

## Buthelezi, III

## Radical Change

by Ketan K. Shah

[This is the last of three articles on South Africa inspired by the recent speech of Chief Buthelezi at Caltech. Last week's article described the conditions under which the Black Consciousness Movement and Inkatha, the Zulu cultural organization, were created, and the status of Inkatha among various South African groups.]

In his Caltech speech, Chief Buthelezi called for radical change without "destroying the growth base of our economy." The chief is alone among major black leaders of South Africa in calling for change without the burden caused by foreign divestment. This stance is patently contradictory to those who seek the dismantling of apartheid through fundamental reforms that include the dissolution of institutions that nurture apartheid. Apartheid laws have long protected large and small businesses, especially those that employ thousands of black workers, like mining companies.

In the 1960's and '70's, the South African economy underwent rapid growth that brought about the involvement of Afrikaners in large scale industry previously dominated by English-speaking whites. Along with an annual growth rate of 5-6% predicted for the 1980's, the South African economy has a serious bottleneck in skilled labour. The government recruits qualified whites in Western countries, but the shortage of skilled labour has been caused by ignoring black education and training. It is against the law in South Africa to train blacks for most jobs that require skills and to give them employment in jobs reserved for whites.

This has caused a major brake on growth and since there is an estimated shortfall of about 750,000 white skilled workers, the economy now has to rely on its black workforce for industrial growth. Apartheid is thus the major obstacle to economic growth. As a result, South Africa's white business came out strongly against apartheid in a statement last January. Their report concluded that apartheid was harmful to business, and it condemned detentions without trial, called for black political participation, free trade unions, an end to restrictions on the free movement of blacks, the right of all races to own shops or conduct business anywhere in the country and an end to the practice of reserving certain jobs for whites.

What has all this got to do with foreign investment? Chief Buthelezi sees corporations, including foreign-owned ones, as catalysts in the process of political change in South Africa. Some American companies are reluctant to get politically involved in South Africa, especially since the Sullivan Principles have recently

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Harvard Professor Stephen Jay Gould spoke to a packed house last Monday afternoon in Baxter

# Gould Spoke

## The Tide of Evolution Pattern and Non-Pattern

by John Fourkas

"The tide of evolution carries everything before it, thoughts no less than bodies, and persons no less than nations."

—Santayana

Although the tide of evolution may carry everything before it, Stephen Jay Gould made it apparent to a full Beckman Auditorium Tuesday night that he is much more worried about the tide of creationism. Gould, the 1985 Buwalda Lecturer, gave his talk on "The Fact of Evolution and the Politics of Creation." The lecture was jointly sponsored by the Divisions of Geology & Planetary Sciences and Biology.

Gould's talk was divided into three sections, the first of which concerned the evidence for evolution. This evidence comes in three basic forms:

**Small scale direct:** What one can see directly about evolution (e.g., the development of heavy metal or DDT tolerances, Darwin's pigeons, or the famous pepper moths). Small scale direct evidence shows no progressive trends. This kind of evidence is so obvious that creationists must accept it, but they claim that it does not imply that evolution is correct theory.

**Large scale direct:** Primarily the fossil record, which shows many of the structurally intermediate forms of evolution. Creationists argue that because there is no complete unbroken chain of evolution shown by fossil record, the record is meaningless. Evolutionists can point out many obvious intermediary forms (such as the archaeopteryx) and relatively unbroken chains (such as the chain showing the transition from reptiles to mammals). Also, so many animals (such as man) fossilize so poorly that we cannot expect to find a complete record.

**Indirect:** The study of living organisms and their geographical distribution. This evidence, Gould believe, is the most convincing of all. He argues that perfect structures are useless to study, because their perfection covers history (any

kind of mutation could not be helpful and therefore would probably not survive). What we must look for, then, are strange imperfections in nature, such as the panda's "thumb." The panda (*Ailuropoda melanoleuca*) strips leaves from bamboo by slipping the stalk between its fingers and thumb. The strange thing is that it is a well known rule that carnivores do not have manipulable thumbs. Close inspection shows that a panda indeed has five digits, one of those being the expected non-manipulable thumb. The pseudo-thumb is actually an elongated wrist bone. It does not make sense, then, for the panda to have had to develop a poorly designed "thumb" unless the panda is indeed descended from carnivores and therefore has a "useless" true thumb. As Gould put it, "If God made it, it would work better."

The second section of the lecture concerned the history of the evolution-creation debate. This debate has had three major tactical stages, the first of which was the Scopes-type laws. These laws basically stated that it could not be taught that man descended from a lower order of animals. Gould spent a fair amount of time at this point in the lecture dispelling the three major myths about the Scopes trial:

- (1) Scopes was persecuted;
- (2) Darrow destroyed creationists by making Bryant look like a fool;
- (3) Creationism temporarily disappeared.

In reality, the story went something like this: The ACLU advertised in 1925 for somebody in Tennessee to teach evolution so that the constitutionality of the anti-evolution law could be tested. Mr. Robinson, the owner of a drugstore in Dayton, decided that the image of the small town needed enhancing. He convinced the substitute biology teacher at the local school (the true biology teacher, who was also the principal of the school, was ill) to test the law. The teacher, Scopes, later admitted that the only reason he was still in Dayton (instead of

by Hisano Sonoda

In a completely full Baxter Lecture Hall (with people packed into the aisles, standing in back, and forming at least 10 rows of seats up front), Harvard Professor Stephen Jay Gould began his lecture on Monday with a slide of a chimpanzee with a walking stick. In his lecture "Pattern and Non-Pattern in the History of Life," the first of two given at Caltech this week, Gould spoke about his views on evolution.

Gould first discussed two former theories of evolution before presenting his own. The first was the "chain of being" theory in which life is viewed as an "organized, unilinear progress towards perfection" (from amoeba to humans). The second was Darwin's theory, characterized by the concepts of local adaptation and competition. Darwin's theory says that local adaptations (biomechanical improvements) will accumulate in time to yield progress and that in a full world, the only way in is by pushing another out, so the best organisms will survive.

Although Gould believes the greatness of Darwin's theory lies in his belief that small-scale changes amount to large-scale changes in time, he thinks that it is a paradox and that progress is not cumulative. "We cannot look at time in Darwin's way. We would do better if we looked at progress in terms of three tiers of time," he suggested. The three tiers of time are: 1) the ecological moment, 2) geological time, and 3) mass extinctions.

The paradox of the first tier, which deals with the struggle for survival of an individual in a population, can be summarized in the question, "Why is there no accumulating progress in my back

yard?" If there exists this constant struggle, shouldn't we see changes in already existing organisms as well as completely new ones?

