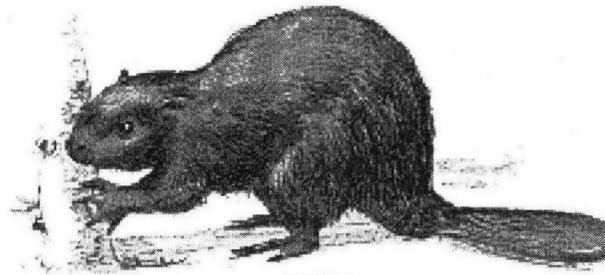


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# The California Tech

2000

VOLUME CI, NUMBER 11

PASADENA, CALIFORNIA

JANUARY 7, 1990

## EPSTEIN LEAVES TO WORK ON JAVA JUNIOR

BY KATIE MACK

From the first day of class, it was obvious things would not go smoothly in CS1 this year. The students came in expecting to learn to program in C and instead found themselves faced with a surprisingly Java-based curriculum and JJ, an entirely new programming language. What started as a mumble of dissent in that first hour eventually grew to a complaint strong enough to cause a complete revamping of the course, mid-term. Now that the dust has settled and a new term has begun, we get another surprise: the lecturer is missing.

It hasn't been easy finding out exactly what's become of David Epstein and why he's not going on to teach CS2. There are plenty of theories, ranging from the mundane to the conspiratorial. Even the CS1 TA's are uncertain as to why Epstein isn't continuing on the CS1-2-3 course as planned, and I was able to get only a few brief comments from others in the CS department. The common assumption, however, is that the change in plans has something to do with the less-than-friendly welcome that JJ ("Java Junior") received the first time around. In any case, many found it a bit suspicious when the instructor was suddenly and quietly replaced and no one seemed to be offering an explanation.

Fortunately, it isn't really an elaborate administrative cover-up. David Epstein has not ceased to exist (though one Jorgensen secretary said that it's been several weeks since the last sighting). He explained his side of the story to me in an e-mail, in which he made two major points. The first was that he believes Caltech will lead the world in producing competent, responsible programmers with the help of top-rate students and faculty. The second is with regard to Epstein's own creation, JJ. He feels that now is the time for him to concentrate his efforts on improving and promoting JJ so as to have the greatest positive effect on computer science education today.

PLEASE SEE EPSTEIN ON PAGE 4

## Apocalypse... when?

*U.S. winds down after Millennium hype fails to deliver*

BY TECH STAFF

On the stroke of midnight, December 31st, 1999, the third planet from the sun erupted in something less than the apocalyptic fury which spam-hoarders and Y2K-doomsayers had predicted. Only fireworks and newscopters graced the peaceful night sky. By the time the line of darkness swept over the United States, most of us here already knew that we would have to return to our dreary lives on Monday.

It was as if the whole Y2K bug had been dreamt up in the fertile minds of some old-time COBOL programmers and accepted by a public so reliant on computers and yet so utterly ignorant of them. It certainly was a legitimate concern, as the clock errors at several nuclear power plants demonstrated, but blown far out of proportion.

The teeming masses of humanity which had crowded the famous public squares the night before woke up to hangovers

and the realization that the last party of the "millenium" had failed to live up to the hype. Makeshift survivalists found themselves facing a glut in the portable generator market. New York found itself buried under several tons of garbage and confetti. The threat-to-actual-terrorism ratio reached an all time low,

sive show in Paris was marred by the failure of the countdown clock a few hours before the critical time. The "river of fire" promised at the London party was not visible due to all the smoke. The 2000 doves released in Bethlehem are sure to cause problems in the next few weeks. Instead, the most enlightened

guessed law enforcement and chose not to use the opportunity to perpetuate their agendas. Once again, the great spectre which caused the Mayor of Seattle to cancel the party at the Space Needle failed to materialize. Some pre-emptive arrests were made, but there was no clear evidence that the increased security really had anything to contend with.

The supposed "Y2K" crisis, conceived by computer-savvy writers and snowballed into mass obsession by the mass media and government, disappeared with the merest whimper with the New Year.

The general public discovered that, though their computers and their lives were safe with the dawn of a new year, the overhyped predictors of "Y2Kaos" were cast into doubt. In the future, the public is more likely to remain skeptical when rumors of massive computer failure and apocalypse surface. Until, of course, Y10K rolls around.

*Led to believe that we'd be partying  
"like it was 1999," nearly all of us  
Americans ... expected nothing less  
than the Rapture itself.*

and many were very disappointed.

Were we all duped? ABC had record ratings for its millenium coverage, and that was with nothing actually happening. Led to believe that we'd be partying "like it was 1999," nearly all of us Americans (and a fair number of others from around the globe) expected nothing less than the Rapture itself.

The otherwise rather impres-

ceptional celebration occurred in a very natural and nonchalant way. Pacific Islanders, reenacting a ceremony they perform each year, sent out one old man and a boy in a canoe to symbolize the changeover from one year to the next. In the face of fake-seeming billion-dollar Millenium Domes and skies filled with fireworks and smoke, this Pacific Islander ritual rang true.

Terrorists apparently second-

## Professor Emeritus Dies

*Hydraulics expert renowned for work*

BY KATY ISAACS

Vito A. Vanoni, California Institute of Technology Professor of Hydraulics, Emeritus, died Monday, December 27, 1999, of congestive heart failure. He was 95 years old.

