

Two Scholarships Newly Endowed

by Lily Wu

Two new scholarship funds and a trophy have been endowed for undergraduate students last month.

The McLean Brothers Scholarship is a \$5000 scholarship awarded either to a junior or a senior who can demonstrate outstanding academic achievement, leadership ability and financial need.

This scholarship fund was endowed by friends and associates in honor of William and John McLean who were both graduates of Caltech. Dr. John McLean earned a B.S. in 1938 in applied physics and eventually became president and chairman of the Continental

News Commentary

Health Policy Changes Unfair

by George Carman

Caltech's student health insurance policy has been extended to provide students, *but not spouses of students*, with coverage for pregnancy and elective abortion. This improvement in student health benefits—the first change in the student health insurance policy in over ten years—came about as the result of the efforts of the Student Health Committee despite a somewhat unresponsive Caltech administration. This report is intended to clarify the extent of these new health benefits, and to examine how such an improvement in benefits came about.

Many who read the memo from J. J. Morgan, distributed at registration, which officially announced the extension of these benefits were unsure as to who was covered by the new benefits and what was the extent of coverage. *At present, only female students receive the pregnancy and elective abortion benefit. The spouses of male students will not receive the pregnancy and elective abortion benefit, whether or not they are enrolled in the optional health insurance plan for spouses.* As far as the extent of coverage goes, I have as yet not been able to obtain a precise statement on this. Students anticipating the use of these new benefits should obtain a written copy of them, which hopefully will be made available through the Health Center.

These new health benefits represent an important achievement for women students at Caltech: a major health need unique to women has been recognized. No longer must women at Caltech sacrifice their quality of life for lack of such benefits, which many women who have chosen other careers enjoy. However, is it equitable for such benefits to be extended to female students without similar provision for the spouses of male students? Are male students and their

Oil Company in 1972. Dr. William McLean earned his B.S. in 1935 and Ph.D. in 1939 in physics. He served as technical director of both the Naval Ordnance Test Station at China Lake, CA and the Naval Undersea Center in San Diego.

The Financial Aid Office will select the first McLean Scholar in the 1985-86 school year.

The other new endowment is the M.T. Davis trophy and scholarship. The M.T. Davis trophy will be awarded each year by the Physical Education Department to a student who has demonstrated outstanding achievement and leadership in a track and field

event. Warren Emery, head of the P.E. Dept., estimated that the first trophy will probably be awarded in late April this year when the track season ends.

The M.T. Davis scholarship of \$700 will be awarded starting next school year by the Financial Aid Office to a student who *demonstrates need.* The scholarship program is entirely separate from the trophy, although each year the scholarship will be named for the trophy winner of the previous year.

The M.T. Davis endowment was a gift from Frank Davis of La Jolla, CA. Davis' brother, M.T., graduated from Caltech with a B.S. in 1933. He died in an airline accident in 1951. M.T. was a student body vice president and a decathlon athlete at Caltech.

spouses expected to sacrifice the quality of their lives?

As the Graduate Student Council representative to the Student Health Committee, I sought to have pregnancy and elective abortion benefits extended to spouses as well as to students. I did so with the motivation that most graduate students who wish to have children are unable to do so given the typical graduate student stipend. Unfortunately, the increase in the cost of coverage for the additional pregnancy and abortion benefits was much larger for the optional spouse coverage (from \$241 to \$860 per person per year, regardless of intent to use the benefit) than for the student coverage (from \$189 to \$216 per person per year). When these matters were discussed at the last Faculty Board meeting, the administration was willing to include the additional premium for the student coverage in the tuition fee, but no arrangement could be reached on an insurance scheme for spouses given what would be a substantial increase in premium.

There are several alternatives to passing the entire increase in cost on to all students with spouses opting for health insurance with pregnancy and abortion benefits. (1) The op-

tional spouse health insurance plan could be extended to include elective abortion at a small increase in cost, and a second optional plan created for those students anticipating the need for pregnancy benefits, with a premium which would be quite large (perhaps \$1600 per year) but still lower than the typical cost of delivery. (2) The optional spouse health insurance plan could be left as is, and the Institute could self-insure the pregnancy and elective abortion benefits, much as it does the mental health benefit of the current student health plan. In order to help recover some of the costs, students could be charged a fee suitable for their income for each delivery. As your GSC Health representative, I would be interested in knowing your opinions of these options. Alternatively, if you can think of other useful options, send them along.