The two other tiers of time account for no explanation of progress. In the second, normal tier of geological time, there are the "standard materials of paleontology" which have not changed over time. Mass extinctions, which have occurred approximately every 26 million years, create a problem for paleontologists attempting to explain progress. Gould claims that the adaptive struggles in the first tier have nothing to do with whether an organism gets through a mass extinction or not. It is a random process.

"Progress is not the ordering pattern in history," said Gould. "Pattern exists, but it is not what we thought it was." According to Gould, the most important pattern in the history of life is that from diversity to a decrease in morphological design accompanied by an increase in number: *Early experimentation, later standardization.*

Gould ended his lecture with an analogy to trends in baseball. He asked the audience why the batting averages of the players are almost never over .400 anymore, while the mean batting average has hardly changed since the beginning. The answer is that variance has declined from both ends: "no one has as low a average as some did when there were .400 hitters either. This regularization through time is a common property of all systems," concluded Gould.

The lecture was one of a series of lectures sponsored by the Division of Geological and Planetary Sciences held annually in memory of its late founder (in 1925), John Peter Buwalda.

Chicago, his hometown) was that he had a hot date planned. At any rate, the trial was actually a disaster for the evolutionists. The plan was to get Scopes quickly convicted so that the matter could be brought to the Supreme Court (after all, Scopes had broken the law without

question). Scopes was convicted, and the judge fined him \$100. However, it turns out that state law said that a jury must hand down any fine over \$50, not the judge. Thus, Scopes' conviction was thrown out, and an appeal could

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# Buthelezi

from page 1  
 been extended to require companies to abide by the principles to now lobby actively against the discriminatory apartheid system. The Sullivan Principles are a voluntary code of conduct for American companies doing business in South Africa. Signatories of the principles must seek to remove racial discrimination, required by apartheid, in their South African operations. 126 companies have signed the principles written by Reverend Leon H. Sullivan, a General Motors Corp. director, Philadelphia Baptist minister, and civil rights leader.

Chief Buthelezi has spoken out against divestment. He believes that the process of change in South Africa will regress with the economic isolation that will result. He contends that stagnation and the possible destruction of the growth-base due to divestment will hurt the blacks most. While this has long been the argument against divestment, the chief has called economic withdrawal a *morally wrong* response to the evils of apartheid.

Moral arguments have been used to call for divestment, for moral questions are raised over the fueling of an economy built on the disenfranchisement of the black majority of South Africa. It is also asserted that maintaining and increasing investments sends encouraging signals to the South African government and is an implicit acceptance, if not endorsement, of apartheid. It is argued that foreign investment prolongs the misery and the third class status of South African blacks (in the South African pecking order, whites are at the top, Asians and people of mixed race are second, and blacks are third. The Japanese are considered "honorary whites").

American companies should increase investments in South Africa, says Chief Buthelezi. However, he has been careful to point out that these investments should benefit blacks and not mainly whites as has been the case historically. The chief thinks that increased investment will increase the interdependence of blacks and whites, and the propensity of the country to change will be enhanced. Chief Buthelezi has stressed that big business encourages black vertical mobility, although apartheid imposes ceilings on this mobility. He has also observed that businesses have provided the funds necessary to challenge the South African government on labour and civil rights issues and that they are well placed to back education and training programs for blacks. Thus, he is convinced that the withdrawal of investments from South Africa by American companies would be a move against black interests, and as a weapon against apartheid, it is punitive at best.

While there isn't any likelihood of American companies operating in South Africa withdrawing because of their repugnance toward apartheid, the proponents of divestment may already be winning the battle here on the American front. Increasing numbers of states, cities and pension and endowment funds are divesting from, and shunning, companies doing business in South Africa.

A study published by the Washington-based Investor Responsibility Research Center states that since 1982, Connecticut, Massachusetts, Michigan and Nebraska have passed laws prohibiting state funds from being invested in companies with opera-

tions in South Africa, and ten other states are considering similar bills, including California, New York and Texas. Fourteen cities have also passed divestment laws. Recently, Harvard University's endowment fund sold its stock in Orange-based Baker International Corp. when the company failed to provide data supporting its claim that it was complying with the Sullivan Principles. Harvard's investment policy requires that any company operating in South Africa must adhere to labour policies based on the Sullivan Principles.

Thus, while Chief Buthelezi's pleas are being heeded by the corporations themselves, most likely for sound business reasons (however, Ford Motor Company is going to sell 60% of its South African operations to Anglo American Corp., a South African company), they are not being heeded by some trustees, and citizen groups applying pressure on those trustees, or public and private funds. This mixed reaction to the racial discrimination of South Africa nevertheless satisfies the main points of the chief's prescription: American companies are not likely to withdraw from South Africa, barring some great upheaval, although domestically, they are being held more and more accountable *vis-a-vis* the Sullivan Principles. With the addition of the latest principle, American firms with South African operations will now be pressed by some of their institutional investors to actively oppose the South African apartheid system.

## letters

### 101 Dead Cubes

To the Editor:

I write to add to Charles Hu's comments in the March 1 *California Tech* regarding the purging of classical softcover books from the bookstore. This is cause for alarm because sources of affordable, i.e. softbound, literature in Pasadena have been radically diminishing. Vroman's previously comprehensive 2nd floor of paperback classics and humanities titles is no more; it's been replaced by hardbound remainders. There are paperbacks downstairs but they have a very different tone, being comprised mostly of airhead titles in the gothic or 101 Dead Cube Users genres. While one can special-order a book, that is *not* the same as being able to browse among quality titles.

Last year a number of Los Angeles bookstores went out of business. This is symptomatic of an alarming trend of slow cultural evolution in the U.S. As has been noted in *Harper's* and elsewhere, there is only so much time in modern schedules for viewing/listening/reading, and in an era of decreasing literacy, reading gets short shrift. Further, reflecting consumer buying practices, book categories with the least audience are suffering attrition in retail display shelfspace. Hence cute cat books but no Melville or Sartre.

Caltech bookstore space is a zero-sum game. It is obvious that classics have suffered due to the expansion of other areas. For example, computing science shelfspace has expanded enormously compared to past stock. But there are many junk titles among popular works in that field, and I wish we would have seen better selectivity in what's carried. I work

in the CS field, yet if I had the choice between stocking a classic of literature or yet another book of trivial games in BASIC or spreadsheet calculator use, I'd choose that with lasting value to the reader as a human being. And as a longtime SF reader I note that there are a lot of badly-written SF titles in the bookstore. Some *balance* in stock is needed, but this requires intelligence and time in selection to achieve.