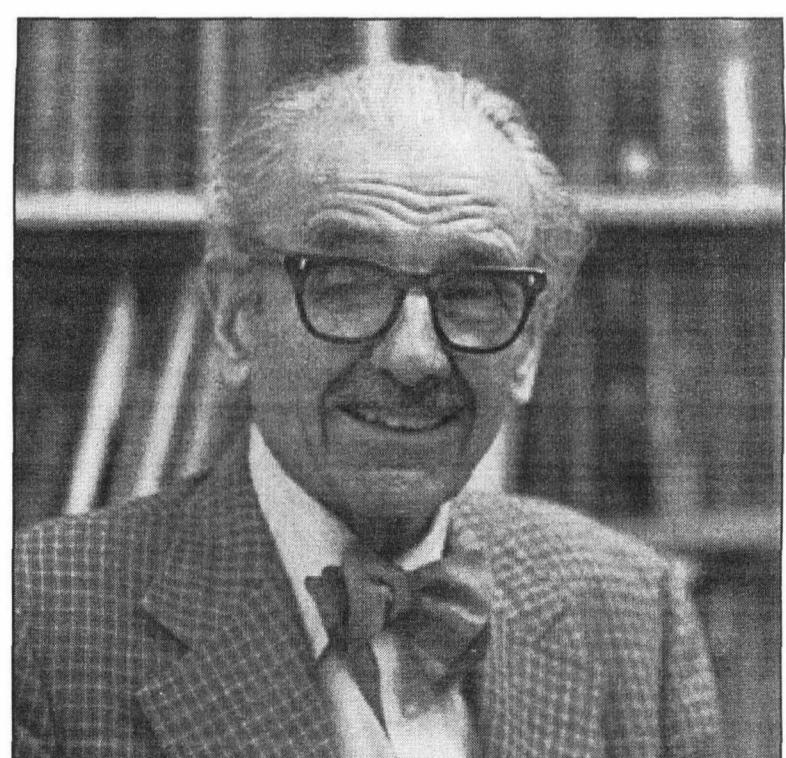
Prof. Vanoni was world-renowned for his work on transport mechanics of sediments in streams and rivers. He did research and taught courses on sediment transport hydrodynamics, advanced hydraulics, hydraulic structures, and coastal engineering.

Vanoni started his career at Caltech as an undergraduate freshman in 1922. He graduated with a B.S. in Civil Engineering in 1926. He returned to Caltech to get an M.S. in 1932 and a Ph.D. in 1940 in the same field. He became an assistant professor of hydraulics in 1942, an associate professor in 1949, and a professor in 1955. He was supervisor of the Cooperative

Sedimentation Laboratory of the U.S. Soil Conservation Service and Caltech from 1935 to 1947. Afterwards, he was instrumental in the development of the present W.M. Keck Laboratory of Hydraulics and Water Resources. He retired in 1974.

"A recruiter came to his college and said 'there's this new place called Caltech' and he thought 'hey, that's for me,'" said N. H. Brooks, his former graduate student turned colleague, now a Caltech professor emeritus himself.

After his retirement, Vanoni continued to do work as an expert consultant on river channel and sedimentation problems for several government agencies and consultant firms. These included serving on U.S. Army Corps of Engineers consulting boards for the river sediment inputs after the eruption of Mount Saint Helens in 1980 and for the sediments problems of



Professor Emeritus Vito A. Vanoni

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## EMERITUS

CONTINUED FROM PAGE 1

the Missouri, Mississippi, and Sacramento Rivers.

He was Chairman of the Hydraulics Division Task Committee on Preparation of the Manual on Sedimentation for ASCE. He also served on several other ASCE committees during his career, many times taking over the role of chairman.

Vanoni's long and distinguished career was not without plaudits. He won the American Society of Civil Engineer's Karl Emil Hilgard Hydraulic Prize twice. The first time was in 1949 for his doctoral research on the suspension of sediment by flowing water. The second was in 1976 for editing the ASCE Manual No. 54 Sedimentation Engineering, a hallmark reference for engineers.

In 1989, Vanoni became the first winner of the ASCE Hans Albert Einstein Award for "significant contribution to the engineering profession in the areas of erosion control, sedimentation and/or waterway development."

Vanoni was elected to the U.S. National Academy of Engineering in 1997 and to Chi Epsilon, the National Civil Engineering Honor Society in 1950. He received the Outstanding Civilian Service Medal from the U.S. Army Corps of Engineers in



The young Dr. Vanoni is pictured here before his graduation in 1926. Vanoni attended Caltech for his undergrad education.

1973.

A member of the student branch of the ASCE while an undergraduate at Caltech and a full member since his graduation, Vanoni became an Honorary Member of the American Society of Civil Engineers in 1980 and the ASCE distinguished Hunter Rouse Hydraulic Engineering Lecturer in 1983.

Vito A. Vanoni was born on August 30, 1904 in Somis, California. "I'm really fond of him," said Brooks. "He was a wonderful man, very smart, but very modest."

## News

## The Outside World

by Katharina Kohler

MIAMI—At noon on Thursday, a group of more than hundred demonstrators protested against U.S. Immigration officials' decision to bring 6-year-old Elian Gonzales back to his father in Cuba. The police refused to let the protestors into the courthouse in Miami and when they refused to disperse, the policemen started to bind their hands and drive them away in vans. The demonstrators are charged with "failing to disperse and failing to obey a lawful order".

The demonstrators said that this case should be heard by a family court and not be part of politics. According to his relatives in the United States, he never expressed an interest in returning to his father to Cuba, but rather said that he wanted to stay with his cousin. An attorney for the boy's Miami relatives has accused the U.S. authorities for denying the boy political asylum without a hearing.

ATLANTA—U.S. Public Health experts confirm that the winter flu season has arrived early this year. The people who had a flu shot will probably be safe, because inoculation against the main strain of the influenza -A Sydney- was contained in the shot. The doctors say that one should not go to the emergency room unless one has fever higher

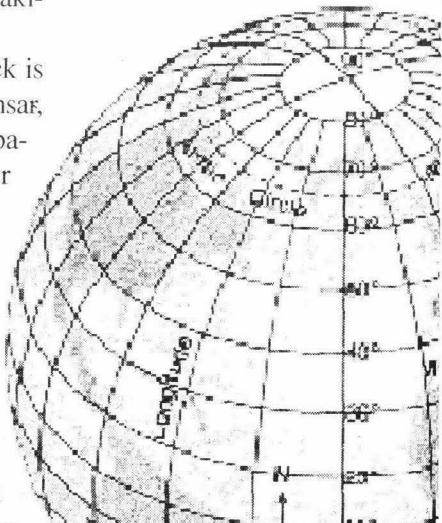
than 103 degrees Fahrenheit, chest pain or shortness of breath.

