

Jean-Lou Chameau Named Next Institute President

BY: CHANDRA BARNETT

The word of the day was “charming” as, on Friday morning, the next President of the California Institute of Technology was introduced to the public. As of September 1st, Georgia Tech Provost Jean-Lou Chameau will join the Caltech community as its eighth President. However, at Friday’s afternoon barbeque on San Pasqual Mall, it was evident that Dr. Chameau has no intention of waiting until fall to start meeting and greeting his new compatriots.

Friday morning, speaking to a packed house at Beckman Auditorium, Kent Kresa, Chairman of the Caltech Board of Trustees, first introduced those assembled to Dr. Chameau, whose face greeted all comers from a large projection screen. He went on to name the members of the Search Committee, who have worked since last October to identify and select the best candidates for the presidential position. “We owe them a debt of gratitude”, he stated, “for their dedication and service,” which frequently included last-minute plane rides and time away from families for the sake of the search process.

Prof. David Stevenson, who chaired the Search Committee over the past eight months, was called upon to discuss for the first time the long and difficult selection process. From an initial field of over 160 candidates, the search committee devoted six months of interviews and careful research to producing a “short list” of the strongest candidates. During this time, the committee consulted with groups from all parts of the Caltech community: graduate and undergraduate students, faculty,



Photo by Kevin Peng

Outgoing Institute President David Baltimore (right) shakes the hand of his successor, Jean-Lou Chameau (middle). On the right is Kent Kresa, Chairman of the Caltech Board of Trustees. Chameau’s Presidency beings on September 1st.

staff, and even alumni.

From this smaller candidate pool, the committee then solicited information from the candidates’ home institutions, working to build a complete picture of each one. Stevenson noted that although it is very easy for individuals in leadership positions to attract negative reviews, Chameau’s associates painted an unflinchingly positive portrait. While this

was no doubt a major factor in his selection, the provost himself also proved personally engaging. “[Chameau] impressed the search committee with his intelligence, his vision, his personality, and his extensive administrative and fundraising experience and success,” said Stevenson, voicing the hope that he will be “an engaging and energising presence” in the Caltech and JPL communities.

Referring to the present day as a “time of change in ... science and technology education,” he expressed the Search Committee’s confidence that Chameau is well-suited to the challenges and opportunities that this presents.

Stevenson next gave a brief biography of our next president. Touching on Chameau’s early education in his native France, and his current interests in sustain-

ability and interdisciplinary research, he also noted that the provost has demonstrated remarkable accomplishments towards promoting diversity in the scientific world. After once again thanking the members of the Search and Trustee Selection Committees, he yielded the floor to outgoing President David Baltimore.

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Students, Administrators Discuss Caltech Policies at Open House

BY: MARISSA CEVALLOS

Students challenged a handful of administrators to answer for, amongst other issues, the mural policy, security into the South Houses, and the mod gate repairs at last week’s Open House.

Students found the least common ground with administrators discussing Housing’s mandate to remove certain murals from the houses. Tim Chang, Director of Housing, emphasized the necessity of placating temporary visitors like summer students who provide income; he also cited the many complaints he has fielded from non-Caltech students about the houses being unclean with offensive murals.

Students responded that the

offensive murals were just one complaint in a list of many, the majority of which would be moot with the South House repairs. Leighland Feinman, a sophomore in Blacker, said “If the houses are in fact musty, dank, dark, falling apart, etc., then Housing should focus on that and let the students handle the murals, as the community rejects murals which are not liked by the house.”

Chang emphasized the number of complaints he has received on account of the murals, from trustees to alums. In addition, he said pre-frosh and their parents have complained about the murals, and said “You can ask admissions if you don’t believe me” that parents said their children were not coming to Caltech because of

how the Houses looked.

When students responded that some of the murals were “pieces of art,” Chang conceded that there were quite a few murals that were obviously inoffensive and should be left untouched.

Students were also concerned about the security for the newly renovated South Houses. Said Tim Chang, the most viable options are “card access or room key, though we are trying to get the cost of a thumbprint scanner to come down—it’s about \$53,000 to install card swipes, but \$100,000 for a thumbprint scanner.”

Students met each proposal with raised eyebrows. Privacy was a big concern with students, several of whom said that it was “scary”

to think that security could have records of which buildings they entered and at what time. Such a record would be possible with both card swipes and thumbprint scanners.

Daniel Rowlands and other students mentioned the inconvenience of always having to carry a student ID, especially when one would have to call security when locked out.

Feinman also brought up the possibility of religious discrimination if the card swipes were installed, since Orthodox Jews cannot use electricity on the Sabbath. “If they use card access security, then I’m going to sue for discrimination,” said Feinman.

Students also wanted to know why so much money was spent on

gate repairs for the mods. “The issue is that damages occur—let’s stop damages from occurring!” said Chang.

When students argued that the materials were relatively inexpensive, Chang gave an analogy of the last time he got his car repaired. “It’s the labor that makes up most of the cost,” said Chang.

The Open House was held on Wednesday, May 24, in the Page courtyard from 4:00-5:30 PM.

Transcriptions from student notes of the Open Hall, as well as other events such as the Town Hall meeting, can be found at townhall.caltech.edu.

Some quotes and content are from Daniel Rowlands’ transcription of the Open House which can be found at the site.

ASCIT President on the new President

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The Outside World

BY: HAMILTON FALK

More Than 3,000 Dead After Indonesian Quake

More than 3,000 people have been killed and up to 150,000 displaced from their homes after a magnitude 6.3 earthquake struck central Java, Indonesia on Saturday. A limited supply of critical medical supplies threatens to increase the death toll, and lack of space in hospitals has left many people to receive medical treatment in hallways and on the street. UNICEF, the American Red Cross and the Indonesian Red Cross have responded by supplying medical supplies, water purification equipment, temporary housing and other relief supplies.

The hardest hit area on the heavily populated island of Java was Bantul, where an estimated 80% of the district was completely flattened by the quake. The earthquake, like the 2004 tsunami that killed 130,000 people, was caused by tectonic activity on the Asia-Pacific's "ring of fire," which is partially located underneath Indonesia.

The following day earthquakes hit two other Pacific nations, Papua New Guinea and Tonga. A 6.2 magnitude earthquake struck Papua New Guinea, in the New Britain region of the nation, several thousand miles from the quake in Indonesia. A 6.7 magnitude earthquake struck Tonga, a small South Pacific nation with a population of approximately 110,000.

Top Justice Department and FBI Officials Threaten Resignation

Attorney General Alberto Gonzales, Deputy Attorney General Paul McNulty, and FBI Director Robert Mueller have suggested that they would resign if forced to return materials taken in the search of a congressman's office. Congress members from both major parties have accused the law enforcement agencies of unconstitutional action after documents were removed during a search of the office of Rep. William Jefferson

son.

Jefferson, D-Louisiana, is under investigation for corruption due to accusations of bribery, including a Kentucky businessmen who has plead guilty to charges of bribing him with \$400,000. Because Jefferson is a congressman and the FBI and justice department are parts of the executive branch, congressional leaders claim that the search was an unconstitutional violation of the separation of powers and have demanded that the documents not be used in the investigation and be returned to Jefferson.

Justice department officials claim they had exhausted all other reasonable methods of obtaining the documents. President Bush intervened and has sealed the documents for 45 days while the issue is resolved. The statements that the officials may step down have not been stated as threats, but simply implied in conversation referring to hypothetical situations, and were not directed at the President. Due to the 45 day sealing of the documents, it is likely extensive legal argument will occur before the documents are returned or used in the investigation.

Internet Bandwidth Restrictions Could Change Internet Pricing

A new law that would prevent telecommunications companies from charging extra fees for higher bandwidth use was rejected in subcommittee by Congress. This decision would allow the large companies to put a premium on high bandwidth usage, resulting in much slower load times for sites that do not pay additional fees to the telecommunication companies that provide users internet access.

Telecommunication companies believe that this would be fair compensation for supplying infrastructure for high-bandwidth internet service, and some legal experts agree. Others believe that allowing such a system would increase costs for users, as high bandwidth sites pass on the cost of buying bandwidth, and also would make the internet a less

consumer friendly place, by slowing down the web sites of people and companies that were unwilling or could not afford the fees.

Bush Likens War on Terror to Cold War

President George W. Bush spoke to cadets at West Point military academy, and stated that the early days of the fight against terrorism were similar to the beginning of the Cold War. Bush compared himself to President Harry Truman, claiming that both administrations had not been popular, but that Bush was preparing the United States to eventually win the fight against terrorism in the same way Truman had laid the groundwork for the defeat of the Soviet Union. Bush also discussed his hopes of bringing peace to the Middle East, and his belief that repression in that area was the main cause of global terrorism.