#### Planet of Yuppies:

*The value of humanities in a technical education.*

Caltech shouldn't drift towards being a mere technical trade school, yet many small entropic actions push in that direction. I work daily with too many people who know technology but lack the cultural background and viewpoint necessary to apply it in real world situations where people are involved; for instance, managing technical projects or writing user-oriented software. It simply is not enough to be a technical expert; you need viewpoint, perspective, and understanding of your actions in the context of the real world. For a student, balance between technology and humanity is achievable through developing the lifelong habit of broadening personal horizons. Since ready exposure to culture can engender habit, it's very desirable to stock reading-classics in the bookstore. Taking the longer view, perhaps when Winnett is rebuilt, more space should be allotted to the bookstore with the understanding that it provides more balanced resources to the community.

Bert Koehler

### THE CALIFORNIA TECH

Volume 86 Number 20  
 Friday 8 March 1985

Published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors and do not necessarily reflect those of the editor.

Letters and announcements are welcome. All contributions should include the author's name and phone number and the intended date of publication. The editor reserves the right to abridge letters, so please keep them concise.

Turn in copy to the *Tech* office mailbox, room 107 Winnett. The deadline for copy is Wednesday at 5 p.m.; for announcements, Tuesday at 5 p.m. Late copy may not be printed unless previous arrangements have been made with the editor.

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The offices of the *California Tech* are located in Winnett Center on the Caltech campus.  
 Editor: Room 107 356-6153  
 Business Manager: Room 107 356-6154  
 Production: Room 115 356-6153  
 The California Tech, Winnett Center, Caltech 107-51, Pasadena, CA 91125  
 Printed by News-Type Service, Glendale, California.  
 Subscriptions should be directed to the attention of the circulation manager.  
 \$6.00 per year (three terms) \$100.00 per life  
 ISSN 0008-1582

## Cinemattech

Episode 8 of Flash Gordon  
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Show times 7:30 and 10:00

Saturday Evening in Baxter Lecture Hall  
 Students, \$1 All Others, \$2

THE **ASCIT MOVIE**  
 TONIGHT at 7:30 and 10:00



Next Week - Just the Way You Are  
 in Baxter Lecture Hall  
 \$1 ASCIT members \$1.50 all others

### The Caltech Y Fly-by

Friday... March 8

Noon Concert, Melissa, in celebration of National Woman's History Week, Noon on the Quad. Sponsored by the Caltech Y and the OWC.

**Philharmonic Trip.** Tonight!

Sign up for Spring Break sailing!

Sign up for Spring Break skiing!

Sign up for Cinderella.

Pick up Cats tickets by March 12, if you won.

Sign up for Philharmonic trip which will be on March 15.

Sunday... March 10

"Penn & Teller, Bad Boys of Magic," the magic show for people who hate magic shows, 3 pm. If you signed up, go.

Friday... March 15

Noon concert, Jimmy and the Mustangs. Be there.

**Philharmonic trip.** the program includes works by Vaughan Williams, Barber and Hindemith.

Saturday & Sunday... March 16 & 17

Decompression: Food! Fun! Films! Games! and Graffiti! 8-12 pm, Winnett Lounge.

**Over Spring Break:**

**Skiing,** there are several different plans, why not come be and ask.

**Sailing,** 5 days for \$60 (approx) Sign up by March 15.

**Cinderella,** (Baryshnikov) American Ballet Theatre, March 23, tickets \$20.

**Steve Taylor and PETRA,** March 30. Be there.

**Philharmonic Trip** March 29.

Next Term:  
 Cats.

For more information, contact the Caltech Y at 356-6163, or just drop by.

**Blacker**

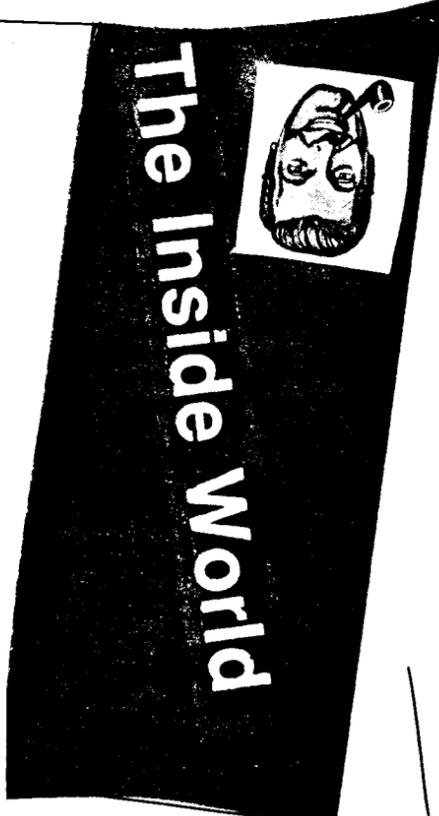
The details are sketchy and not much is in, but here's the story as fo this hour:  
 "It all happened so fast. One minute, everything was fine. The next, my son was on fire! My son! My baby boy!"  
 "I heard the whole thing from the Lounge. It was as if a thundering herd of wild beasts just come in and—"  
 "No, no... it was quiet at first, then there was a great 'GASP' as the curtains went up in flames. Everyone ran out—"  
 "And I keeps yellin' 'Slow down!' 'Stay calm!' But people's yellin' and screamin'..."  
 "And that damned music! It's the devil's music, it is. I tell you I don't know what's gotten into these kids' minds. They're all on drugs."  
 "By then the whole lounge was a scalding inferno. Smoke billowed out sluggishly through the screen door. It kind of reminded me of the *Pequod* in *Moby Dick*."  
 "Or the *HMS Beagle* in that PBS series?"  
 "Yes, kind of. But more like the *Pequod*."  
 "And so Davy kept yelling something about cleaning your own tables or something but no one listened to him because he'd received a blow on the head when the light fell down, don't you know."  
 "Yeah, I hoid about dat. Aw, gee, dat's too bad. Hey, kin I have a extra dessert?"  
 "I really don't think it was as bad as it sounds. The fun part was making it seem like the end of the world. Oh, I had the most delightful time howling and prancing about with the Asian gentleman with the short—"  
 "Of course, being in the responsible position I am in, I just sat there with me thumb up me butt. It was OK."  
 "I disagree. As fires go it was, well, it was *almost* good. But all in all I'd say that it *just* sucked. Barely."  
 "I missed it. What happened?... Who?... Really?... Snorting what?... No! Well, I heard he... *No!*... Oh yeah?... Oh, *that* commercial... naw, c'mon!"  
 Film at eleven.

Go Red Sox! Way to go Yaz, wherever you are!