NEW DELHI, India—Four militants that provided help to the five plane hijackers were arrested on Thursday. The actual hijackers have not been found yet. They were last seen when they dropped off the three released prisoners on the way from Kandahar, Afghanistan to Pakistan. They had been given 10 hours to get out of Pakistan.

The group behind the hijack is thought to be the Harkat-ul-Ansar, which is a Pakistan-based separatist group fighting for Kashmiri independence. The pictures of the hijackers were released and the five men could be identified. They were all Indian citizens from Kashmir.

DENVER—The Mars Polar Lander, which disappeared in December, probably broke apart in a valley, authorities say. Members of the Lockheed team who directed the spacecraft to Mars believe that a canyon about one mile deep and approximately 6 miles wide was the landing site. "We believe we landed in a region that was in the vicinity [of that canyon], but we have no way of knowing whether it hit those slopes," said Daniel McCleese,

the Mars Surveyor Program scientist at JPL. Members of the Lockheed team said that they didn't know that the canyon was there at all; they had thought it was one of the safest places to land on Mars. It took about two weeks after the crash — after new topographical data appeared — when NASA and JPL staff noted that there had indeed been a canyon very close to the landing site.



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## Heading in soccer linked to brain stem warpage

BY JON FOSTER

As if Tech students need one more reason to not participate in sports, recent medical studies, including one in the Sept. 8th issue of the Journal of the American Medical Association, indicate that playing soccer can cause brain damage. The culprit is heading, especially if not performed correctly.

The JAMA study was headed by Erik Matser of St. Anna Hospital. In it, he compared 33 adult amateur soccer players with 27 swimmers or track and field athletes who served as the control. These athletes performed a series of standard tests to identify evidence of chronic traumatic brain injury (CTBI). The study concluded: Our results indicate that participation in amateur soccer in general and concussion specifically is associated with impaired performance in memory and planning functions.

In the November 27th issue of Science News, Matser indicates how such damage occurs. In a correct heading of the ball, the front and back of the brain are affected as the brain sloshes back and forth and collides with the front and the back of the skull. In an incorrect heading, the brain can be twisted with

respect to the brain stem, breaking links between nerve cells.

As the Science News article goes on to point out, while a few other small studies have established similar results, other tests have failed to show any connection. Matser calls the cognitive damage the soccer players received mild, but concludes by saying that, "Methods for surveillance and prevention [of

such injuries] should be developed and adopted to maximize safety."

Naturally, any contact sport involves the risk of injury, and the health benefits of regular exercise vastly outweigh the risks. There is a legitimate question as to whether heading, deliberately pounding your head, represents a great enough health risk to be abandoned - and whether the

sport of Soccer would suffer from such an abandonment.

"Neuropsychological Impairment in Amateur Soccer Players" Vol. 282 No. 10, Sept 8, 1999 *Journal of the American Medical Association*. Head researcher: Erik J. T. Matser, MSc.

"Heading for Injury?" by Damaris Christensen. *Science News*. V.156, #22, Nov. 27, 1999



This is your brain. This is your brain hit by a soccer ball. Any questions?

## Features

# The Ticket Stub

by Justin Ho

The Insider(A) rated R for verbal profanity, but hey, welcome to the real world

I've always thought that the state of journalistic integrity was in peril; journalists are only human and humans beings are fallible, thus it is difficult not to express at least a modicum of personal opinion under their duty to be objective in news-reporting. Ever since the media gained enough power to exercise influence over public opinion, the power to inform has always presented a Catch-22. That said, it shouldn't come as a surprise that even 60 Minutes, known for its honesty and equivocation in

presenting controversial matters, would tarnish its reputation. But rather than slanting the issues, the show's folly, as represented in The Insider was to utterly withhold a segment containing evidence of perjury among management in the tobacco industry which also posed a threat to CBS' fiscal affairs. The battle to get the show on the air, for the sake of presenting the truth and preserving integrity, is the final action of the film and illustrates the success of the media in eventually protecting the story. Ultimately, the sordidness we often associate with the paparazzi and aggressive journalism has a great opposite, capable of out-

witting a massive corporate culture to serve a greater American public.

The slightly humorous interchange between American journalist and alleged overseas terrorist provides a nice foil to the ensuing serious matter which enfolds in the U.S. Bergmann finds an obscure tobacco chem-

ist, Jeffrey Wigand (Russell Crowe), fired under shady circumstances.

Sworn to secrecy by legal documents which prohibit any distribution of corporate data, Wigand nevertheless feels a moral obligation to inform the public of the duplicitous actions performed to enhance the addictive properties of nicotine in cigarettes, though tobacco industry execs swear themselves to negligence. Finding a niche to battle the tobacco companies in formal litigation as well, Wigand becomes the target of death threats and stalkers while his private life becomes the target of public mockery in an attempt by big tobacco to discredit him. The 60 Minutes seg-

ment becomes his only means of vindication, but for at least 2 months his testimony is denied public access while the legal system slaps gag orders due to corporate contracts. For the sake of saving Wigand's livelihood, Bergmann is forced to discredit his employer through other news providers.

*Ultimately, the sordidness we often associate with the paparazzi and aggressive journalism has a great opposite.*

Based exclusively on fact, the film paints a less than glowing portrayal of Mike Wallace and CBS and, needless to say, the tobacco industry. Motivated more by appeasing his supervisors than truth-telling, Mike Wallace caves into the opposition of the initial airing of the whistle-blower segment, only later conceding once the full story had already appeared in the Wall Street Journal. The CBS media corporation was also in uproar with the release of this film, though The Insider is hardly manipulating the facts concerning the faux pas. The testimony provided by Jeffrey Wigand was never dis-proven

nor were the scare tactics and yellow journalism used to discredit him any more indicative of a man's follies than foolish measures undertaken by the tobacco industry to escape scrutiny. The Insider is a testament of individuals battling much grander and unscrupulous entities and triumphing, a veritable

David and Goliath story. The only folly is

the butt-numbing length. The first half feels rather boring despite the suspense it is meant to imbue. Unfortunately, that translates to apathy toward Wigand's terrorized family. The second half is saturated with more dialogue, but perhaps without as much of an emphasis on Southern drawl it feels more coherent, and certainly some of the courtroom drama is absolutely scintillating. My only regret is that despite the consummate flair with which this social commentary was devised neither the film nor the 60 Minutes airing significantly reduced levels of smoking.



by Kenneth Kuo

Welcome back everyone! Hopefully, everyone had an enjoyable winter vacation. The Caltech Y will be sponsoring several events this month. I will discuss these events in more detail in the following paragraphs.