Alleged Murders by Marines May Spur Further Insurgent Violence

A possible scandal over the alleged murder of Iraqi civilians by Marines in Haditha could incite increased resistance to the U.S. Military and new Iraqi government just as local government is being established. The charges, that Marines committed unprovoked murder in November, killing more than twenty, also threaten to defeat Bush's attempts to rally support in the U.S. for the war in Iraq. U.S. lawmakers claim that the investigation of the deaths will be finished within a month, and Pentagon officials have stated they believe the killings were murder. U.S. Marine leader General Michael W. Hagee will travel to Iraq to personally remind troops to only use deadly force when "justified, proportional and, most importantly, lawful." About twelve Marines are under investigation for possible war crimes, and three officers from the unit involved have been removed from their posts.

Compiled from CNN, MSNBC and Yahoo News.

ASCIT Board of Directors Minutes from the Side Room in Chandler Wednesday, May 24, 2006

Present Officers: Todd Gingrich, Jean Sun, Vickie Pon, Jonathan Senn, Chris Gonzales, Craig Montuori, Chris Gonzales, Nathan Donnellan, Chris Watson
Absent Officers: RJ Krom
Guests: Vivian U, Shelby Montague, Cecilia Yu, Gina Gage, Mary Dunlop

1. Funding Requests

* Vivian U asked to receive funding for Neil Miller, Andy Green, and herself to take Prof. Richard Ellis (Astronomy) out to lunch at the Ath. A vote approved this funding (7Y/0N/0A).

* Craig, too, requested funding for Sara Peek, Alex Roper, and himself to take Prof. D. Roderick Kiewiet out to lunch at the Ath. A vote approved this funding (7Y/0N/0A).

* Gina also asked for Dima Kernasovskiy and herself to take Prof. Shelley Bennett (Art History) out to lunch at the Ath. A vote approved this funding (8Y/0N/0A).

* Shelby requested funding the campus-wide Wine Tasting event coming up soon. The BoD took a vote to grant this event \$500: Vote approved (7Y/0N/0A).

* Cecilia shared a proposal, requesting \$300 to fund the Shake-

spare Readathon, a 24-hour event where all written works by Shakespeare are read by members from across the Caltech community. A vote was taken to grant this event \$300: Vote approved (7Y/0N/0A).

* Mary announced the Women's Ultimate Frisbee team made it to Regionals! However, the Athletic Dept. will not fund them for this tournament, so Mary asked the BoD for help funding the registration fee (\$50), and some of the transportation for the team. A vote was taken to grant the Women's Ultimate Frisbee team \$100 to attend Regionals: Vote approved (8Y/0N/0A).

2. ASCIT Formal (Sat. May 27)

* ASCIT Formal is this upcoming Saturday!!! Tickets can be bought at the door for the same price as pre-sales.

* The ASCIT BoD is expected to help out the Social Team at the Formal.

3. Happy Hour (Fri. June 2)

* ASCIT Happy Hour will be next Friday, June 2! Come drink, socialize, and be merry.

4. ASCIT Staff Awards

* Chris W. found nice gift baskets for the ASCIT Staff Awards, in time for giving the awards by the end of the school year.

5. Money Matters

* Jon worked with Lynne Caver to compile a list of all outstanding checks ASCIT issued over the past two years that were never cashed, which totaled to about \$2.8K. Jon cancelled all these checks. He has been issuing new checks to clubs who ask for their old checks if they had not received checks from any of the past three terms.

6. Revel Elephant Bench

* The Elephant Bench to commemorate Prof. Jean-Paul Revel's many years as undergraduate Dean of Student has arrived! Ryan Farmer, Nate, and Todd are working on the best way, place, and time to host an unveiling celebration for Prof. Revel.

* Nate will purchase (and be reimbursed for) a small gift of compensation for the person's truck he borrowed to pick up the Elephant Bench.

7. Open House

* IHC and the MOSH are hosting an Open House this afternoon (Wed., May 24) for undergrads to get the chance to ask questions and voice concerns to many of the administrators who will be there. Refreshments will be served, and we're hoping for a good turn out!

Respectfully submitted,
Vickie Pon
ASCIT Secretary

Announcements

Don't Steal Ditch Day Shirts

To those who removed several Ditch Day shirts from Ruddock House:

This was a violation of the Honor Code. Many seniors put a lot of time into those shirts, and would like to keep some for their families, their friends, and themselves. That the shirts were left in the hallway for a few hours did not mean that they were free, though

admittedly a misunderstanding was possible. Please return all the shirts promptly, and, if you prefer, anonymously.

Ditch Day depends on the willingness of students to leave out items without placing them under guard.

Sincerely,
Paul Nagami

Pool Party Replaces Decompression

BY: MARISSA CEVALLOS

This Saturday, the Caltech Y will host a pool party at Braun. In addition to swimming, there will be a BBQ, volleyball, and a screening of Pirates of the Caribbean.

"I just thought it would be really awesome to have a gigantic on-campus pool party," said Rebecca Adler, a senior, who is organizing the event.

Both pools are being used, and the movie will be projected onto the side of the men's locker room.

"What I especially like about the movie is that it contains all of the elements that will get people

Housing Contracts End June 10th

Please keep in mind that your housing contract ends on Saturday, June 10th at 12:00pm. We ask that you leave your room or apartment reasonably clean, by doing the following:

* Cabinets: Remove all items from your kitchen and/or medicine cabinets. Please throw away any trash.

* Closets: Empty your closet of all personal belongings (including hangers.)

* Drawers: Remove all personal belongings. If there are papers that you do not need, please throw them away.

* Desk: Remove all personal belongings and throw away any trash.

* Floors: Remove all paper, and debris.

* Shelves: Remove all personal belongings, including books, and bottles.

* Pets: Please clean up after them, and TAKE THEM WITH YOU.

If you live off-campus, the following suggestions also apply:

* Refrigerator: Clean out your refrigerator thoroughly. Throw out all food items that you will not take with you.

* Balcony/Patio: Remove all personal belongings. If there is something you don't want, please remove it, or throw it away.

Check-Out Procedures:

Please return all residential keys to the UG Housing office, fully vacate your room or apartment, and submit your check-out / room move form at [housing](http://housing.caltech.edu/undergrad/).

Four New Minors Offered Next Year

BY: CSILLA FELSEN

Starting next year, four new minors are going to be introduced into the catalog, joining what is currently the only offered minor: Control and Dynamical Systems. In response to feedback from Student Faculty Conferences and continued discussions since then, faculty in the Humanities and Social Sciences department are presenting us with minors in English, History, History and Philosophy of Science, and Philosophy. The change was recently approved by the Curriculum Committee.

As will be stated in the new course catalogs, these minors are "designed for students who want to pursue concentrated study" in their humanities field of interest "without the extensive course-

work and the senior thesis" which are normally required by those options. Standard requirements across all of these minors are:

(1) Take 72 units of coursework specific to the particular minor in courses which are numbered 99 or above, (2) 9 of those units may be fulfilled by a directed reading course which is numbered 98, and (3) 9 of those units may be fulfilled by a maximum of one of the introductory humanities courses relevant to that option. Students who want to minor in these areas will also have to declare their minor with the option representative.

If you have any questions about the specific details of one of the minors, then please e-mail ARC Chair Csilla Felsen at arc@donut.caltech.edu.

to come—sex appeal, action, and whatnot—and Pirates of the Caribbean II is coming out a month later," said Adler.

The party takes the place of Decompression, which is held the weekend before finals week.

"Decompression costs about the same. It's usually about \$2-4 per person for food."

The Caltech Athletic facilities are donating the use of the pool, but the cost for lifeguards is several hundred dollars. In addition, the movie-licensing fee is \$300-\$500, and games add a bit more to the bill. But, like Decompression, the bulk of the cost will invariably come from feeding hungry Techers—the food is estimated to cost a few thousand dollars.

caltech.edu/undergrad/. This form is required in order to properly check out and avoid the improper check-out fee.

Room Move Procedures:

If your room is going to be used for a summer guest, please make sure you complete your move on Saturday, June 10th. If you need a key to your new room, you may stop by the Housing Office to pick one up. Our office will be open on Saturday and Sunday, June 10th & 11th from 9:00am to 12:00pm and 1:00pm to 3:00pm on both days. Please submit your room move form at <http://housing.caltech.edu/undergrad/>.

Additional Charges/Surcharges:

*Late stay (if request is submitted before the deadline of June 1, 2006) - \$35.00/day

*Late stay (if request is submitted after the deadline of June 1, 2006) - \$45.00/day

*Summer Contract cancellation fee (if cancelled after May 31, 2006) - \$100.00

*Improper Check-out fee - \$25.00

Please remember to make arrangements with the Telecommunications office or SBC to discontinue your phone service.

If you have any questions, or concerns, please feel free to contact us at housing@caltech.edu or x6176.

Chameau Assimilating Into Caltech Culture

CONTINUED FROM PAGE 1

"We should get together like this more often!" quipped Baltimore as he took the stage, prompting chuckles from the crowded auditorium. Quickly turning serious, he began by discussing the job he has held for the past nine years. "The job of Caltech President is a fascinating one," he remarked, "because the charge is very simple. It's to maintain excellence." Speaking of Chameau in warm terms, Baltimore called him "the right person for this institution," before bringing the man himself, at long last, to the podium.

President-Select Jean-Lou Chameau began his ten-minute address by admitting that he found himself at a loss for words. He quickly found two, however: "honoured" and "humbled."