**Ruddock:**

Remember when you wer young  
 You shone like the sun  
 Shine on you crazy diamond  
 Now there's a look in your eyes  
 Like black holes in the sky  
 Shine on you crazy diamond

—Hos



**Dabney:**

An open letter to the members of the Caltech community:  
 Members! It's time you knew the truth about Dabney House. Elections, effected two weeks ago, were an undeniable mandate by the masses for the inevitable and irrepressible movement toward what we call "The New Era of Truth." The governing council was overwhelmingly approved: support was unanimous for the steering committee, and the new Commissioner of Discipline was given a 99.6% vote of confidence. Also on the ballot were the proposed austerity measures. These were welcomed by the people, passing with a margin of 98.3%. Dabney House has indeed entered a new age. Our battle was won as soon as it began. The enemy of accomplishment—controlled chemical substances—is no longer in our midst. We do not try to obscure the bitter fact of this pustulating cancer's infection of our beloved homeplace. We face up to it and say merely, judge us as we are now, not as we were. We have replaced our shameful consumption of dehumanizing substances with a regular regimen of calisthenics and hydrotherapy. Our Hot Tub, formerly a chasm of degeneracy, has been mustered for therapeutic purposes, time in it to be rationed out. Curfews have been welcomed by our people as the vehicle for providing the body with essential rest. Lights go out at 2130, as overseen by the COD. We have also voluntarily given up our music reproduction equipment to the Central People's Warehouse, recognizing western music and song as impetus for idleness. The people's cries for a New Morality have not gone unheard. Members of opposing genders shall not be within an unreasonable distance of each other outside of the Commonroom (formerly the Lounge) or Courtyard. The Commissioners of Discipline shall see to the covering of proper areas of the body at all times.

It is our sincere and profound belief that these measures will insure the meeting of the newest academic and athletic quotas set for the coming five terms. Dabney House will lead the way for all of Caltech to enter a shining new age of excellence, truth, and rapid lysis of virulent prokaryotes. Thus lies our manifesto.

—Jug Rappipapanopolopolis III  
 First Underminister for Public Affairs

**Fleming:**

Frankie (Kragh) says:  
 "We beat the boys in fencing Tuesday, we beat them in volleyball Monday, we beat them in the wash war Thursday, and we beat them at the party on Saturday."  
 W.G.A.F.W.F.S.?!  
 The party, by the way, was awesome. We should do it again sometime. The band was great, as were the bar and social teams. The Wiz was quick on the couch as well. The Sophomores dominated Indoor Olympiad due in part to the I.A.C.C.O.F.H., and in most to excellent cheating. Please, no more beer for me for awhile; I left my stomach in the Alley 4 head.

Go Big Red!  
 —Al Fansome

**Lloyd:**

The Frosh Barbeque was great fun! James Bond can't hold a candle to Eric when it comes to roofs, we hear. Operation Mole-Hide worked perfectly till we entered the kitchen—all we could see was Jean pouncing on Terrence. Border patrol was fun for all, with the possible exception of the unknown man in the tuxedo, whom we bushwhacked by mistake.

Stop by and hear selected reading from "Attike in New York City" and "Before I Count Fifteen," if you have a true sense of humor.  
 Play those pool matches!

—J.P.

**Page:**

The Page House frosh class conducted themselves in a manner worthy of gentlemen as they bested the frosh mob of Fleming House. After the red blood was wiped away, the scoreboard read 26 to 12. Congratulations to the young gents on their fine performance (and restraint).

P.S. My birthday is March 15. If you'd like to impress a platinum bombshell, send me a token of your love.

Love,  
 —Cyndi A. LePage

**Ricketts**

Well, it took us a couple of tries, and we were (of course) the last ones on campus, but Ricketts has actually held elections! Congratulations to those who have seized power and best wishes and a speedy recovery to those who have gotten rid of it. For all to know, here's the new Ricketts Excomm:

- |                            |                      |
|----------------------------|----------------------|
| President                  | Joy Watanabe         |
| Vice President             | Bob Bolender         |
| President of Social Vice   | Pete Konopka         |
| Treasurer                  | Johannes Schmidt     |
| Secretary                  | David Nice           |
| Librarian                  | Doug Cutrell         |
| Ath. <del>Man</del> Person | Clea Bures           |
| Historian                  | Pete Alfke/Matt Rowe |

[Late breaking news: we whupped Page yesterday in V-ball, thanks (in part, at least) to the leadership of our new Ath Person, Clea. Yea, I know I said it was too late—but I'm the editor—Buckaroo Who?]

—Bob B.



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# The Fact of Evolution and the Politics of Creationism

from page 1  
not be made. In fact, the law in question was on the books until 1967.

The thing which finally put evolution in textbooks was the launch of Sputnik. This brought on the second phase of the battle: laws which said that creationism must be given equal time in schools. Most of these laws were made in the late sixties and early seventies; every one of them was rules to violate the First Amendment.

The third and latest phase of the battle has been the emergence of so-called "scientific creationism," which Gould argues is the logical result of all of the previous lost court cases. The creationists are now claiming that creationism is a valid scientific theory, and thus deserves equal representation in science books. The first two laws of this type were passed in Arkansas and Louisiana. The Arkansas law was thrown out in 1981 after

a well publicized court hearing (in which Gould testified). The law in Louisiana was also tossed out. At the time that the Arkansas law was thrown out, there were laws in fifteen other states which were either pending or had passed through one house of the legislature. None of these laws eventually made it.

The third and final section of Gould's talk concerned "creation science"—what it is and why it is. Gould has three major problems with creation science and its scientists.

(1) Misrepresentation of the word theory. American vernacular says "a theory is less than a fact." To a scientist, however, theory is orthogonal to fact. It is this difference in definitions that allows creationists to claim that since evolution is only a theory, as is creationism, both should be taught.

(2) Lies and insults. As an example of this, Gould showed one creationist article which claimed

that he had disproved evolution.

(3) Science must deal in testable propositions. Furthermore, these propositions must be abandoned when enough contrary evidence has been found. For example, the creationists have had a terrible time explaining the differentiation in the fossil record. George Macready Price claimed that all fossil strata are due to Noah's flood. How does this explain the definite stratological eras in the fossil record? The creationists have three theories:

**Hydrodynamic Sorting.** Heavy things sink, light things float. Never mind all of those ancient, small fossils buried below the dinosaurs.

**Ecological Zonation.** The fossil record is stratified according to the elevations at which the animals lived, with the low elevation animals being buried first. Did you know that whales can live in the mountains?

## Alternatives to Being

Most students at Tech are often confronted with themselves. Yet few people realize this is unnecessary. There are many alternatives to being (not the least of which is not). In these columns, those that read with their eyes open can see this. But those that do not see this, they are more logical.

Story:

Two zendents were in a park, discussing the properties of quality. The younger zendent said "See this bed of clover? I select this flower, and it is the same as any of the others. Yet I have not selected them."

The elder replied, "You have just taken my eyes, how therefore could I see? But there is no flower, for there is no hand to pluck it."

At this point, the zensicist Charon walked up. Berating the elder zendent, he said, "You have eaten, and yet you do not perceive that your comrade is hungry? Your answers do not add one whit to his appetite!" Charon then struck the elder zendent about the face several times, and left.