Since first term is now over, this year's freshmen should remember that they can now work on campus. Thus, if you have Federal Work Study, you can now enjoy the pleasures of being compensated at \$12/hour for volunteer work that you do for the Y. This includes, but is not limited to, tutoring middle and high school students, beach clean-ups, and trail maintenance.

If you're interested about volunteering via the Caltech Y, please contact us at ext. 6163 for more information.

**Adam Werbach:** Next Friday, January 14, the Caltech Y will be hosting Adam Werbach in continuation of our Social Activism Speaker Series. Werbach, 26, is the best known conservationist of his generation. He was elected as the 46th president of the Sierra Club, the oldest and largest grassroots environmental organization in America, at the age of 23. His many accomplishments include the campaign to pass the strongest clean air standards in America's history and the fight to protect more than two million

acres of wilderness. In his two terms as President, Werbach has completely revitalized the membership of the Sierra Club (i.e., increasing membership to 600,000, bringing down the average age of a member by a decade, and guiding the organization back to financial health).

Werbach's keynote talk entitled "Act Now, Apologize Later" will occur at the Beckman Institute Auditorium at 8:00 p.m. This talk is free and open to the public. From 4:00 to 5:00 p.m., there will be a grassroots organizing roundtable at the Avery Library. Space is limited for this roundtable so please contact the Y at (626) 395-6163 to sign-up.

**Getty Museum Trip:** On Sunday, January 16th, the Caltech Y will be hosting a trip to the J. Paul Getty Museum in Los Angeles from 12:30 to 5:30 p.m. The cost of admission is free and transportation will be provided. We have space for 50 people. Please contact the Caltech Y at ext. 6163 for more information and/or to sign-up.

**General Info:** The Caltech Y holds weekly meetings on Mondays at 12:15 p.m. in the Y Lounge which is behind Steele House. We welcome anyone who is interested in learning about what the Y does or who wants to get involved. Bring your ideas, your friends, and your lunch.

If you would like to get e-mails about Y-events, Y-outdoor events, or Y-community service events, please e-mail Elisa Chiang at [polaris@its.caltech.edu](mailto:polaris@its.caltech.edu) with the e-mail mailing list you would like to place on. Also, if you have further questions concerning any of the activities mentioned above, feel free to e-mail me at [dogbert@its.caltech.edu](mailto:dogbert@its.caltech.edu).

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We are currently able to provide exceptional career opportunities for top Caltech graduates. We will be conducting interviews in the Career Development Center on Friday January 14th. Please sign up for an interview if you are interested in learning more about Toyon.

# Education



## Thoughts While on an Airplane

by Jason Meltzer

I have once again ventured into the poisonous river of stupidity that is the outside world. I return with renewed conviction that man is an unworthy being — unworthy of the lucky gift of reason that was bestowed upon him by the invisible forces of chaos and chance, unworthy of his ability to shape the world and life as he sees fit, and especially unworthy of the title "intelligent being" that he so arrogantly has bestowed upon himself. The majority of our species is content to wallow in ignorance and fear — to seek refuge from the unknown in temples and churches and shopping malls. They scavenge the landscape of wealth and prosperity that was created by the few in search of the petty morsels of happiness that can save them from the boredom of their all-too-comfortable lives. They buy houses, and cars, and toys of all kinds, to shield them. They work for one reason: because they have to make money to buy things.

"There's nothing wrong with buying things and being wealthy," you protest? I concur, there is nothing wrong with

making one's life more comfortable or enjoyable through material wealth; in fact, it's a good thing. There is something wrong, however, with living for material wealth. This is the case when one's life is spent in the pursuit of things only for the sake of having those things — not as a supplement to life, but the point of life itself. To add meaning to an otherwise banal and barren existence, these people subscribe to beliefs that they themselves took no part in creating or even thing about, yet many hold with enough conviction to kill for. Their religion and morals they proclaim to the world as truth and hate those who do not conform without putting any degree of serious thought into their convictions.

They hide behind these things — religion, morality, wealth — because they are afraid of the world — a world they do not or cannot understand. So they create false order to bring simplicity to the chaos and complexity of reality and rationalize with ideas of tradition and piety and justice. These ideas they learn from a society of people who

learned the same things from countless older generations. Lost in the web of unthinking action that they create — the system of thought that values ignorance and blind faith, that glorifies the "average guy" and outcasts the special or different, that prizes a "normal" life and values it with pride — they stumble over their frail thoughts, fear that which challenges them, and happily follow anyone that promises to lead them to some non-existent truth.

This is not all there is to humanity, however. There are the few, the *elite*, who rise above the doldrums of society and actually contribute to the world. There are some who use the power of rationality, not squander it like countless others. These are the ones who change the world, who shape the future, who provide for those who simply take what they are given. Scientists are part, though certainly not all, of this elite. A true scientist does his work not to make a living or to acquire prestige, but to discover and to bring the light of knowledge to the world. Sure, money, prestige, or power sometimes go along with the fruits of discovery. But it's the act that's important. A scientist's true wealth is not in dollars or land or cars, but in knowledge.