Chameau's first introduction to American academia came when he attended Stanford as a graduate student. Expressing his delight at the opportunity to return to California, he drew a round of hilarity with the observation that he went to Stanford because of Caltech! In the 1970's, while a student at France's L'Ecole Nationale Supérieure des Arts et Métiers, he attended a lecture by a traveling Caltech graduate, and for the first time became aware of the possibility of international study.

Chameau's speech was imbued with a bubbling enthusiasm, both for Caltech and for the greater endeavors of science and engineering research. Speaking of a recent trip to JPL, he described himself as "a kid in a candy store." On the subject of our fair Institute, he waxed even more effusive. "It is a dream for me," he said, "to be able to come to Caltech at this point in my career ... Caltech is able to do things that others may only dream of."

Chameau left the audience with a brief statement of his long-term goals for the presidency. "I look forward to bringing my love for the academy and for science and technology to Caltech. I hope that I can inspire confidence to take a risk and hopefully expand the world's view of science and innovation... at the same time maintaining a commitment to the unique qualities and values of

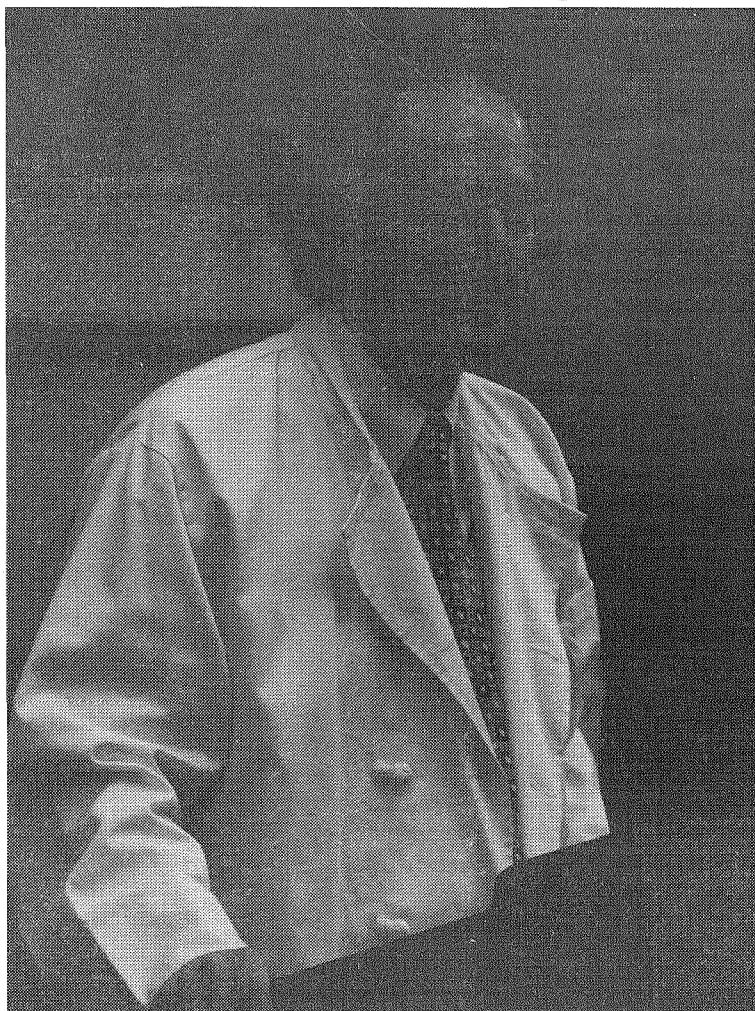


Photo by Matthew Glassman

President-Select Jean-Lou Chameau addresses the Caltech community at a barbecue held in his honour.

Caltech."

Later in the afternoon, at an all-campus barbecue in honour of our new President, the Tech was able to distract Dr. Chameau from his assiduous mingling for a few moments – long enough to ask a few more pointed questions about how Chameau will adjust to Caltech, and vice-versa. Georgia Tech is a school of over 16,000 students, more than 10,000 of them undergraduates. We asked Jean-Lou what kind of learning curve he expected in learning to deal with our smaller, closer-knit community.

JLC: Georgia Tech is bigger in size, but in fact it's not too different in the sense it is very, still really focused on engineering, science... it is a technology institute as well. So in terms of the,

in terms of the culture, at least, in terms of the kind of people I have been dealing with, it is a very similar culture here. The learning curve, I think, should not be too difficult. What is really important here to me, at least in the next few months, is to really learn a lot of the students, because, you know, clearly, as I said in my remarks, you know it is the most amazing group, likely in the world. Because of the size, in fact, you get the best, and the people are so smart and everything, I want to learn from them, and to try to make sure that they are getting the attention, and that with the faculty, we understand how you feel about Caltech and how we can make it better. I expect, in terms of learning curve, to have to learn a lot about the faculty, a lot about the management issues, but also

learning from the students is very important.

CT: How about the Honor Code? That's really central to us here. I don't know to what extent GA tech has it or relies on it, but here it is kind of unique that we do rely on it completely, as the basis for all of our policies...

JLC: We have an Honor Code too, and in fact I played a role at Georgia Tech, a number of years ago now, to encourage the students. It is now a student-run Honor Code, but initially, it came the first time [sic] out of civil engineering, when I was the chair of that school, it is followed by the students very well. You are known here to really being the best in terms of the use of the Honor Code, and I think it's great. Don't expect me to make any changes in that area!

CT: Have you checked out the house system at all? I notice that you've hung around with a lot of undergrads.

JLC: Not yet. I understand there is some good and also some... not as good... situations. Clearly it's something that Caltech needs to look at and address, and I intend to find out exactly what the situation is, and figure out a plan as to how to address what the issues are. I understand that some of the houses needed some [facilities] work. In terms of the culture, I think it's great, I think in fact exciting, to have the environment. I know that a few students were complaining about the food but other than that it looks to me like a great way to be. In fact I would like to ask you the question, how it is... it seems to me a great way to keep the students together, and help them to communicate and exchange their ideas.

CT: So in closing, do you have any changes, coming in, that you would already be looking at making with Caltech?

JLC: Oh no... it would be presumptuous and even stupid of me to mention a change now. I have learned a lot about Caltech the last few weeks, and the interaction between the different committees, and I have learned more

today, but I need first to listen to so many people, including you, and learn about the place, about the values and what are the issues that people see are important... and then start to help, whenever and wherever I can. Right now, it would be...

[here we are interrupted for a photo opportunity.]

JLC: [he continues without missing a beat] impossible for me to imagine any major changes in a place like Caltech which is so... so cool. Any change you will make, you have to think a lot about it, because it has to be for the better, and when something is going well, you must be very careful. I will listen, and talk to people before I consider any kind of change, because the most important thing that the President and the administration ought to do is to ensure that Caltech will remain outstanding for many many years to come, and that the best students and the best faculty... it simply is not a situation where you come in with drastic changes.

By now, the characteristic cloud of students which had been enveloping the charismatic Chameau all afternoon had reassembled, and mindful of Stevenson's injunction not to monopolise all of his time, we allowed him to carry on doing what he seems to do best: talking with students... and listening. John Hasier, of Blacker Hovse, was overheard to mention the tradition carried on in a number of houses of "ponding" new house presidents, and ask whether Chameau himself might be convinced to participate. Inclining his head and spreading his hands, he smiled. "Well, if I do not say yes, will you do it anyway? Why not. Sure."

Although we should not insist in holding him to this off-handed promise, it is this writer's opinion that if Dr. Chameau does allow the ponding to proceed, his acquiescence should at least entitle him to one of our cleaner ponds.

Read next week, as The Tech interviews Georgia Tech students about Dr. Chameau.

Benzer Wins Nation's Largest Prize in Medicine

BY: VIBHA LALJANI

Dr. Seymour Benzer, Caltech's James G. Boswell Professor of Neuroscience, Emeritus and his lab pioneered the study of *Drosophila* (fruit fly) behavior as a foundation for study and treatment of neurological diseases in humans such as Alzheimer's and Parkinson's. On April 28th, he received the \$500,000 Albany Medical Center Prize in Medicine and Biomedical Research.

Some observations convinced Benzer that behavioral differences were a result of genetics. He decided that in order to be able to distinguish between 'nature' and 'nurture' one would have to keep the environment constant and modify the genes. The fruit fly was adopted because it is relatively convenient to manipulate their genes and because they reproduce quickly, so many generations of offspring can be studied within a short period of time.

Initially Benzer faced troubles convincing others that the *Drosophila* was a good choice for researching human diseases. He said, "One of the problems was to convince people that many aspects of behavior have a genetic basis. Another was to prove that the fruit fly, an invertebrate,

would have any relevance to humans. When the genomes of both organisms were sequenced, it became clear that many genes have been conserved in evolution and indeed have similar functions."

Benzer said, "We have a lively group of graduate students and postdocs who are continuing to try to figure out how the genes and the nervous system of the fly work to control hunger, fear, sex, aging, and degenerative diseases. These are model systems for understanding corresponding genes and mechanisms in people."