Moral:

Which zendent was more like the flower, and which more like the bed? Charon knew that the elder zendent had not been speaking to the younger one, so Charon did not speak to him either. Discussions about quality are one thing, but discussions about food are more common.

**Differential Intelligence (Mobility).** The "dumb" creatures were too stupid to get away from the water in the flood, and so they were buried first. The "smart" creatures headed for the hills and caught it later.

Unfortunately, none of these propositions is feasible, but the creationists will neither give them up nor come up with workable new ones.

Finally, why should we even worry about the creationists? Why not dismiss them as nuts? Gould argues that:

(1) Creationists will not go away. They will come up with new tactics, and must always be fought.

(2) Creationism does not just attack evolution—it attacks all science. If evolution goes, all science is at the very least suspect. If the world is a mere 8000 years old, how do astronomers see objects which burned 10,000 years ago? And how to physicists read "atomic clocks" which give ages of over 8000 years?

(3) Creationism attacks all free inquiry.

Gould's lecture was well presented and quite fascinating, to say the least. Although some people were turned away for lack of seats, those who came early enough were treated to an enjoyable, humorous, and socially important lecture.

### BLOOM COUNTY

by Berke Breathed



Sponsored by the Caltech Y

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# Ars Amore

## Gays, Lesbians, and Bisexuals at Caltech

by Charles Barrett

The situation of gays (and here I use the term for both genders) in this country has improved immeasurably in the last several years. The newly-incorporated city of West Hollywood is the nation's first predominately gay city of significant size, and the majority of their city council is gay as well.

The sizeable gay communities in the nation's major cities now comprises a wealthy and increasingly powerful political entity, working towards (and frequently achieving) non-discriminatory housing and employment laws with respect to sexual preference.

Gay themes, from the camp to the sensitive, have been presented on stage and screen as well as in television series (*Dynasty*, for one) and TV movies (like ABC's *Consenting Adult*). Not only are openly gay artists and performers, like *Frankie Goes to Hollywood* and *Bronski Beat*, showing mass market appeal, but advertisers are now beginning to acknowledge the immense buying power of the gay community (yes, that's right, all that beefcake *isn't* just for the ladies!)

Surprisingly (considering the insulated nature of this campus), these advancements in the outside world have been reflected in the progress of the gay community at Caltech. After its name was chang-

ed from the Gay Student Union (GSU), the Caltech Lesbian and Gay Society (CLAGS) embarked two years ago on a high-visibility policy, making its name known through liberal poster distribution. The CLAGS dances, with co-sponsorship from the MOSH and the Caltech Y, have been some of the most successful all-campus events in recent memory.

The initial backlash from closed-minded factions on campus has long since subsided, and CLAGS no longer has to fight to assert its existence.

All of this does not mean, however, that acknowledging oneself to be gay is a straightforward (pardon the pun) and painless step in one's life. With that awareness comes the realization that the role models of the middle-class American dream, the spouse and kids and the house-with-a-two-car-garage in the suburbs, do not apply and have not prepared you for what to expect.

In many respects, large and small, life as a professed gay has its differences. The ubiquitous stereotypes of the swishy interior-decorator or the leather-boy cruising Santa Monica Blvd. would scare anybody thinking of coming out right back into the closet, but thankfully are being eroded as doctors, judges, and people from all

walks of life are declaring themselves gay. There are engineers and scientists who are gay, and groups like the Los Angeles Gay and Lesbian Scientists (LAGALS) provide an opportunity for them to meet and mingle.

There are so many unknowns about how being gay will affect your life. How will your family react? Your friends? Your co-workers? Granted, sexual preference does not have to have a bearing on every aspect of day-to-day life; you won't stop driving on the right side of the road or paying taxes as a result. You may, however, find yourself talking about your 'roommate' when everybody is wondering when you're going to get married.

College, as a time away from home when you can come to many realizations of exactly who you are, is for many the perfect opportunity for coming to grips with their sexual preference. At Caltech, the academic pressure is intense and takes up most of your time, and as a result many people, straight and gay, put off this kind of introspection and remain a sort of sexual non-entity until 'the time is right' (whatever that means).

Those who do become aware that they are gay then face contemplating the ramifications (not to imply that they weigh the pros and cons to *decide* whether or not to be gay; it's not a question of choice, it is a state of being), an often time-consuming ordeal that can interfere with schoolwork. Worse still, he or she can fall hopelessly in love with a close friend who is *not* gay.

It does not matter how understanding or sympathetic the friend is (and they often are), the sexual incompatibility makes for a painful relationship of unrequited love which, like most unsatisfactory love-affairs, can throw a wrench

into academic work. This kind of scenario has been the cause of more than one leave of absence from Caltech.

The trials of coming out can be made much easier with some support and good advice from those who have walked the same path themselves. As a group the gay community at Caltech represents a broad range of backgrounds and experiences that anyone having questions about being gay can draw upon. Anyone can show up at a CLAGS meeting (see the Announcements section for time and place), or if that's too intimidating, there are a number of CLAGS members (like myself) who are easy to get in touch with. The CLAGS mail code is 218-51, and its president is Ralph Wolf in Dabney House (578-9617). In any case, confidentiality is preserved.

Of course, from a sexuality and relationship point of view, coming out is only the first step. Gay relationships, like any others at Caltech, have to contend with the time demands of schoolwork and the barriers that are often present between Houses. Some Houses are open and accepting of gay members and their friends; others are decidedly not.

Opportunities for political and social involvement in the Los Angeles gay community (the nation's largest) are plentiful and a good way to meet people, although again this needs to be resolved with academic demands on one's time. It does make a good excuse to get away from Caltech for a while and meet others.

As far as socializing with other gay people is concerned, activities off-campus are no longer limited to bars and discos; the 24-hour Youth Events Hotline [(213) 731-9062] has information on lots of things that are going on for those under

21. CLAGS tries to arrange activities for the Caltech community, and has connections to other college gay student groups as well.

For bisexuals, the heavy emphasis on gay services and support from various organizations presents something of a dilemma. On the one hand, it is a means of meeting people who are attracted to those of their own gender and thus an opportunity to meet new friends and potential partners; on the other, there is the risk of being pigeonholed as gay when in fact they are not and possibly missing out on straight relationships. People just love to categorize other people, and bisexuality does not lend itself to that.

Now that its existence is firmly established, "CLAGS is getting integrated into the community more," according to president Ralph Wolf, "and it is in this spirit that we are organizing the Sexuality Awareness week [in May] with the help of the Y, the OWC, the MOSH, the Deans' office, and the Health Center." With this whole-campus view in mind, CLAGS would like to see more interaction between Houses, perhaps facilitated by an unaffiliated room, and by grouping student organization offices in close proximity to one another.

Considering our shared existence here at Caltech, the presence of straights, gays, lesbians, and bisexuals in our community does not represent *differences*; it represents *diversity*.