It is with these convictions that I try to live my life. In the outside world, I fear, too many people think otherwise. So many think that education is a useful thing, a tool with no other inher-

ent value of itself. To a degree, this is true. We must learn in order to function in society. But so many of those I rally against at the start of this article believe that only the ends of knowledge are important. Go to school to get into college to get a good job to make money. Too many parents, when looking for a college for their children to attend, make the statement "what will my kid get out of it when he's finished? How high paying a job can he get?" Most never even consider that the education itself is important — only what comes out of it. As if a college is a magic portal that one can step through, come out with a diploma, and get a good job. Who cares about learning? You'll forget all that, anyway, when you're working, making money, and trapping yourself in the cycle of ignorance that propagates itself throughout history.

All those people who view education as a tool or a means to an end do not really want one, except to get a diploma to get a job. In most cases, they don't really need one either — a vocational school would provide ample skills. Why, then, do so many people go to college now? The reason is simple: because they have to. The sad thing is that there is no alternative to going to college in this country. Without a college degree, one can barely get a job waiting tables, and filing papers in an office is way out of reach. So the cycle is reinforced by this neces-

sity to get an education that is unwanted by many. Having a college education is not seen as a virtue or an honor bestowed upon those who have the drive to better themselves, but as a necessary component of a normal life that will be squandered in the pursuit of money.

The system set up in many other industrialized nations is far superior — those few who have the strong enough desire for the pursuit of knowledge go to college, while everyone else can go to vocational schools, get good jobs, and make money. Education is not wasted on those who don't want it, and those who don't want it don't need to have it. The dream of making everyone a genius or better person by imposing a college education on them has failed — it has simply made education a joke, a part of "growing up" and not living; kind of like the chicken pox, only more drawn out: you get it when you're little then you never have to deal with it again. The stupid cannot be forced to become smart, no more than a depressed person can be forced to be happy. I say, let them do without the college education that does them no good; the education that, in itself, improves their lives in no way. Let them get their jobs and make their money and wallow in ignorance however much they like. Return real education to those who want it and take it back from the unworthy who view it with disdain and fear. They don't deserve it.

## EPSTEIN

CONTINUED FROM PAGE 1

Epstein summed up his reasoning in the following statement: "Like Caltech, I too am interested in producing the world's best programmers. JJ may be just a small step, but it will be the first one."

## Dean of Grad Students leaves

COURTESY DIRECTORY STAFF

After more than fifteen years of outstanding service as Dean of Graduate Studies, Professor Arden Albee will be stepping down from that position in the

coming summer. The Administration is immensely grateful for all Arden has done for the Institute, the graduate student body and for individual students down through the years. There will be organized opportunities to ex-

press that gratitude in the months ahead, so stay tuned.

Professor Paul Bellan has kindly agreed to chair a committee to identify potential successors. The other members of the committee are faculty members Michael Alvarez, Dennis Dougherty, G. Ravichandran, Jean-Paul Revel, Joann Stock

and Nai-Chang Yeh. The Associate Dean of Graduate Studies, Parandeh Kia will also be a member in addition to four graduate students Jim Harrington, Ying Huang, Piet Moelker and Tashica Williams. If you wish to make a recommendation, you should contact the Committee.

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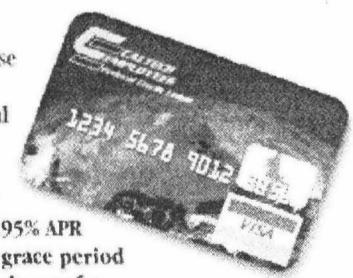
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Friday, January 21, 2000

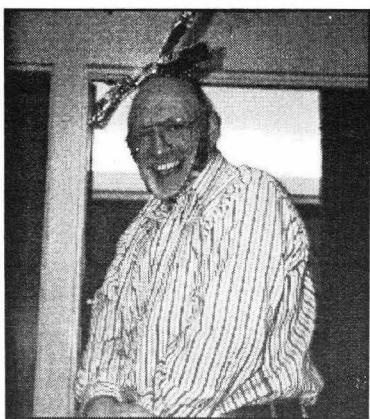
*Please see your Career Development Center  
for additional information.*

Thank you.



## Dean

## Dean's Corner



## It's About Time

by Jean-Paul Revel

However, as a precaution, I tried to find out how Excel (a program that I use often) would behave. I typed in 1/1/2000. That, in Excel-ese, turns out to be 36526. I now typed in 1/1/00 and found out that that too translated into 36526. However formatting 1/1/1900 as a number, returns 1. Flash of recognition! That's where the famous saying that circulated in the year 1900 originated - you know, only 36525 days till the beginning of the End of the Millennium! I found it impressive that Russian President Boris Yeltsin, who retired just before the New Year, is somewhere around 25000 days old. And you, the typical Caltech student born in the spring of 1982, would be around 6700 days old. One thing was very clear: Excel day 1, year 0, is not the initial date of the civic calendar used in the world today.

I vaguely remembered that the story of the Calendar was very complex and so I went looking for illumination which I found on the Net in a neat, two page article by a Dr. Christian Nitschelm. He is a pedagogue and astronomer who has contributed to the study of  $\beta$  Pictoris as a potential protoplanetary system. He describes succinctly (but in French) how the Calendar (from Kalenda, the first of the month to

the Romans) developed through the ages. The Calendar

we use today has its origin with the Emperor Julius Caesar. As a kid I had to read the account of Caesar's prowess (in Latin, at that) and I thought he just was a tormentor - not only of "my ancestors, the Gauls," as we used to recite in History class, but of innocent peoples all over the world. I was more impressed when I became aware that our calendar was derived from one he had caused to be established.

There had been many ways of enumerating years before, but most ran into troubles because the length of the year was not evaluated correctly. Actually the Chinese Calendar was much better than the one used by the Romans. In Rome, calendar and seasons had a way of becoming disconnected. Julius, during his foray in Egypt, became impressed by the solar calendar in use there. So when the Roman calendar got completely out of whack, during "the year of confusion," Caesar inserted 90 days to bring the calendar back in step with the seasons. He then called for the astronomer Sosigenes, from Cleopatra's entourage. Sosigenes established a calendar with a year of 365.25 days, starting with the foundation of Rome. This was done by adding a day every four years, but after a while this was intermittently misapplied. The first day of the year was January 1, although in many

places March 1 was favored for the first of the year. Elsewhere, and at various times, the first day was Dec 25, March 25, the Saturday or Sunday of Easter, or the first of September, the latter following the Greek tradition. In other words, there was continuing confusion.