These new student health benefits represent another achievement, in this instance for all students: we have demonstrated that the quality of student life at Caltech can be improved. For the first time in the history of the Student Health Committee, the Caltech administration responded to one of its recommendations, an

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Mettler Is Chosen As New Chairman

Ruben P. Mettler B.S. '44 M.S. '47 Ph.D. '49, chairman and chief executive officer of TRW Inc., has been elected chairman of the board of trustees of Caltech, replacing R. Stanton Avery, effective January 1, 1985.

President Marvin Goldberger announced the election, adding "Since receiving his doctorate from Caltech 35 years ago, Rube Mettler has compiled an impressive record as an engineer and business leader, coupled with a distinguished record of public service.

Mettler, a native of Shafter, California, went to Stanford University for his freshman year, but was assigned to Caltech upon entering the Navy in 1942.

He graduated in electrical engineering and went on to graduate school here in electrical and aeronautical engineering.

In 1966, Mettler became one of the first alumni to receive Caltech's Distinguished Alumni Award. He was elected to the Caltech board of trustees in 1969, and became vice chairman of the board in 1983.

Scope Grant Proposed

by Chris Meisl

The W.M. Keck Foundation of Los Angeles announced a grant proposal on Jan. 3 for \$70 million to Caltech to construct a ten-meter telescope on Mauna Kea, Hawaii.

The proposed grant is the largest private gift for a scientific project yet made, and the project is the world's largest optical telescope, four times more powerful than the 5-meter Palomar telescope.

The grant is still pending contractual obligations between Caltech, the Keck Foundation, and the University of California.

Caltech will oversee the construction of the telescope and observatory using the new technology of a segmented mirror developed at the Lawrence Berkeley Laboratory of the University of California.

Construction of the facility, to be named the W.M. Keck Observatory, is expected to take about 6½ years beginning in early 1986. The mirror will consist of 36 separate, adjoining hexagonal mirrors, each 1.8 meters across, to be controlled by a computerized mirror positioning system that will adjust the mirrors 300 times each second.

UC scientists have also developed a "stressed mirror polishing technique", which involves warping the mirror blank and then polishing it, to enable the production of non-axisymmetric surfaces on the hexagonal mirrors.

Due to a much lighter support

structure, the telescope will weigh only 158 tons, less than one-third the weight of the Palomar telescope. Also, the UC design has a short focal length, allowing the telescope to be housed in a dome the same size as the Palomar dome.

The entire Keck Observatory will include computer and control rooms, electronic and mechanical shops, mirror aluminizing facilities and even a visitors' gallery.

The \$85 million observatory was originally to be funded by gifts to the University of California alone, beginning with \$36 million from Marian O'Hoffman to memorialize her husband, the former New York automobile importer.

According to Julian O. van Kalinowski, Director of the Keck Foundation, "the University of California then set out to interest other donors and also the possibility of interesting other institutions in providing the remaining funds. As part of this effort, the University... discussed the possibility of joining Caltech as a partner in this effort."

Caltech "agreed to do so and... undertook to seek funds," van Kalinowski added. The Keck grant was a result of these efforts.

The role of the Hoffman gift will be determined when the contractual conditions for the construction of the telescope have been satisfied.

Construction of the telescope is expected to begin in spring 1986 and observations should begin in 1992.



Sylvia Luedeking & Steven Walton in TACIT's "Ways and Means"

the gadfly

An examination of student life at Caltech

A Different Year

by Lily Wu

For a student, the concept of the new year is a shifted one. There is the new *school* year and the new *calendar* year. While everyone in the world is making a grand affair of the new calendar year, I pass New Year's Day as if it were July 1. It is at the beginning of the new school year in September that the student sets new goals and resolutions.