As usual, any comments on the column or its subject matter are welcome. Contact Charles Barrett, in Ricketts (1-59 or call 577-8593) or in care of *The California Tech* (107-51). *Next Week: Relationships with non-Techers and people in other Houses.*

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## entertainment

## LIFE'S little NECESSITIES

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**Musique L.A.** Dabney Lounge Chamber Music Series. Pieces by Bach, Copland, Debussy, Gershwin, and more. Dabney Lounge. Sun. Mar. 10, 3:30pm. Free.

**Andres Segovia** Once again, the famed classical guitarist. Dorothy Chandler Pavilion. Sun. Mar. 10, 7:30pm. \$20, \$15, \$10, \$9.

**Amadeus Quartet** Famous string ensemble. Pieces include: Haydn—Quartet in D Major, K 575; Beethoven—Quartet in C Major, Op. 59, No. 3. Ambassador Auditorium. Tues. Mar. 12, 8pm. \$15, \$13.50, \$12.50.

**One Flew Over the Cuckoo's Nest** Classic Jack Nicholson. With *The Last Detail*. Rialto Theatre, South Pasadena. Tues. Mar. 12, 9:05 (TLD at 7:00).

## Science Friction

by Nick Smith

*Witchdame*  
by Kathleen Sky  
Berkley Books

Do you like fantasy, but get tired of stories that are either bad ripoffs of either *The Hobbit* or *Conan the King*? If so, then this one might be for you. *Witchdame* isn't really quite like anything, but it's most comparable to the better parts of Katherine Kurtz's Deryni books.

The basic premise is an "alternate history" sort of thing, one in which the year 1066 didn't mark the conquest of England by Normans, but instead by Witchlords, an aristocracy of ceremonial magicians. The isle of Englene, from Gaeland (Scotland, to you) to Cymru (Wales), accepted conquest, but grudgingly. After all, the normal folk just continued to believe in the good old-fashioned Earth magic and fairies and stuff, anyway.

The story picks up after a few centuries have gone by, in a time comparable to the Tudor period of our world. The current king, Richard, made the political mistake of marrying a Woodwitch (one of the magical class of old Briton) rather than marrying into another Witchlord family. This meant that almost everyone ended up plotting against him for one reason or another.

The story is about Elizabeth, his daughter, and her quest around Englene to find her power, explore her future land, and (not so incidentally) guarantee her choice of future husband (she had good reason to believe he was worth the trip). During the course of the story, author Sky demolishes a host of cliches and establishes a heroine who is both believable and enjoyable. The book scarcely makes it obvious, but this is the first volume of a projected series of

stories of the alternate history of Englene. It looks like it will be worth reading. This first volume certainly is.

Tech has received the late Dr. Charles Richter's science fiction collection. Some of you may have seen parts of it in the student houses. In addition to the paperbacks so distributed, his hardbound books and his older science fiction magazines (going back as far as the 1920s) are being added to the Humanities and Archives collections. This collection might be worth looking into, especially for anyone interested in the history of science fiction and speculative science. You can find out what the 1980s looked like from the viewpoint of a 1920s theorist.

For those of you not busy over Easter weekend, there will be a science fiction convention not too far away. It's called Equicon, and comes from a long line of such conventions, most quite successful and enjoyable. The convention will be at the Sheraton Universal, in Universal City (right next to North Hollywood, and not too long a drive from here along the 134 freeway). One of the persons responsible for Equicon, Bjo Trimble, is also responsible for the snake that you see on most Finals Week issues of *the California Tech*, especially most issues of *The Rivet*. She drew it over 20 years ago, and it's aged pretty well.

Anyway, Equicon is generally a fun convention centering around visual media, *Star Trek*, cartoons, and almost anything else that happens along. The cost in advance is \$15 for three days, or \$25 for three days at the door. Advance memberships can be purchased by mail by sending to: Equicon, 3963 Wilshire Boulevard, Box 600, Los Angeles, CA 90010.



Karen Goodman, former modern dance instructor at Caltech, performed as a guest artist yesterday in Dabney Hall. She gave a lecture and demonstration, along with Liz Oberstein, current instructor, and her dance class.

## Buckaroo Reviews

A Weekly Column by Matt Rowe

Zoolook

Jean-Michel Jarre  
Disques Dreyfus

In any ordinary environment, the electronic symphonies of Jean-Michel Jarre might be looked upon as a bit... bizarre. Not so, I think, at Caltech: scientists listen to high-tech music, I guess. On the assumption, then, that most of you are at least slightly acquainted with Jarre's work, my introduction will be brief.

*Oxygene* and *Equinoxe*, the young French composer's first two albums, were great popular successes in his native land in the late seventies. *Oxygene's* six and *Equinoxe's* eight movements deftly interlaced danceable rhythms with sweeping synthesizer gestures: the result was a sort of futuristic disco—but with far more artistic integrity than, say, Donna Summer.

*Magnetic Fields* (1980) was a change. The first movement occupied the whole of Side One, and introduced a number of processed human sounds as well as a further assortment of sophisticated gadgetry. In 1981, Jarre became the first western pop performer to give concerts in the People's Republic of China; those historic evenings are (well) preserved on the highly-recommended double album *The Concerts in China*. In 1983, Jean-Michel Jarre composed and recorded *Music for Supermarkets*—but only pressed one copy. His explanation was that he felt the artisanship of composition was degraded by mass production. About a year ago, Disques Dreyfus (Jarre's own label) compiled *The Essential Jean-Michel Jarre* (which should need no explanation). Late last year, *Zoolook* was let loose upon the world.

Jarre appears on the cover of *Zoolook* in a bright yellow smeared video image, peering through two of the "o"s in the title. If the album title sounds bizarre, check out the titles of the movements:

- A: Ethnicolor  
Diva
- B: Zoolook  
Wooloomooloo  
Zoolookologie  
Blah-Blah Cafe  
Ethnicolor II

If the eight languages and seven

mock-heiroglyphic alphabets on the back cover don't tip you off, a look at the guest musicians (Laurie Anderson, Adrian Belew, Yogi Horton, and more) should help you figure out that this album is going to be impressive—and very strange.

On the inner sleeve (in no less than fifteen different languages), Jarre explains that many of the sounds on the album are processed human voices, from twenty-five original languages. *Zoolook* is Jarre's attempt to conquer the world with synthesizers. To a very large extent, it is successful.

"Enough introduction!" you scream. "What about the music?" There's the hard part: you see, in conquering the world, Jarre is also trying to appeal to everyone in it, and the result is a brilliant work that is, unfortunately, hard to describe. But I'll try...