Originally, the start of the Calendar was taken as the date of the foundation of Rome, but at the beginning of the Middle Ages the count was linked instead to the birth of Christ, reckoned to have been on Dec 25 of the 753rd year of the foundation of Rome, i.e. the calendar was set to start on Jan 1, 754. Unfortunately, the monk Dionysius Exiguus (Denys the Very Small), who did the calculations, failed to recognize that this was incorrect. Christ had to be born after the census ordered by Herod but before Herod died. Since these dates are apparently well established to what we would today call 12 and 4 BC respectively, the count of years should have started a few years earlier than it was, a fact only recognized relatively recently.

Long before that, problems arose because a year which was 365.25 days long slowly goes out of synchrony with a solar year of 365.242199 days. To make things worse, leap years were not inserted properly, and so the correspondence between religious festivals and time of year drifted. It took much time to resolve that problem. Toward the end of the Sixteenth Century, a conclave of astronomers and religious authorities assembled by Pope Gregory XIII settled on a year that was 365.2425 long, a much better match to the actual value, although still not

quite right. To put things back into step with the seasons, Thursday October 4th, 1582 according to the Julian count, was followed by Friday October 15th in the Gregorian calendar. This new calendar was quickly adopted in Catholic countries. However it took till 1752 in England and its colonies, and there were also long delays in other Protestant countries. This calendar was only introduced in Orthodox Russia in 1918, i.e. after the Revolution. Always original, the French established a secular calendar of their own, which they used between 1792 and 1805. Their year began on the fall equinox, i.e. between the 22 and 24 of September.

Because the concept of zero was slow to pass from the Islamic to the European tradition, the first Century A.D. took place between Jan 1, year 1 and Dec 31, year 100. Thus the second Millennium should start Jan 1, 2001. However, since Christ was born several years earlier than calculated, the new Millennium can be argued to have started already. So much for the calendar used in those parts of the world where Christianity has had a strong influence. On Jan 1st 2000, it was Tevet 23, 5760 in the Hebrew Calendar; Ramadan 24, 1420 in the Islamic Calendar; and the 17th year of the 78th cycle in the Chinese way of counting. But these are stories for another time.

A bientot!

Jean-Paul Revel  
Dean of Students

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# Mints

## ANNOUNCEMENTS

**Caltech guitar classes for the winter quarter** will meet on Tuesdays in SAC Room 1, starting on January 11 as follows: Beginning Guitar Class 4:30 - 5:30 p.m.; Intermediate Guitar Class 3:00-4:00 p.m.; Advanced Guitar Class 5:30 - 6:30 p.m. Classical and flamenco repertoires are explored, but techniques transfer to other styles of guitar. The Beginning Class includes a jazz/folk chord system. Classes are free to Caltech students and other members of the Caltech community (space permitting). Undergrads can receive 3 units of credit. The instructor, Darryl Denning, has an international background in performance, teaching and recording (two of his CDs are available in the Bookstore). Mr. Denning can be reached at 323-465-0881 or by email at [ddenning@caltech.edu](mailto:ddenning@caltech.edu). The guitar home page is at [www.cco.caltech.edu/~musicpgm/guitar.html](http://www.cco.caltech.edu/~musicpgm/guitar.html).

**Jewish volunteers needed to mentor teens with diabetes**, special program to work with the Jewish Federation's L.A./Tel Aviv Partnership. Sponsors will have the opportunity to mentor adolescents who can benefit from their invaluable experience in managing diabetes. For more information, contact Beverly Daley at 323-669-2490, [bdaley@chla.usc.edu](mailto:bdaley@chla.usc.edu), or Fredi Rembaum at 323-761-8155, [frembaum@jewishla.org](mailto:frembaum@jewishla.org).

**The Norton Simon Museum in Pasadena** announces free admission for students throughout 2000. The Museum is located on the corner of Orange Grove and Colorado Blvd. Parking is free and no reservations are necessary. Museum is open Wed., through Sun., noon until 6:00 p.m. Students showing student ID at the entrance will be admitted free of charge. For more information, contact Kimberly Gilhooly, 626-449-6940 x405.

**Help make a child's holiday wish come true** by volunteering to be a Big Brother. Catholic Big Brothers matches volunteers of all faiths to fatherless youth who need a positive adult influence in their lives. For more information about how you can fill this need, call 888-463-4066.

**The Measurement Science Conference (MSC)** luncheon will be held on January 20, 2000 at the Disneyland Convention Center in Anaheim, California.

**The Gay/Lesbian/Bisexual Discussion Group**: extends invitations to the Gay/Lesbian/Bisexual Discussion group, which meets on the first and third Tuesdays of each month from 8:15 p.m. until 10:15 p.m. in the Health Center lounge. This is a confidential meeting and does not imply anything about a person's sexual orientation. The group usually discusses a particularly relevant topic and then moves on to the general discussion. Refreshments are served. For more information, call x8331.

**The Totem**, Caltech's literary magazine, welcomes written and artistic contributions and editorial input from students; this year, we are seeking graduate student works in addition to undergrad creativity. Please email [totem@its](mailto:totem@its) or mail to Totem Editor, MSC#610 with your submissions, and also to be added to the mailing list

**The Caltech Ballroom Dance Club [CBDC]** will be starting their next series of classes, i.e. for the second half of the '99 Fall Quarter. For more information, see [www.caltech.edu/~ballroom](http://www.caltech.edu/~ballroom) or call 626-791-3103.

**H & SS Division** offers the following Selected Topic Courses for winter term 2000: H 161 Rethinking the 1960s\*, Lit 180 Science & Literature in 19th Century England\* SES/H 169 Milestones in the History of Astronomy from Late Antiquity to the Early Modern Period\* SES/PL 169 Topics in Philosophy of Psychology: The Nature of Intelligence\* SES/PL 169 Phi-

losophy of Probability\* Lit 180\* "Knowing, Madness, and Murder: Selections from American Literature" Instructor: Martha Banta; M 1-4pm 1e Dabney. The HSS division is also offering another section of Hum 7a American Society and Politics - Winter Term. Instructor: Kousser; T 7:30-9:30pm & F 3-4. Copies of HSS course schedules are available in 228 Baxter.