When my year began this school year, I had a feeling of *deja vu*. I had GRE exams to take, college applications to complete, jobs to interview for and a graduation to look forward to. It reminded me of senior year in high school. I mentioned that to a friend: why after all these years of schooling, am I *still* applying to colleges and taking those awful standardized exams? It made me feel as if I hadn't really gone anywhere in four years. But then he said I was looking at the situation in a two-dimensional perspective. "Imagine a cork screw. If you look at it from one end, it looks like a circle. It looks like you are traveling the same path over and over again. But if you look at it from the side, you see that while going around and around, there are different levels. You never cross the same point twice, but you do encounter analogous points at different levels."

Well, I felt as if I had just visited the high priest of Tibet and received a decree. I thought about my different years at Caltech. Freshman year was all new. I was eager to learn everything that I could about science and Caltech. I worked so hard that year that I really did not give anything that I learned much thought. I digested whatever was presented to me and went on. The main reason was that I was trying to adjust to the new work load demands and the new social environment. I had not only gone from a high school setting to a college setting, I had gone from a high school to *Caltech* (a different matter entirely).

Sophomore year was the same story. Again I had to readjust academically. Even though I had a year of practice under my belt, I had to make the leap from pass/fail to grades. Still, I never thought about what I was learning, why I was learning, how I was learning or where I was learning. The new reality of grades was all consuming that year.

When that year ended, I realized that I could finally pull my head out of the sand. I had successfully survived a year of the graded Caltech environment and the next two years were academically insured if I just maintained the same even strain. Almost for the first time, I took a good look around me and began to evaluate my own opinions about what, why, how and where. Previous to that time, opinions were almost exclusively positive because that was all I was told and I digested it. And they were true fates; compared to most top schools, Caltech has more money per student, better faculty-student ratios, more full professors teaching undergraduates, a more scientifically rigorous curriculum, more undergraduate research opportunities, unique honor and housing systems and a more closely-knit student body.

Then and now, I truly appreciated all those facts about Caltech but I also began to see those facts more critically than for granted. No matter how fine the environment, there is always room for improvement. Whenever an institution is simply accepted as given and taken for granted, progress stops. Then I thought, maybe the unique honor and housing

systems were not for the best, maybe the closely-knit student body was too fraternal and distant from the outside world, maybe the excellent scientifically rigorous curriculum was too narrow in scope, maybe full professors are not always the best teachers, maybe, maybe, maybe . . .

When junior year began, my academics maintained their even strain and my newly found ideas burst forth. Rather than just marching along in the Caltech machine, I took a good look at what made the machine. Most of my perspectives began to change. All those previously revered POLICIES and REGULATIONS which seemed so unchallengeable took on a different light. I saw that for every policy and regulation, there was a person or group of persons behind it who decided on that policy based on their own opinions or preferences. In that respect, no rule is etched in stone and every rule can be called to account for its

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letters

What About Teeth?

To the Editor:

It is with great interest that I read Lily Wu's article on possible pregnancy benefits for graduate students in *the California Tech* (Dec. 7, 1984). While such benefits would clearly be a good thing, I cannot help but think that the Health Committee's priorities should be reevaluated.

As I write this, my mouth is extremely sore and my cheeks are swollen: I had my wisdom teeth removed yesterday afternoon. But although the operation was painful, the most painful part was the price tag: \$395, every penny of which has to come from my own pocket.

And that's just the beginning. My dentist tells me that she expects the total cost of the dental work that I need to be more than \$2000. Because dental care is not part of the health coverage for students at Caltech, I shall have to pay every penny myself. My \$500 per month GRA salary cannot cover this. I am going heavily into debt to maintain my health.

Naturally, I think that there is a clear and present need for dental care benefits for students. The arguments for pregnancy benefits are equally applicable to dental care. Moreover, dental care is something which everyone needs, unlike pregnancy care, which would benefit a minority of students whether or not it was extended to spouses.

I do not wish to weaken the case for pregnancy benefits but they would benefit only a fraction of the student body. To the best of my knowledge, everyone at Caltech has teeth. Dental benefits would be a help to all of us, and the Health Committee ought to be looking into it.