"Ethnicolor" opens the album with an assortment of voices—reworked-into-melodies, swooping gracefully between stereo channels. An ominous, machine-like hum comes in; then some guttural languages; something that sounds like a ship in *Star Wars*; some eerie tinkling noises; and—aha! the beat. For its last few minutes "Ethnicolor" is not to be taken sitting down: Yogi Horton's powerful drums won't let you.

Eventually it fades, and "Diva," featuring vocals by performance artist Laurie Anderson—well, it drips in. And then there are some melodic, um,

laughs?—and Laurie comes in, sounding *innocent*?! To a samba rhythm?! Wait, isn't this the lady who did "O Superman"? *Zoolook* is a great album—I would say Jarre's best—but it achieves its greatness in entirely unexpected ways.

Side Two is only marginally more conventional than Side One. Five tracks—each about four minutes long—seem to exhaust the musical possibilities of the processed human voice. The melodies and arrangements are similar to those on *Oxygene* and *Equinoxe*, but the instrumentation is singularly bizarre. Especially noteworthy (pun intended) are the over-scratched dance track "Zoolookologie" and its tracky successor, "Blah-Blah Cafe." "Ethnicolor II," like the final track (movement?) of each of Jarre's compositions, recaps the musical themes of the preceding work and fuses them into a harmonic and hypnotic climax.

*Magnetic Fields* made *Oxygene* and *Equinoxe* sound juvenile in comparison; *Zoolook* handily does the same for *Magnetic Fields*. Jarre has expanded his range of instruments to include all of humanity, and he has done it without hitting a false note. With the help of illustrious contributors (including Adrian Belew, who is difficult to locate at times, but well worth the search), Jean-Michel Jarre's dance tracks have gotten even more danceable, and his weird stuff has gotten even weirder. It may only be March, but I'm sure this will turn out to be one of the best albums of 1985. In my opinion, it is easily Jarre's best—and, considering his past work, that's no small compliment.

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# Raftery on Roosevelt

by Diana Foss

As part of the campus observance of Women's History Week, visiting lecturer Dr. Judy Raftery presented a slide show Wednesday at noon in the Winnett Lounge on the life of Eleanor Roosevelt. The presentation, which was sponsored by the Organization for Women at Caltech, was attended by about twenty-five people.

Eleanor Roosevelt was a truly remarkable woman. Born into a wealthy and influential family, she nonetheless developed a strong social conscience and devoted most of her life to politics and reform. Although she is best known as the wife of Franklin Delano Roosevelt, she was anything but merely an extension of her husband. Eleanor Roosevelt had an independent political career before she became

involved in FDR's, and although she left this career somewhat in abeyance during his campaign for Governor of New York, when she resumed her own public life she never left it again. Her independence from her husband, so uncommon for a woman in her circumstances, was in fact precipitated by her discover of an affair between FDR and her own social secretary. Their marriage survived for the sake of their children and for Franklin's political career.

As First Lady, Eleanor Roosevelt broke all traditions. Instead of a tea-serving hostess for the White House, she was a world-travelling emissary for America. The fact that it was kept a secret that FDR was crippled made her travels the more necessary. She

was the conscience of the New Deal. Much of its social legislation received its impetus from her, and she insured her friends in the nascent labor movement access to the President.

Her effect on subsequent First Ladies is readily apparent. Lady Bird Johnson's efforts to "Keep America Beautiful," Rosalynn Carter's active involvement in the Carter Administration, and Nancy Reagan's campaign to eradicate drug use among young people are all examples of the President's wife's new role, first forged by Eleanor Roosevelt.

Dr. Raftery is teaching a class third term in Women's History. The course will cover the whole history of America, from colonial to modern times, and will focus on the way that women, especially immigrant women, have affected the history of this country. This provides an excellent chance to study America's past from a non-traditional viewpoint; rather than who was President when, and who fought in which war, this course will emphasize areas such as educational reform: areas where women have had a large, but often forgotten, impact. Indeed, Dr. Raftery says that one of the things she hopes to accomplish in teaching Women's History is to increase students' awareness of the other ways in which one can look at history.

Dr. Raftery has also taught a class at Caltech on California's ethnic history, and says that her interest in women's history is derived from her interest in nineteenth- and twentieth-century U. S. history and American culture in general. The time is also right for a class in the subject, she feels, because during the last fifteen or so years, women's history has been the object of so much serious scholarly attention, and the body of literature on the subject has grown tremendously.

## sports



photo by Ron Gidseg

Jarita Holbrook blocks a TNT drive

### Women's Soccer

# Brutal But Satisfying

by Hisaho Sonoda

The women's soccer team defeated TNT (The New Team), another team in the Women's Soccer Organization of San Gabriel Valley, on Sunday at Caltech, for its first victory in five games. The final score was 4-2, with Caltech scoring the first goal within the first five minutes of the game.

Neither team had won a game yet this season; the game was, therefore, "intense and brutal," according to a team member. A player from TNT broke her jaw while blocking a free kick and was

taken immediately to the hospital. Another TNT player was hurt badly in the shin. Caltech's Jarita Holbrook, running into TNT's goalie, dislocated both jaws. Caltech goalie Leslie Lippard had a confrontation with an opposing team member after being kned in the chest.

The women's soccer season will continue into third term. The team expects to do better in the upcoming games since they feel that they have already played the four toughest teams in the league.



photo by Ron Gidseg

The TNT goalie tees up the ball...



photo by Ron Gidseg

...and Alison kicks it in for a Tech score

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# announcements

Material for the announcement section of the California Tech must be submitted typed on or with the Announcement Form available at the Tech office by the Tuesday before the Friday of publication.

## St. Paddy's Minus 2

Celebrate early! St. Patrick's Day Party. Friday, March 15, 5:00 pm. Olive Walk. The Master of Student Houses presents music by Dan Kahane's Irish Country Band, dancing by the Cripple Creek Cloggers, and a Special Dinner by Servovation. Dinner will be free for all students on board contract, \$6.50 for others. Menu: London Broil, Spare Ribs, Hamburgers, Cheeseburgers; Baked Potato Bar with toppings; Corn cobbettes; Brick Oven Beans; Melon and Fruit Tray; Cole Slaw; Tossed Salad; Decorated Cakes; Lime Chiffon Pie; Milk, Fruit punch, Lemonade. Sure and we'll see you then!

## Bassoon Recital

Phoebe Ray and friends will present a bassoon recital on Saturday, April 6 at 8:00 pm in Dabney Lounge. The program will include works by Vivaldi, Saint-Saens, Schumann, Tansman and Poulenc. Admission free.

## CLASSIFIED

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If you would like to place an ad in the classified section of the California Tech please send your ad along with your name, address, and telephone number to: The Tech, 107-51 Caltech, Pasadena CA 91125. Ads must be received by Tuesday before desired publication. Ads cost \$.40/line with a \$2.00 min. and prepayment is required.

