just shut up?

libel>

Mike Turk asserts that "Beautiful people are better people." I say he's a shallow human being. I once saw him kick a child for having, in Mike's words, "a moderately unattractive jawline."

In the interest of time, I feel it necessary to comment on a poster that one of my 'friends' has in their 'apartment.' This poster is about 2 feet tall, about 1-1/2 feet wide, and is mostly a big picture of Hemingway in an awesome turtleneck sweater. He looks like a beast of a man. Underneath the picture, a single word is written: ENDURANCE. Mike Turk would never be put on a poster like that.

In the proper spirit of ye olde minutes, here's a poem: Rain rain go away.

Don't come back, I hate you. "Open the pod bay doors, HAL."

"I'm sorry Dave, but I'm afraid I can't do that."

The California Tech Caltech 40-58 Pasadena, CA 91125

> ROUTE 3 Archives 015A–74

5