Sincerely,

—Alan L. Bostick
Graduate Student, Physics

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THE CALIFORNIA TECH

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Upcoming Events:
Sailing Trip, January 26
Another Ski Trip, eventually
Biloxi Blues, sometime
LA Visual Arts Festival, January 27

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

Spouses Excluded From Health Plan

from page 1

important precedent which we should not forget. Why this recommendation, and not the others? In part because it had the support of several active groups. The Caltech Women's Club, the Organization for Women at Caltech, and the Graduate Student Council all played important roles in prompting the Health Committee to pursue this issue. In addition, there were several prominent faculty members who remembered what being a graduate student was like, who recognized that the vitality of the Institute depends upon its graduate students, and who

realized that it is becoming increasingly difficult to attract and maintain quality graduate students given competition from nonacademic sectors. All these sources of support were important in achieving these new benefits. If we are to obtain an equitable benefit for spouses of male students, we will need to demonstrate more support from the students themselves, and to enlist the support of concerned but as yet unheard faculty. We need to remind the administration that the lives of graduate students involve more than courses and research. Each of us shares this responsibility. This may take

some time away from your work, but what you put in, you get out.

Since health, housing, and stipends all have serious impact on the welfare of graduate students, the Graduate Student Council is forming a committee to examine these matters as they relate to the quality of graduate student life. If we are to succeed in this effort we need your ideas, your support, and your help. As you have seen, such efforts can work.

Direct your opinions and questions to George Carman, Graduate Health Rep, 216-76, x6824. Written memos are most useful for documenting matters related to graduate student health. Watch for further information on the Graduate Student Council committee on the quality of student life.

Spiraling Through The School Years

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relevance to society. No persons opinions are necessarily more just than any others and every person with a differing set of opinions or preferences can and should have them aired and considered. As a whole, institutions are reasonable and changeable, in principle, because they are simply a conglomeration of people. That essence can only be maintained, though, if the constituent people realize and exercise the rights of their membership.

It took me two years to really see what I was looking at and hear what I was listening to. Every person in their four years here should spiral to an introspective level on the cork screw for a different perspective. Nothing is so sacred that it cannot stand evaluation; not the honor system, or the housing

system, or the administration, or even our educational values and purposes. There are many facets to Caltech and the freshman camp picture of Caltech only scratched the surface.

Clarification

[The Gadfly article in the December 6 issue contained a fact which requires some clarification. The column, A Matter of Time, dealing with the women's issue indicates that Bell Labs' OYOC program is only open to women and minorities. That is, in fact, the restriction in Merrimack Valley because of restricted funds. The clarification is that in previous years and in other branch labs, the program was/is not necessarily exclusive for women and minorities.]

—L.W.]

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Personal interviews will be held in San Francisco and Los Angeles in March, 1985. Selected applicants will be expected to arrive in Tokyo any time between May and September, 1985.