## CCSA Election

To all CCSA members: We will have our annual election on Sunday, March 10, 1985 at 2:00 pm at Baxter Lecture Hall. It is **VERY important** that both graduate and undergraduate students attend. Both new president and vice president will be elected there. There will be two Chinese movies shown afterwards. (One is a drama and the other Kong-Fu.) Movies are free for all CCSA members.

## Weingart Fellowship

Undergraduates are invited to apply for the Weingart Fellowship for Summer Study at Oxford. This award covers travel expenses to England and a stipend, for a total of \$4,000. Interested students should submit a curriculum vitae to Professor Bruce E. Cain in Baxter 206 by March 25th.

## Free Wind Concert

The Pasadena Wind Quintet will present a concert on Monday, March 25, at 8:00 pm in Dabney Lounge. The program will include works by Arnold, Danzi, Francaix, Cheatham, Muczynski and Joplin. Free.

## Amnesty Int'l

The Pasadena chapter of Amnesty International the worldwide human rights organization, meets in the Y Lounge on Wednesday, March 8 [honest, that's what the announcement form said-Ed.] at 8:00 pm. For further information contact Jim at 792-9342.

## Japanese Job

Anyone interested in the summer job offer in Japan should come to a meeting on Tuesday, March 12th at 4:30 in Winnett Lounge to learn more about it. Students who have gone in previous years will be there to discuss their experiences. (Deadline for application is still Friday, March 15th.)

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## I.S.O.E. Scholarships

The International Society for Optical Engineering is accepting applications from educational institutions and individuals who exhibit potential to make a contribution to the field of optics and optical engineering. The Society for Optical Engineering is offering scholarship awards ranging in size between \$1,000 and \$5,000. Application may be made for funding of any activity in the field of optics. All interested in applying should contact the Office of Financial Aid, Parsons-Gates, 10-31, x6280. Deadline for application is May 15, 1985.

## Third Term Aid

Undergraduates who expect to be short of funds for the third term should consider applying for either a Guaranteed Student Loan or a Parent Loan. The application should be received by the Financial Aid Office well before the end of March. Those students who are uncertain about their financial position may make an appointment with the Financial Aid Office to discuss their situation.

## Engineeress Money

Women majoring in the field of engineering are encouraged to apply for scholarship awards sponsored by the Society of Women Engineers. The awards are open to sophomores through graduate level women students enrolled in an accredited Southern California Engineering school. Candidates will be evaluated on scholastic achievement, work experience, extra-curricular activities, and financial need. Deadline for application is April 1, 1985. Contact Office of Financial Aid, Parsons-Gates, 10-31, x6280 for further information.

## Army ROTC Money

The National Society of Professional Engineers Educational Foundation is working with the Army ROTC to make their ROTC scholarship materials available to engineering students as another resource to secure financing for their engineering education. Men and women who have an interest in military service and in obtaining good financial assistance towards their engineering education should contact the Office of Financial Aid, Parsons-Gates, 10-31, x6280, at their earliest convenience.

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## Studenski Memorial

Applications are now being received for the 1985 Paul Studenski Memorial Travel Fund Award. The Studenski Award of \$1900 is given each spring to an undergraduate at Caltech who will use the money to travel, to reflect on the future course of his or her life.

The objective is to provide the student time and opportunity to weigh academic and career options. The roaming and ruminating ought to involve a concern to combine one's scientific strengths with humanity's needs.

The Caltech Y's board of directors chooses the winner on the basis of an essay and interview. The application essay, limited to two typewritten pages, should explain briefly how the student would use the travel money and how that travel would help the student make a better determination regarding future plans. The interview is used to elaborate the ideas which the selection committee deems most appropriate.

The only other requirement is that the student's grades be in reasonably good order. The trip can be taken before or immediately after graduation. Deadline for applications is Friday, April 5 at 5 pm. Questions will be answered by Huston Horn in the Y office.

Interviews will take place in late April and the winner's name will be announced in May.

## Budget Meeting

Well, hello again. The ASCIT Budget Meeting is coming up after break, so all requests should be in by Monday, March 11. Mail them to David Bruning, Page House 1-53, or just bring them to room 136. Otherwise, no money.

## New Fiction Course

Professor Jon Klancher will be offering a course in Postmodern Fiction third term. He will be reading works of American and European postmodern writers and showing recent postmodern films (on video) which find a strange logic in the postindustrial world of mass culture, cybernetic systems, and self-replicated images and fictions. They will be compared to earlier modern writers and the assumptions these post-1945 writers make about art, mass culture and politics will be examined. A 15-page paper will be required; this course receives advanced Humanities Credit. It will be taught on Mondays, 7:15 pm. For a more detailed class description, please see Chris Smith in 228 Baxter.

## City-Wide Dance

Hillel sponsors a City-Wide Purim Dance. Saturday, March 9, at 8:00 pm in the Streisand auditorium at 900 Hilgard on the UCLA campus. Everyone welcome. Wear a costume. Tickets \$4 in advance, \$6 at the door. All profits go to benefit Ethiopian Jews (Operation Moses). For tickets, rides or any questions contact Myra Baxter through the Caltech Y, x6163.

## Flute and Piano

Musique L.A., featuring Brice Martin (flute) and Natalie Dalschaert (piano) will perform a program of Bach, Copland, Debussy, Gershwin and others on Sunday, March 10 at 3:30 pm in Dabney Lounge. Both studied at Juilliard and at U.S.C., and they have performed separately in places ranging from Disney soundtracks to the Toulouse Orchestra in France.

## Jazz Improv Class

There is a non-credit class in jazz improvisation starting up. The class will meet from 11 am to noon on Thursdays in Fleming basement. Please drop by (with your instrument) or call Bill Bing at (213) 684-8964 if you are interested.

## C.A.I.E.S. Money

The Chinese-American Institute of Engineers and Scientists (CAIES) is seeking deserving undergraduate students in Engineering, Engineering Technology, Architecture, Physics, Chemistry, Mathematics, and the Life Sciences as candidates for the 1985 scholarship awards. Sophomores, Juniors, and those Seniors not graduating until after July 31, 1985 with an overall grade point average of 3.35 or above may apply. Deadline for applications is March 31, 1985. Contact Office of Financial Aid, Parsons-Gates, 10-31, x6280, for further information.

## TQFR

Fill out your TQFR forms next week.

## Human Freedom

Come write a letter on behalf of the refusnik Khassin family and make your voice heard for human freedom. Eat a delicious deli dinner at the same time. Sunday, March 10, 4:30 pm in the Red Door Cafe. Deli dinner \$3. Letter writing materials provided by Hillel. Any questions? Contact Myra Baxter through the Caltech Y, x6163.

**Caltech 107-51**  
PASADENA, CALIFORNIA 91125

The California Tech is published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc., Winnett Center, Caltech (107-51), Pasadena, California 91125.