**Independent Record label looking for part time intern.** Duties are based on background skill level. Looking for someone reliable and responsible. If you have a resume please send via email to [vrichter@netcom.com](mailto:vrichter@netcom.com) Please also visit our website <http://vr.dv8.net> to learn more about our company

## EVENTS

**Ninth concert of the L.A. Philharmonic's 1999-2000 Community Concert Series**, Fri. Jan. 21, Sir Roger Norrington leads the L.A. Philharmonic and vocal soloists in Sir Michael Tippett's oratorio, "A Child of Our Time." This performance is free and open to the public, and takes place at Wilshire United Methodist Church, 4350 Wilshire Blvd., in L.A. For information, call 323-931-1085.

**Manfred Honeck Makes L.A. Philharmonic debut** conducting Mozart, Prokofiev, and Johann Strauss, Jr., Jan. 13, 15, and 17 at the Dorothy Chandler Pavilion, at 8:00 p.m. Tickets (\$15 - \$70) are now on sale at the Philharmonic's Music Center box office, all Ticketmaster outlets, and by credit card phone order at 213-365-3500. Call 323-850-2000 for more information.

**The Winter Festival**, sponsored annually by the Pasadena Folkdance Co-op, will be held on Jan. 23, Sun., from 1:30 to 5:30 p.m. at the Scottish Rite Temple, 150 N. Madison (at Walnut). A \$5.00 donation will be requested at the North entrance. Folks are welcome to participate or simply observe, they can wear costumes or not. For more information, contact Sylvia Stachura, 626-300-8138 or Marshall Cates, 626-794-9493.

**The Caltech Folk Music Society Presents:** Bluegrass Etc - Bassist Steve Spurgin, Guitarist Curtis Jones, Dennis Caplinger, and John Moore. Sat., Jan. 8, 8:00 p.m. at Dabney Hall Lounge. General admission is \$12, Caltech students and children are \$4. For more information, call 626-395-4652 or 888-2CALTECH.

**Audition Notice for "Crazy for You"** at the Fullerton Civic Light Opera, Directed by Don Ward. Dancers must tap and have jazz and modern dance training. Style is "a la 30's." Auditions held at the Fullerton Civic Light Opera Building throughout next week, starting Sun., Jan 9. Contact (714) 526-3832 for more information.

**Music Director Jeffery Kahane and the L.A. Chamber Orchestra** will continue their "Made in California" season with the guest appearance of the exciting young California pianist Christopher O'Riley on Fri., Jan 21 in Royce Hall, UCLA, and Sat. Jan. 22 at the historic Alex Theatre in Glendale. The concerts will begin at 8:00 p.m. Tickets may be purchased by calling 213-622-7001 x215, M-F 10:00 a.m. - 4:00 p.m.

**The Skirball Cultural Center celebrates the Kurt Weill Centenary** with the East Side Sinfonietta on Wed., Jan. 12, 2000, 8:00 p.m. Tickets are \$12 General, \$10 Members, and \$8 Students. Call 323-655-8587 to order tickets.

**Caltech Jazz Bands**, under the direction of William Bing, present their annual winter concert, "Jump, Jive, and Wail." This is a free concert and open to the public. Featured on this concert will be guest artist John DaVera. Concert will be on Sat., Jan 22, 8:00 p.m. at the Beckman Auditorium on the Caltech campus. For more information, call 626-395-4652.

**The Gerald Wilson Orchestra** will appear on Sat., Jan 15, 8:00 p.m. in Caltech's Beckman Auditorium. Tickets are \$25, \$21, \$17, youths 12 and under receive \$4 off. Student and senior rush tickets will go on sale for \$10 beginning one-half hour before the performance (subject to availability). Tickets can be purchased at the Caltech Ticket Office, and are also available at all Ticketmaster Ticket Centers. For more information, call 888-2CALTECH or 626-395-4652.

**South American harpist Alfredo Rolando Ortiz** will give a free concert on Sun., Jan. 9 at 3:30 p.m. in Caltech D'Abney Lounge. This is a Paco A. Lagerstrom Chamber Music Concert. The concert is open to the public and is free of charge. For information, call 888-2CALTECH or 626-395-4652.

## SCHOLARSHIP

**Work Abroad with IAESTE in 2000!** Since 1948, IAESTE, the International Association for the Exchange of Students for Technical Experience, has given students the opportunity to experience the world. Opportunities exist for: -Engineering and science students who want to be placed into paid technical internships in engineering, computer science, mathematics, natural and physical sciences. -Work permit service for students who have identified overseas internships -Students to start local chapters of IAESTE on campus IAESTE will offer three \$1000 scholarships for students placed into IAESTE internships. Students can connect to IAESTE on the web, <http://www.aitp.org/iaeste.html>.

**The Getty Grant Program** - Multicultural Undergraduate Internships at the Getty Center. Internship is designed for students who are members of groups underrepresented in museum professions. Applicants must be currently enrolled undergraduates in the Los Angeles area, and will have completed at least one semester of college by June 2000, and will not graduate before December 2000. The internship provide stipends of \$3,000 for ten-week summer internships in specific departments of the Getty Museum and other programs located at the Getty Center, beginning June 19, 2000 and ending August 25, 2000. Application forms and additional information are available from the Grant Program office or online at <http://www.getty.edu/grant>. Deadline is March 1, 2000. Contact 310-440-6645 or 310-440-7320 for more information.