Benzer was a Research Fellow at Caltech between 1949 and 1950, a Visiting Associate between 1959 and 1967 after which he became a Professor here and continues to lead a lively research group. His students are happy to have him as their mentor.

Daniel Knoepfle said, "Dr. Benzer has been a fantastic mentor. He's probably the most innately curious person I've ever known. I imagine that his long history of success stems from his ability to both ask interesting questions and identify and pursue the most interesting of them. I think Dr. Benzer has done a good job of inspiring a culture of critical thinking and discussion in his lab--the research I did was much improved by the comments and criticisms of other

lab members. While he is himself an extraordinarily accomplished researcher, his continued success over many decades is likely due to his ability to impart some of his drive and personality on the many varied individuals that have made up his lab."

Another student, Paul Nagami said, "While I primarily work with my co-mentor, postdoc Dr. Bader Al-Anzi, Dr. Benzer has always been ready to help if asked, and I'm glad to have him as a mentor. Even though my summer research is over, I have been happy enough with my experiences in the Benzer lab to continue working under my SURF co-mentor."

When asked how he felt about winning the prize, Benzer said, "Richard Feynman once told me that, when informed that he had won the Einstein Prize, they pressed him for a response. His answer was 'Hot dog!' I guess that puts it pretty well." His students were thrilled about the same. Nagami said, "I was particularly happy that it was a large prize. As was noted on the lab chalkboard, that's half a million dollars in lab income."

The Albany Medical Center Prize is an annual prize announced each spring to recognize and enhance contribution to improvements in health care and

biomedical research.

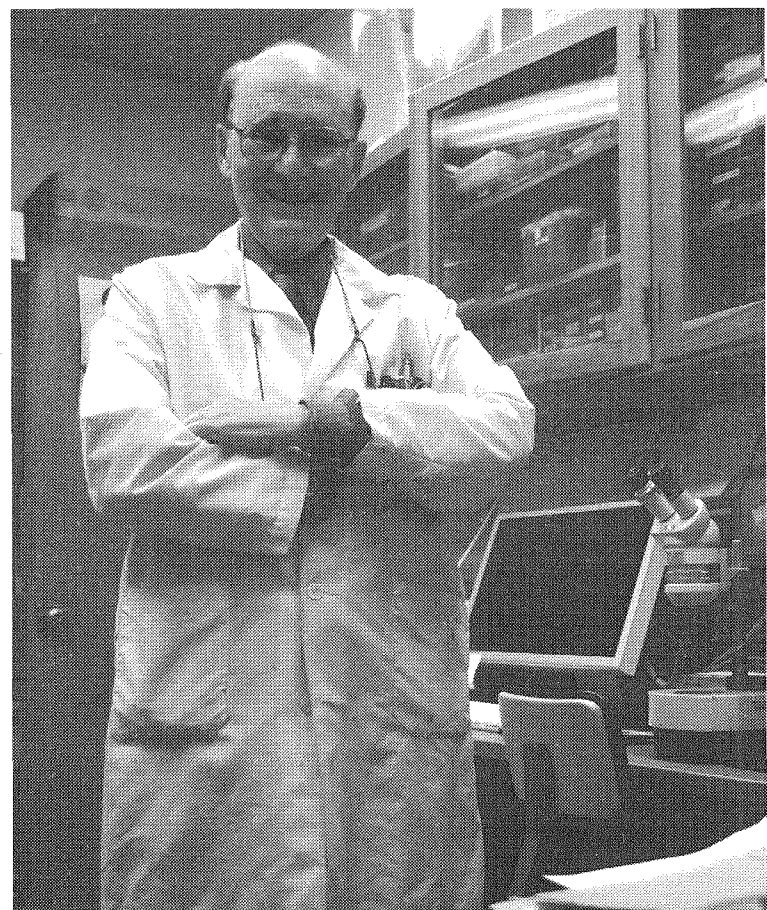


Photo by Matthew Glassman

Caltech professor Dr. Seymour Benzer, recipient of the 2006 Albany Medical Center Prize in Medicine and Biomedical Research

Todd's Paperside Chat

Greetings to the New President from the ASCIT President

The ASCIT President reflects on the importance of communications between undergraduates and the President and asks that students help acquaint our new President to Caltech.



BY: TODD GINGRICH

As everyone has likely heard by now, Caltech has recently announced that Dr. Jean-Lou Chameau will be the new President. I am hopeful that Dr. Chameau will be able to help the gradual revival of student life at Caltech.

He will be in a position to significantly improve the Caltech undergraduate experience, but he will clearly have many demands on his time. I ask that the under-

graduates warmly welcome Dr. Chameau into our culture so that he can become fully informed about undergraduate life on campus before he needs to make any major decisions.

When I came to Caltech nearly two years ago I had never met President Baltimore, yet a few Crippling Depression comic strips had already convinced me that Baltimore was not a champion of undergraduate life.

Even though I have been

involved with student leadership at Caltech, my contact with Dr. Baltimore has been minimal. I understand that the President of a school such as Caltech is extraordinarily busy, so I do not wish to overly criticize Dr. Baltimore. Nevertheless, I have heard that a few past presidents have been significantly more successful at remaining involved with undergraduates.

It is quite possible that Dr. Baltimore's decisions would not have changed even if he had frequently communicated with undergraduates, but I feel that frequent informal contact with undergraduates can be expected of the President. In my short time at Caltech, I have had the perception that Dr. Baltimore was removed from student issues. Whether or not this was actually true,

the perception itself has led to significant conflict between students and "the administration."

I strongly encourage President Chameau to actively enter some aspects of undergraduate culture. I am the first to admit that some of the student traditions and house cultures can be intimidating, but I think that I can trust the students to go out of their way to make our new President feel at home. Through informal lines of communication he will interact with students on a meaningful level, helping to greatly reduce the perception that there is a struggle between "us" and "them."

This past year has revealed that Caltech is not immune from budgetary problems, so Dr. Chameau will undoubtedly have to make some hard decisions.

It is important that we remember that he is human and will occasionally make mistakes.

In the past, undergraduate responses to administrative mistakes have been unnecessarily hostile. While pictures of presidents with money bags are amusing, there are much more productive ways that we can resolve complaints. I am confident that Dr. Chameau will go out of his way to improve communication with undergraduates, so in return we should commit to resolving our issues in a mature manner.

While students are prone to complaining about Caltech, the fact remains that Caltech is an amazing school. I welcome President Chameau to our unique world and wish him the best of luck.

Technology Review

Windows Vista Will Suck... The Money Out of Your Wallet

BY: TOM TSAI

By now most of you should've heard about Windows Vista, Microsoft's long overdue operating system replacement for Windows XP. After countless delays and red tape, Redmond's flagship product is finally slated to hit store shelves by the beginning of next year.

It is said that Vista, by far Microsoft's most ambitious and overhauled OS since Windows 95 (when operating systems finally went 32-bit), features vastly improved security capabilities, a retooled graphic user interface that takes advantage of the powerful discrete graphics units in modern computers, and better user functions featuring search and metatools. It promises to be all the things Windows has not been for the consumer in years.

Sounds great, but dark clouds lie ahead. Unless you own a Mac or are a purveyor of all things open source, you will most likely be running Microsoft Windows in some way, shape, or form. This means that everyone will have to conform to Microsoft's vision of the future for hardware on the PC, and even though new editions of Windows have generally required users to upgrade their computers, Microsoft seems to have exploded the system requirements for Vista this time around.

According to official release, the bare minimum computer configuration for running Windows Vista includes at least an 800MHz X86 CPU, 512 MB of system RAM, 15 GB of free hard disk space, a

SVGA 800x600 monitor, and a DirectX 9 compatible video card. Doesn't sound too bad, right? Wrong.

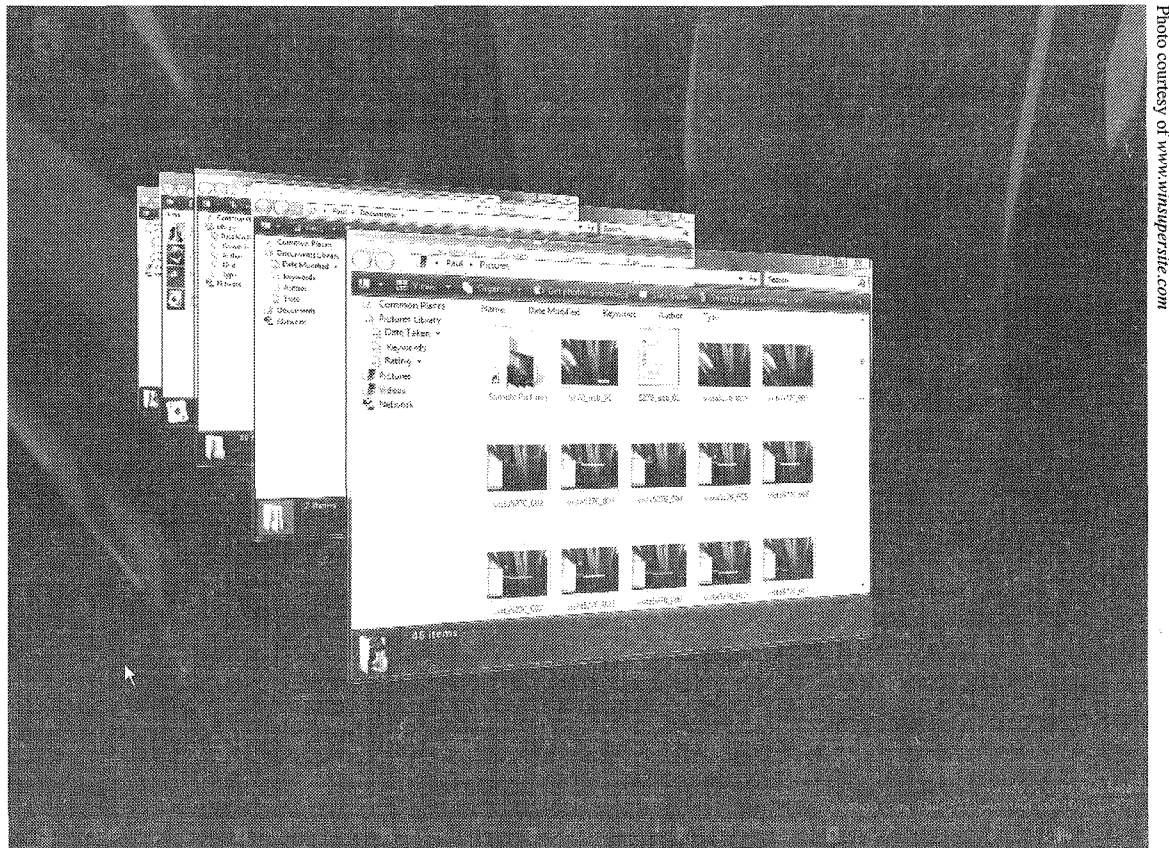
While these numbers sound standard issue by today's standard, they will only manage to allow you to eek by and run Vista with minimal features, without any of the eye candy that the new GUI delivers.

Anyone who desires to run Vista with the Aero Glass interface turned on will need a 1+ GHz X86 -32 bit or -64 bit processor, 1 GB of RAM (that can deliver at least 1,800 MB/s of bandwidth, however that is calculated), 64 MB of graphics memory to drive a single monitor of less than 1,310,720 pixels, 128 MB to support resolutions between 1,310,720 and 2,304,000 pixels, and 256 MB of GPU memory to display at resolutions greater than 2,304,000 pixels.

Confusing enough for you yet? Maybe not. But add in the fact that this DirectX 9 compatible video card of yours also would require support for the new Windows Display Driver Model, Pixel Shader 2.0 support, and have 32 bits of precision per pixel, not to mention that this WDDM driver requires monitors that support HDCP for DRM control of high definition multimedia content, and you have an upgrade crisis in your hands.

People that are not going to buy new computers will definitely need several hundred dollars of upgrades to their current systems to have any kind of decent Vista experience.

On top of all this you'll have to decide which Vista



Windows Vista is going to have some nifty new features, like a new 3D graphic user interface. But it will be costly after all the necessary hardware upgrades.

is right for you. I emphasize this because there are going to be so many versions of Vista it'll send your head spinning into outer orbit.

There's Home Basic, Home Premium, Business, Enterprise, etc. the list goes on and on... Vista Ultimate Edition, which includes all the new added features and bundled software, will most likely retail for \$400 or even more, while Vista Home Basic, likely to be bundled with most entry-level mainstream OEM manufactured PCs, lacks some key features including the highly touted new Aero Glass interface, selling most consumers short on value.

Vista Home Premium will

likely be the most popular version sold, yet will still lack some of the premium software that was designed for Vista to compete with the bundled product set of Apple's OSX. Microsoft claims that the different platforms to suit different user budgets and needs, but who wants only half an operating system?

Windows Vista is going to be a plague to the budget-conscious computer user, but the computer industry probably couldn't care less. In fact, most companies will probably be laughing all the way to the bank, because Vista is going to generate billions in revenue for more than just Microsoft, but hardware

manufacturers and software developers alike.

Simply put, despite all the progress that both Apple and Linux have made, Windows still dictates the flow of the computer market. Intel is waiting until the third quarter of this year to release its next generation desktop and mobile CPU chips, the Core 2.

Both ATI and nVidia are also waiting until the end of the year to introduce their line of DirectX 10 compatible graphics units. Everyone is waiting for the massive onslaught on the consumers' bank accounts that is Windows Vista.

Questions? Comments? Requests for future articles? Please contact the author at tomsai@caltech.edu.

Library Purchases Books for Recreation

BY: MENG-MENG FU

Last year, undergraduate members of the Library Committee (Meng-meng Fu, Arjun Bansal, and Nyssa Thompson), along with University Librarian Kimberly Douglas, wrote a proposal to the Moore Hufstедler Fund (MHF) to purchase more recreational reading materials for the Caltech Library.

The students on the library committee wanted to address the dearth of non-academic, leisure-reading books. The proposal for \$20,000 was successful and funding has been used to purchase a variety of modern and classic literature, sci-fi, special interest books, and even comics.

The collection is easily accessible and browse-able. On the Caltech Library webpage (<http://library.caltech.edu/>), there is a direct link to "The Moore-Hufstедler Leisure Reading Collection".

For the more old-fashioned, all MHF funded are housed on the third floor of the Sherman Fairchild Library.

So what exactly can you find? You can pick up a copy of *Angela's Ashes*, a Stephen King novel, multiple copies of works by Orson Scott Card, or the ever-popular Harry Potter books.

A large number of award-winning works (such as the Booker Prize or the Nobel Prize in Literature) can also be found; examples include books by Gabriel Garcia Marquez, A.S. Byatt, and E.L. Doctorow. Many current works are also available, such as Anne Proulx's collection of short stories (including "Brokeback Mountain") and Yann Martel's *Life of Pi*.

Initially, books were purchased based on an ASCIT survey on library materials conducted in 2005. Subsequently, undergraduate members of the Library Committee were given purchasing power of MHF-funded books.

If you have any suggestions for books that you would like to see the library purchase through the MHF funding, contact the undergraduate members of the Library Committee. This year's members are Nyssa Thompson, Angela Chang, and Brian Zhou.

Food Review

Cheap and Easy Enough to Cook

BY: BRIAN HANLEY

You'll find me at the back of the soup aisle, sitting near the floor in a cardboard box. Right next to the Cup-of-Noodles, I wait, longing to be put in pot of boiling water so that I may be enjoyed. I'm Ramen. Delicious Ramen. And I'm one of the cheapest things to buy in the grocery store.

I may cost ten cents or even twenty, but I'm a meal in a packet and with two cups of boiling water, I take only three minutes to make. You can even put little garnishes in the pot with me to add flavor or texture. You might add chicken, beef, or pork. Maybe a couple vegetables. Anyway you want me, I'm delicious and almost all the sustenance you'll ever need.

A word of warning, you must have at least some variety (like chicken flavored, beef flavored, or maybe oriental flavored) so as to avoid scurvy. If you get scurvy, you cannot continue to enjoy my deliciousness and we can't have that now can we.



Photo by David Chen

You can even enjoy me just in noodle form. Why make a soup when you could make noodles and garnish them instead. You could use spaghetti sauce or bolognese, just eat me like pasta.

I'm so simple to make, even a monkey could do it. Just boil two cups of water and toss me in. Wait three minutes, add the flavor packet (mmmmm, salty), stir and serve.

Make two of me with just twice

the water. A feast for 40 cents, a hobo's dream come true.

I'm cheap, I'm easy to make, and I'm easily made much better with small additions. I'm delicious and you should go buy me.

Buy me before the person sitting next to you does. Buy a stockpile for just a few dollars.

Go and buy me now. Buy me and celebrate. Have a party in my honor because I'm awesome.

I'm Ramen. Eat me.

The Disorder to Cure ASAP

Josh Cornell, M.A. and intern at the counseling center, explains symptoms, causes, and how to get help for sexual disorders.

BY: JOSH CORNELL

Sexual problems are common among college students. According to the Kinsey Institute for Research in Sex, Gender, and Reproduction, more than half of young adults report experiencing sexual problems at some point.

Sources of Sexual Dysfunction

While factors contributing to sexual problems will be described individually, it is important to remember that most sexual problems have several causes that are often interrelated.

For example, depression can cause sexual dysfunction. Many depressed people are treated using antidepressant medications that often affect sexual functioning.

Inadequate information and stress are the two most common cause of sexual dysfunction. More than half of sexual problems are a result of having unrealistic expectations about sexual performance and insufficient knowledge of human sexual physiology.

Stress is the other major cause of sexual problems. Common stressors for college students are lack of sleep, inadequate nutrition, substance use, academic pressure, inadequate finances, and relationship difficulties.

Other causes include physical illness, and use of medications, illegal drugs, and alcohol. For this reason, it is a good idea to seek medical consultation if you are concerned that you may have a sexual problem or have noticed a significant change in sexual functioning. Listed in the table are factors that may contribute to sexual dysfunction.