**The Literature Faculty is pleased to announce the 54th Annual McKinney Competition.** The Mary A. Earl McKinney Prize is awarded each year for excellence in writing. Only full-time students officially registered at Caltech as undergraduates are eligible to enter the competition. Prizes will be given in three categories: poetry, prose fiction, and non-fiction essays, all submissions must be typed and double-spaced. Include your address and phone number. In the poetry category, entrants may submit up to three poems. Submissions of prose fiction should not exceed 12,000 words. The prize in each category will be \$300. Only one entry in each category, submit works to Professor Jenijoy La Belle, Division of the Humanities and Social Sciences, 101-40, by no later than March 31, 2000. No entries will be re-

turned. Winners will be announced in May. Previous winners in any one category are not eligible for the competition in that category. If you have any questions, contact Prof. La Belle, extension 3605, or Barbara Estrada, extension 3609.

**Truman Scholarships**-The Truman Foundation seeks students seeking careers in the non-profit, government, or education sectors. Applicants should have an excellent academic record and considerable public or community service experience. More information is available in Fellowships Advising and Study Abroad. The campus deadline date is January 10, 2000.

**Andover Teaching Fellowships.** Phillips Academy, Andover has ten to twelve fellowships for graduating seniors who would like to teach at Andover for the 2000-01 academic year. They also have a special summer teaching assistant program. Applications are available in Fellowships Advising & Study Abroad. Feb. 16 application receipt deadline. Note that Andover is in Massachusetts.

**The Jewish Free Loan Association** is offering interest-free student loans to qualified individuals for tuition, books and supplies, and living expenses. Applicants must have completed a minimum of one year of undergraduate study and have a 2.5 GPA or above. For further information, please contact the Jewish Free Loan Association at (213) 761-8830 or (818) 464-3331.

**The John Gyles Education Fund** is offering scholarship awards up to \$3,000 for the 1999-2000 academic year. Applicants must be Canadian or U.S. Citizens, have a 2.7 GPA or above, and demonstrate financial need. To obtain an application, send a self-addressed, stamped envelope to: The John Gyles Education Fund, Attention: The Secretary, P.O. Box 4808, 712 Riverside Drive, Fredericton, New Brunswick, Canada E3B 5G4. Filing dates for mailing documents in 1999 are April 1, June 1, and November 15.

**The National Academy for Nuclear Training** is offering \$2,500 scholarships to eligible students majoring in nuclear engineering, power generation health physics, or chemical, electrical, or mechanical engineering with nuclear or power options. Applicants must be U.S. citizen or U.S. national, considering a career in the nuclear power industry, minimum GPA of 3.0 as of Jan. 1, 2000, at least one but no more than three academic years of study remaining to graduation, and free of post-college obligations or active military service. Applications are available in the Financial Aid Office. For further information you may contact: National Academy for Nuclear Training Scholarship Program, 700 Galleria Parkway, Atlanta, GA 30339-5957 or via e-mail at [nanteap@inpo.org](mailto:nanteap@inpo.org). Entries must be submitted to the Financial Aid Office by Jan. 29, 2000

**Glamour Magazine's 2000 top ten college women** competition for female college juniors has begun. It's an ideal opportunity for talented students to be rewarded for their leadership roles on campus and in the greater community. Winners receive \$1000, coverage in the October issue, and the opportunity to meet with top professionals in their field, usually during a few-day stay in the New York City. The competition is open to all full-time juniors regardless of major or GPA. All en-

tries must be postmarked by Jan 31, 2000. Contact the Dean of Student Office, 102 Parsons-Gates, for the application.

**The Elie Wiesel Foundation for Humanity** announces the Elie Wiesel Prize in Ethics Essay Contest 2000, a contest designed to challenge college students to analyze urgent ethical issues confronting them in today's complex world. Juniors and seniors are encouraged to compete for awards of up to \$5,000. Information is at [www.eliewieselfoundation.org](http://www.eliewieselfoundation.org), or call 212-490-7777.

**The American Society of Naval Engineers (ASNE)** is offering scholarship awards of \$2,500 for undergraduates and \$3,500 for graduate students for the 2000-2001 academic year. Applicants must be an U.S. citizen and demonstrate a genuine interest in a career in naval engineering. Selection criteria will be based on the candidate's academic record, work history, professional promise and interest in naval engineering, extra-curricular activities, and recommendations of college faculty, employers, and others. Financial need may also be considered. All graduate students must be members of ASNE or SNAME (Society of Naval Architects and Marine Engineers). Applications are available in the Financial Aid Office. For further information you may contact: The American Society of Naval Engineers, 1452 Duke Street, Alexandria, VA 22314-3458 or phone (703) 836-6727. The website address is [www.navalengineers.org](http://www.navalengineers.org). Entries must be submitted to ASNE by February 15, 2000.

**The College Women's Club of Pasadena Scholarship Foundation** is accepting applications for scholarship and fellowship awards for the 2000-2001 academic year. Applicants must be female, U.S. citizens, full-time undergraduate and graduate students, sophomore or above, and must have a 3.0 or higher G.P.A. To apply, submit an application form, a one page, typed essay, a current academic transcript, and three letters of recommendation, preferably, from professors familiar with the student's aspirations and achievements. Applications are available in the Financial Aid Office. For further information you may contact: The John Gyles Education Fund, Attention: The Secretary, P.O. Box 4808, 712 Riverside Drive, Fredericton, New Brunswick, Canada E3B 5G4. Filing dates for mailing documents in 1999 are April 1, June 1, and November 15.

**The American Chemical Society Scholars (ACS) Program** will award approximately 100 scholarship awards to undergraduate students interested in four-year degrees in the chemical science. High school seniors who will be entering college for the first time as undergraduates are also eligible. Applicants must be African-American, Hispanic, or Native American and be U.S. citizens or permanent residents. These scholarships are valued at up \$2,500 for the academic year. To apply, applicants must submit an application form, a current academic transcript, and two letters of recommendation. Applications are available in the Financial Aid Office. Entries must be submitted to ACS by February 15, 1999.

To submit an event for the Mints, contact [mints@tech.caltech.edu](mailto:mints@tech.caltech.edu) or mail your announcement to Caltech 40-58 Attn: Mints. Submissions should be brief and concise. Email is preferred. The editors reserve the right to edit and abridge all material. Deadline is noon Wednesday. Unless specified, all mints will run for two weeks.

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