Our environment plays a role in developing sexual problems as well. Sexual trauma including

rape and sexual assault, sexual harassment, sexual abuse, and pain during sexual intercourse or gynecological exam can lead to sexual problems. Other forms of child maltreatment including neglect and physical and emotional abuse can contribute to a sexual problem as well.

Common Sexual Problems

Experiencing occasional sexual difficulty is normal. These symptoms become problems only when they occur chronically.

More than half of all young adults experience low sexual desire at some time.

Sexual arousal disorder is persistently inadequate vaginal lubrication or swelling, while feeling sexually aroused.

Getting Help

Young adults have a hard time seeking help for sexual problems because they tend to believe that sexual problems are only supposed to happen to older people.

Sexual problems can be especially frightening for young adults, whose sexual confidence tends to be tied to their genital functioning.

For highly gifted students who are expected to have all the answers, it may be difficult to admit

Conditions	Drugs
<ul style="list-style-type: none"> •Neuropathy •Diabetes •Chronic fatigue •Cardiopulmonary disease •Metabolic Problems •Cancer •Sexually transmitted infections •Multiple sclerosis •Various psychological problems •Irregular, scarred, or damaged tissue/structure of genitals •and many others 	<ul style="list-style-type: none"> •All illegal drugs •Alcohol •Beta-blockers •Diuretics •Most antidepressants •Anti-psychotics •Anti-epileptics •And many others

Possible factors that contribute to sexual dysfunction.

A long delay or lack of orgasm following typical range of sexual excitation and stimulation is common among women and sometimes occurs among men.

The same is true of Dyspareunia, the experience of chronic painful intercourse. Erection disorder, also known as impotence, is the inability to gain and/or maintain an erection and is the most common sexual problem that young men face.

Many men experience premature ejaculation, which is ejaculation with minimal sexual stimulation that usually occurs near the initiation of intercourse.

Sexual arousal disorder and vaginismus are common sexual problems that women face. Vaginismus is involuntary contractions of muscles in the outer third of the vagina, usually in response to attempted insertion of a penis or other object.

that you don't always know what to do.

It's okay not to know. When it comes to sex, most people know very little. Sometimes, feelings of fear, shame and embarrassment make seeking help for sexual concerns difficult.

With that in mind, it is encouraged that people who believe they have a sexual problem or who notice significant changes in their sexual functioning to get help.

Most people who seek treatment for sexual problems find relief. Sexual problems are often easily treated by providing accurate sex education and addressing beliefs that often get in the way of having an enjoyable sex life.

If you have a sexual health concern, I encourage you to get help. On campus resources for sexual health concerns include the Counseling Center, Health Education Office, and the Health Center.

Drink o' the Week

The DNA

BY: JOSHUA GUTMAN

No, I'm not suggesting you drink a man made protein smoothie. The DNA is a drink you probably never even thought to try yet it has been available to you in so many varieties during your time here at Tech.

This particular beverage is incredibly smooth mostly because the fountains keep it well mixed.

Unfortunately the drink can only be made in 11,000 gallon portions, but as it is an instant party-maker you'll have no problem getting people to join in an help you finish.

The drink is made as follows:

- 1 gene pool
- 5 lbs of Red 40 pre-mixed into gene pool (optional)
- Stir (preferably with 40' piece of pvc)
- Enjoy

As you can see it has available in two "flavors", one flavor



Photo courtesy of Caltech PR

was available only on ditch day, but I'm sure if you look around you can find photos of people enjoying probably one of the most exclusive beverages available on the market today in "red" form, but the classic "blanco" flavor can be made yours for absolutely no cost today.

You might find that this instant party maker might be too much drink to handle and not able to get that buzz you were looking for.

I suggest you serve it with a bottle of Samuel Smith's Oatmeal Stout followed by a bottle of Petron tequila and I really think you'll find the kick you were looking for.

[Warning: Bad things or at least very unpleasant things can happen to you if you do not allow the "red" variety to properly mix.

The following are potential side effects of improper mixing: discoloration of urine, discoloration of skin, discoloration of hair, discoloration of tears, discoloration of discharge, discoloration of excretion, and of course death]

The Gene Pool at Caltech obtained a red hue on Ditch Day this year (left).

Due to the difficulties of figuring out the color of a pond in a black and white photo, we have included a picture of the Gene Pool in its normal state for contrast (below).

Photo by Joshua Gutman

On Gas and Government

BY: SIMON QUE

In the May 8 issue of this paper, Michael Salem wrote an article titled "Gas Can't Be Regulated by the Free Market," in response to my article on high gas prices the week before. Mr. Salem's objection to a free market in gasoline seems to be built on grounds of fairness. He states that "there is a sense that it is unfair for a few people to profit enormously due to the deprivation of a natural resource" and that there ought to be a tax on gas profits that "allows prices to rise in accordance with the increased demand and scarcity of gas, but prevents a few people from benefiting disproportionately."

Those who own natural resources profit from their use, and there is nothing wrong with that. Resources should be used to improve the lives of people. And they can often be renewed – forests can be planted, fish can be grown in fish farms, et cetera. To the extent that renewal is not possible, consumers would use less of it once it became scarce and prices went up, and entrepreneurs would find and invest in alternative resources. More importantly, these resources should be viewed not as belonging to the earth but to the people and organizations that own them as property. Private ownership in the free market makes "price-system conservation" possible.

A tax on gas profits would thus not be necessary to preserve re-



What role should the government have in setting gasoline prices?

sources. Moreover, it is mistaken to assume that only a few people benefit from the sale of gas and that they should be taxed for it. In reality, everyone who is involved in the exchange benefits. In a sense, profits are simply a reward that buyers give suppliers for having risked time and money to make goods that people value available. If these profits were reduced by a gas profits tax, there would be fewer willing investors in the oil industry, as there is less gain for the same amount of risk. Some investors would seek out other markets, and gasoline would be less abundant and thus more costly for consumers.

This becomes even more important in case of a sudden reduction in the availability of oil. Contrary to what a simple supply-demand graph shows, sellers stock up on goods not just for sale

in the present but also in anticipation of future sales and profits. This is why when the supply of gas is restricted, companies can still sell gasoline at all, having prepared for the possibility of such a scenario. If a tax reduced their profits, they would not have been as willing to invest in extra gasoline, and would have sought out other markets for investment.

The gas tax would not reflect some sort of "public admission" about the gas market at all. Like all government interventions, it is really just an effort by those in the government to run society the way they think it should be run. Even with a democratically elected government, the wishes of a majority will overrule those who disagree. Moreover, politicians can always buy off those who disagree with other benefits,

and thus would be re-elected in spite of, not because of, imposing an unpopular gas tax.

Mr. Salem also warns that as gas prices rise, it "allows only those with the most money to obtain" the gasoline. Of course everyone who has a car "wants" gasoline, but such a notion is vague and ambiguous apart from considering what people are willing to give up in exchange for it, which is what a price system tells us. To restrict market prices would result in economic chaos, as gas would be sold arbitrarily. If someone were sick and needed to drive to a hospital, he could offer up a large sum of money and buy some gas in a free market. But if there were a shortage due to price restrictions, he might have to wait in line no matter how much he was willing to give up.

A free market in gasoline does not simply allow the rich to bid middle- and lower-class people. There exist different levels of products corresponding to different levels of wealth. For instance, there are used cars and new cars in the automobile market and condos, single-family homes, and mansions in the housing market. In the case of gasoline, gas stations sell gasoline at three different quality levels. The rich can have their high-quality super unleaded gas, and the rest of us can have regular gas.

To my suggestion that oil-rich public lands be auctioned, Mr. Salem claims that it "misses the point of the political process to decide how that land should be used... To open the lands to purchase is not to let the public decide how much it values oil preserva-

tion." In reality, "public lands" are not owned by the public, but by the government, even if it is a democratic government. (That the auction of federal lands is undemocratic matters little anyway, because the federal government should never have closed off the lands in the first place, but should have left them open to homesteading once they were acquired.)

Federal lands do not represent something of value that is held in common for all the people. Instead the government has deprived society of the benefits of productive use of this land: cheaper gasoline, more abundant lumber, jobs, and products. People are poorer than they could otherwise be as a result of government ownership of land. They should be auctioned because the amount that companies are willing to pay reflects how much they can expect to gain from it.

And contrary to what Mr. Salem fears, these revenues ultimately reflect how much people value the land and are willing to pay for the benefits gained from these lands – goods and services that they would not have under continued government occupation of land, no matter how much they were willing to pay. The auction of public lands will allow them to be used the way that people actually value, as individuals voting with their dollars rather than as a collective mass at the ballot box.

Flem Party a Failure?

BY: ANONYMOUS



This picture, while not actually from BFP, is symbolic of the beverages the average Techer could expect to find there.

Free food and BEVERages. If there's one thing I've learned since coming to Caltech, it's that those two components are necessary to successfully hosting any type of social event at Caltech. Last Sunday, Fleming decided to violate this golden rule, and hosted their interhouse party with a minimal amount of drinks and no food at all.

I showed up at around 11 PM and waited patiently in line for 10 minutes at the bar. When I visited Caltech during prefrish weekend, I was completely shocked at the amount of alcohol that flowed freely but after a term in Page, I started to enjoy a couple drinks at each of the interhouse parties, especially since they would cost a fair amount of money at an outside bar.

While I waited in line, I eagerly thought about what drink I would sample that night, but after saying my request, I was carded by

the bartender, which is not a good thing for me. So I looked to the right and noticed that Fleming had

placed some non-alcoholic drinks on a table by the side. I wandered over there and to my utter disappointment, all I saw were 2-liter bottles of soda.

Perhaps I've been spoiled by the milkshakes provided at previous parties (kudos to Blacker and Ruddock especially), but I definitely expected more than just soda and water. At the least, maybe they would have some fruits or cookies to enjoy, but I didn't see any food placed out there.

Lacking any decorations that caught my attention, I left the party immediately afterwards.

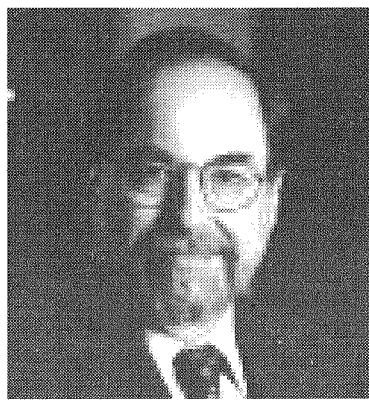
To be fair, Fleming can not be fully blamed since Caltech has been much more strict about its Alcohol policy since the Apache incident last fall. Nonetheless, the point of this article is that there should be some type of consolation prize for those who can't drink—and I mean something better than soda!

Baltimore's Presidency

BY: JON SENN

If you were to ask nearly any student what is the general student conception of President Baltimore, they would respond with some sort of allegation that he does not care about undergraduates. However, when we asked a dozen of our writers at a staff meeting to write an editorial about his Presidency, all of them said they didn't personally know enough information. We then asked our spam list of about 25 writers. Again, none felt they really knew factual information about Baltimore's Presidency.

Finally I asked many of



President Baltimore

my friends who are graduating seniors, most of them having previously complained about Baltimore on numerous occasions. Much to my surprise, they too all felt too uninformed to write the article.

It seems that the undergraduate body's major grievances against Baltimore must have occurred at

least four years ago, if at all. For this reason I believe that Baltimore's poor reputation amongst undergrads is partially un-warranted.

Based on my rather limited recollection, it seems that Baltimore's policy decisions usually don't directly affect undergrads and don't originate with him; most administrative decisions instead seem to come from other faculty in Student Affairs. The only recent items which immediately spring to mind are his generous offer to personally repay Fleming for cannon retrieval expenses and changes in the student health insurance policy.

I will continue this edito-



President Chameau

rial next week after I actually do more research on the subject. Please email me any of Baltimore's policy decisions which I have neglected to mention; I'm sure that there are many of them. Anyone who wishes to write an editorial is welcome to e-mail us at tech@caltech.edu.

Write for The Tech

If you are interested in working for *The Tech*, feel free to attend our weekly meetings on Fridays from noon to 1PM at the Broad Cafe

If we print your material, we will pay you up to the amounts listed below (at our discretion). Email submissions to tech@caltech.edu.

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Feynman on Ethics in Science

In celebration of a new Caltech era to be ushered in by President Chameau, we republish an excerpt from Richard Feynman's popular 1974 Caltech commencement address in which he discusses timeless issues in scientific ethics through his trademark quirky stories.

BY: DR. FEYNMAN

...in summary, the idea is to give all of the information to help others to judge the value of your contribution; not just the information that leads to judgement in one particular direction or another...

Last night I heard that Wesson oil doesn't soak through food. Well, that's true. It's not dishonest; but the thing I'm talking about is not just a matter of not being dishonest; it's a matter of scientific integrity, which is another level. The fact that should be added to that advertising statement is that no oils soak through food, if operated at a certain temperature. If operated at another temperature, they all will—including Wesson oil. So it's the implication which has been conveyed, not the fact, which is true, and the difference is what we have to deal with.

We've learned from experience that the truth will come out. Other experimenters will repeat your experiment and find out whether you were wrong or right. Nature's phenomena will agree or they'll disagree with your theory. And, although you may gain some temporary fame and excitement, you will not gain a good reputation as a scientist if you haven't tried to be very careful in this kind of work. And it's this type of integrity, this kind of care not to fool yourself, that is missing to a large extent in much of the research in cargo cult science...

We have learned a lot from experience about how to handle some of the ways we fool ourselves. One example: Millikan measured the charge on an electron by an experiment with falling oil drops, and got an answer which we now know not to be quite right. It's a little bit off because he had the incorrect value for the viscosity of air. It's

interesting to look at the history of measurements of the charge of an electron, after Millikan. If you plot them as a function of time, you find that one is a little bit bigger than Millikan's, and the next one's a little bit bigger than that, and the next one's a little bit bigger than that, until finally they settle down to a number which is higher.

Why didn't they discover the new number was higher right away? It's a thing that scientists are ashamed of--this history--because it's apparent that people did things like this: When they got a number that was too high above Millikan's, they thought something must be wrong--and they would look for and find a reason why something might be wrong. When they got a number close to Millikan's value they didn't look so hard. And so they eliminated the numbers that were too far off, and did other things like that. We've learned those tricks nowadays, and now we don't have that kind of a disease.

"Why didn't they discover the new number [of charge on an electron] was higher right away? It's a thing that scientists are ashamed of--this history--because it's apparent that people did things like this: When they got a number that was too high above Millikan's, they thought something must be wrong--and they would look for and find a reason why something might be wrong."

But this long history of learning how to not fool ourselves--of having utter scientific integrity--is, I'm sorry to say, something that we haven't specifically included in any particular course that I know of. We just hope you've caught on by osmosis

The first principle is that you must not fool yourself--and you are the easiest person to fool. So you have to be very careful about that. After you've not fooled yourself, it's easy not to fool other scientists. You just have to be honest in a conventional way after that.

I would like to add something that's not essential to the science, but something I kind of believe, which is that you should not fool the layman when you're talking as a scientist. I am not trying to tell you what to do about cheating on your wife, or fooling your girlfriend, or something like that, when you're not trying to be a

scientist, but just trying to be an ordinary human being. We'll leave those problems up to you and your rabbi. I'm talking about a specific, extra type of integrity that is not lying, but bending over backwards to show how you're maybe wrong, that you ought to have when acting as a scientist. And this is our responsibility as scientists, certainly to other scientists, and I think to laymen.

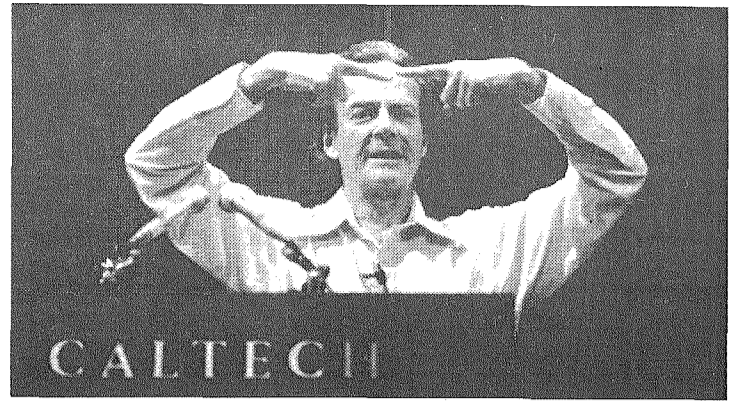
For example, I was a little surprised when I was talking to a friend who was going to go on the radio. He does work on cosmology and astronomy, and he wondered how he would explain what the applications of his work were. "Well," I said, "there aren't any." He said, "Yes, but then we won't get support for more research of this kind." I think that's kind of dishonest. If you're representing yourself as a scientist, then you should explain to the layman what you're doing-- and if they don't support you under those circumstances, then that's their decision.

One example of the principle

is this: If you've made up your mind to test a theory, or you want to explain some idea, you should always decide to publish it whichever way it comes out. If we only publish results of a certain kind, we can make the argument look good. We must publish BOTH kinds of results.

I explained to her that it was necessary first to repeat in her laboratory the experiment of the other person--to do it under condition X to see if she could also get result A, and then change to Y and see if A changed. Then she would know the real difference was the thing she thought she had under control.

She was very delighted with this new idea, and went to her professor. And his reply was, no, you cannot do that, because the experiment has already been done and you would be wasting time. This was in about 1947 or so, and it seems to have been the general



Richard Feynman gives his 1978 Caltech commencement address.

policy then to not try to repeat psychological experiments, but only to change the conditions and see what happened.

Nowadays, there's a certain danger of the same thing happening, even in the famous field of physics. I was shocked to hear of an experiment being done at the big accelerator at the National Accelerator Laboratory, where a person used deuterium. In order to compare his heavy hydrogen results to what might happen with light hydrogen, he had to use data from someone else's experiment on light hydrogen, which was done on different apparatus. When asked why, he said it was because he couldn't get time on the program (because there's so little time and it's such expensive apparatus) to do the experiment with light hydrogen on this apparatus because there wouldn't be any new result. And so the men in charge of programs at NAL are so anxious for new results, in order to get more money to keep the thing going for public relations purposes, they are destroying--possibly--the value of the experiments themselves, which is the whole purpose of the thing. It is often hard for the experimenters there to complete their work as their scientific integrity demands.

All experiments in psychology are not of this type, however. For example, there have been many experiments running rats through all kinds of mazes, and so on--with little clear result. But in 1937 a man named Young did a very interesting one. He had a long corridor with doors all along one side where the rats came in, and doors along the other side where the food was. He wanted to see if he could train the rats to go in at the third door down from wherever he started them off. No. The rats went immediately to the door where the food had been the time before.

The question was, how did the rats know, because the corridor was so beautifully built and so uniform, that this was the same door as before? Obviously there

was something about the door that was different from the other doors. So he painted the doors very carefully, arranging the textures on the faces of the doors exactly the same. Still the rats could tell. Then he thought maybe the rats were smelling the food, so he used chemicals to change the smell after each run. Still the rats could tell. Then he realized the rats might be able to tell by seeing the lights and the arrangement in the laboratory like any common-sense person. So he covered the corridor, and still the rats could tell.

He finally found that they could tell by the way the floor sounded when they ran over it. And he could only fix that by putting his corridor in sand. So he covered one after another of all possible clues and finally was able to fool the rats so that they had to learn to go in the third door. If he relaxed any of his conditions, the rats could tell.

Now, from a scientific standpoint, that is an A-number-one experiment. That is the experiment that makes rat-running experiments sensible, because it uncovers that clues that the rat is really using-- not what you think it's using. And that is the experiment that tells exactly what conditions you have to use in order to be careful and control everything in an experiment with rat-running.

I looked up the subsequent history of this research. The next experiment, and the one after that, never referred to Mr. Young. They never used any of his criteria of putting the corridor on sand, or being very careful. They just went right on running the rats in the same old way, and paid no attention to the great discoveries of Mr. Young, and his papers are not referred to, because he didn't discover anything about the rats. In fact, he discovered all the things you have to do to discover something about rats. But not paying attention to experiments like that is a characteristic example of cargo cult science...

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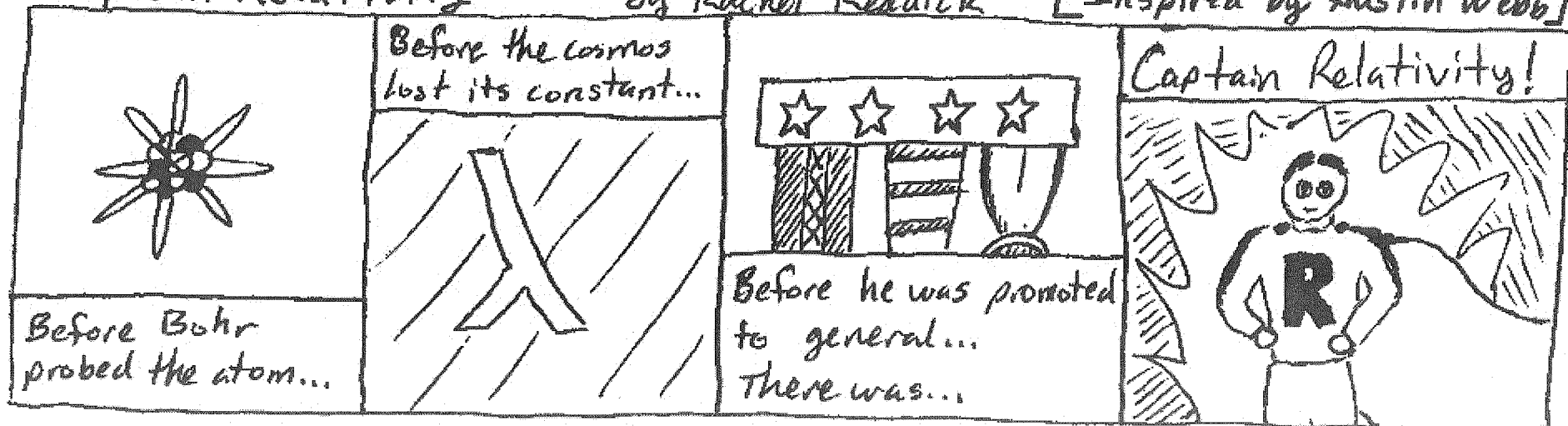
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The Aristocrat



An Inside Look at How the New President was Selected

BY: TONY FALK

If you've read other stories in this very newspaper, it is likely you are aware that Caltech has chosen a new President. Like the one in charge of the U.S., this one was not voted for by the majority of the people he will rule over¹ but claims he will act on behalf of everyone.

He also may claim that God chose him to be President, although there is no evidence he has ever made such a statement, except that any person with great responsibility should logically claim to have been endorsed by an all-powerful creator, as this adds considerably to their authority and credibility.

But as much as the new President of Caltech resembles George W. Bush, in many ways he is different. For one thing, one is from Texas, and the other France (although I don't believe either is "technically" part of the United States, so they have that in common), and those two nation-states have been on the brink of war ever since I imagined them to both be nations.

Another difference is that I've heard one rumored to be less intelligent than average ape-man while sources have suggested the other is some sort of super-intelligent black and white toothed whale². The point is, the new President has a name that is easily made into a bad pun.

All this talk of new Presidents got me thinking about how I would go about picking a new leader, which got me to assuming this was how the real committee did it, so I'll present this as if it were well-researched fact.

The first thing the commit-

tee had to do was select its own members. Obviously it would include the division chairs³ and other prominent administrators, but what most people don't know is that undergrads and grad students had some say into the decision as well, although not in the traditional way.

Instead of wasting the valuable time of students, the Caltech Professor of Religious/Student Symbolology made anagrams out of the upper case letters in the ASCIT and GSC minutes, and used these to discover the preferences of the Caltech undergrad and graduate populations.

Those located near to Caltech were also included in the search by having a skilled group of kidnapppers abduct someone from a local home and drag them into each meeting, returning them only after drugging them in such a way as to make them forget what had occurred⁴.

The final member of the committee placed in charge of finding us a new President was obviously a super-computer so powerful it could accurately predict the future, and thus already knew who would be chosen, which greatly simplified the procedure of choosing the President.

Unfortunately the computer predicted that it would predict that it would predict that... (It just kept doing that repeatedly until someone unplugged it). So the committee had to replace the computer with a magic eight ball, which predicted that they would choose "Concentrate and Ask Again."

The committee decided to go in a different direction for their final decision, and so interviewed a number of people. The first person brought in for an interview

was David Baltimore, who pointed out that he already had the job, and no longer wanted it.

Next they brought in Mr. T, who they found hiding in the Los Angeles underground after escaping from a military prison where he had been placed for a crime he didn't commit.

The main qualifications Mr. T

"All this talk of new Presidents got me thinking about how I would go about picking a new leader..."

had (besides having beaten Rocky at one point) were his immense wealth (represented by hundreds of pounds of gold chains, thought to be worth approximately the same amount as David Baltimore's sacks of cash) and his firm yet compassionate treatment of those not academically qualified for Caltech, since it is well known that he pities fools.

Unfortunately for Caltech, Mr. T turned down their offer, instead accepting an offer to become the

Dean of Students at the University of Chicago. Other possibilities considered were former Harvard University President Lawrence Summers, the brainy Krang of Ninja Turtle fame, and John Kerry.

They were rejected due to certain statements that may have offended women, being a supervillain intent on conquering the earth, and flip-flopping on issues, respectively.

After trying Baltimore again and receiving another polite explanation that he was the one being replaced, the committee was down to two final candidates. One was Dr. Chameau of Georgia Tech, and the other Mr. Willy of ITT Tech.

After an interview revealed that Mr. "Free" Willy was not in fact a real person, but rather a lame attempt by a Tech columnist to make another killer whale joke, the decision by the committee was an easy one, and they contacted David Baltimore with the job offer that very day.

After another explanation by Baltimore that he was the outgoing President, and therefore

shouldn't be considered for the job of replacing himself, the committee met and after several hours of intense debate decided to hire Dr. Chameau, who accepted, on the condition that no one make any more whale jokes.

(Footnotes)

¹ After hours of extensive research, I've discovered that people don't vote for the President of universities at all. I must have been thinking of American Idol.

² These sources being my imaginary friends, two rats named Hippo and Rhino. And to be politically balanced, they told me John Kerry was a reverse-centaur whose intelligence was known to flip-flop.

³ I'm leaving the "division chairs and tables" or "and also the people who sit in the division chairs" puns out, due to the strong correlation between including bad puns in my column and death threats I receive.

⁴ The drug of choice for this operation was a large bottle of cheap vodka and a well placed blow with a sock full of quarters.

The California Tech

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