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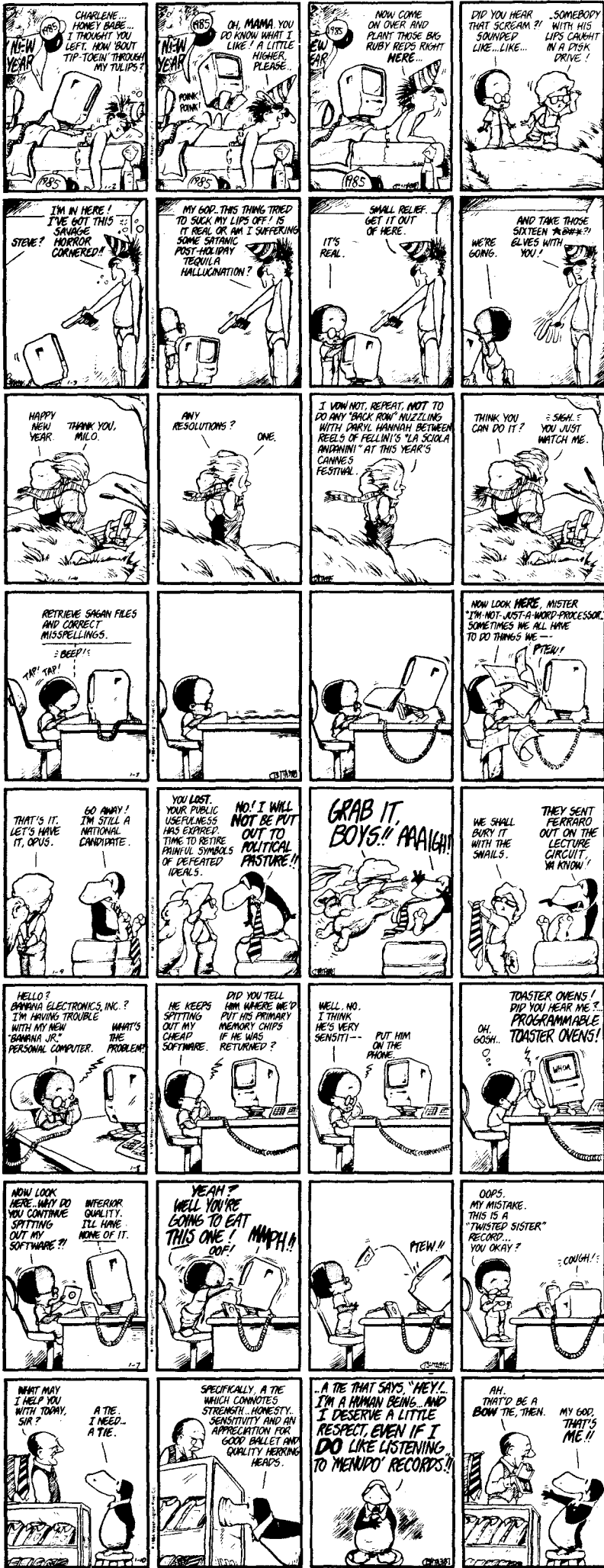
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Noel Coward's *Ways and Means*, directed by Astrid Golomb, is a picaresque tale of a roguish couple striving to maintain

their easy way of life; Alan Ayckbourn's *Gosforth's Fete*, directed by Janet Reno, is a tale of Maxwell's Demon released from the bottle at a rummage sale. Mark Maier directs Robert Patrick's *Action*, which tells of two playwrights who write each other into their scripts. David Mercer's *Let's Murder Vivaldi*, the story of some rather eccentric characters attempting and extra-marital fling, is directed by Max Bryson. Peter Jones and Lynne McGrath present scenes from *A Midsummer Night's Dream* and *Troilus and Cressida*.

Performances will take place in Winnett Lounge at 8 p.m. on January 11, 12, 18 and 19; and at 2 p.m. on January 13 and 20. Ticket prices are \$3 for Caltech students and \$5 for others.

Last Years Best Jazz Albums

by John Fourkas

Music for Piano and Drums
Patrick Moraz & Bill Bruford
EG Records
Future Memories
Patrick Moraz
PVC Records
Timecode
Patrick Moraz
Passport Records

1984 was a very productive year for Patrick Moraz, the Swiss keyboard virtuoso. Although he remains quite busy playing with the Moody Blues, he has also managed to go on tour with Bill Bruford (of King Crimson) and, more amazingly, release three new albums.

Having seen Patrick Moraz and Bill Bruford in concert in San Francisco last year, I was very excited at the release of *Music for Piano and Drums*. It is rather difficult to imagine

music composed solely for piano and drums; one is perhaps driven to imagine jazz with all of the other "interesting" instruments taken away. Moraz and Bruford, however, have created compositions for piano and drums which not only sound wonderful without any other accompaniment, but which would probably not work if either musician were less of a consummate master of his instrument; Moraz and Bruford have managed to create a perfectly balanced album in which neither instrument can stand alone or overpower the other. Just as Moraz's brilliant, flowing piano work accentuates Bruford's drumming, so do Bruford's complex rhythms enhance the piano. The music itself is a mixture of many influences: jazz, classical (from

Chopin to Ginastera), Latin, and many others. Moraz and Bruford (who, incidentally, first teamed up for Chris Squire's solo album *Fish Out of Water*) have performed a very successful experiment, and I can only hope they will do more work together in the future.

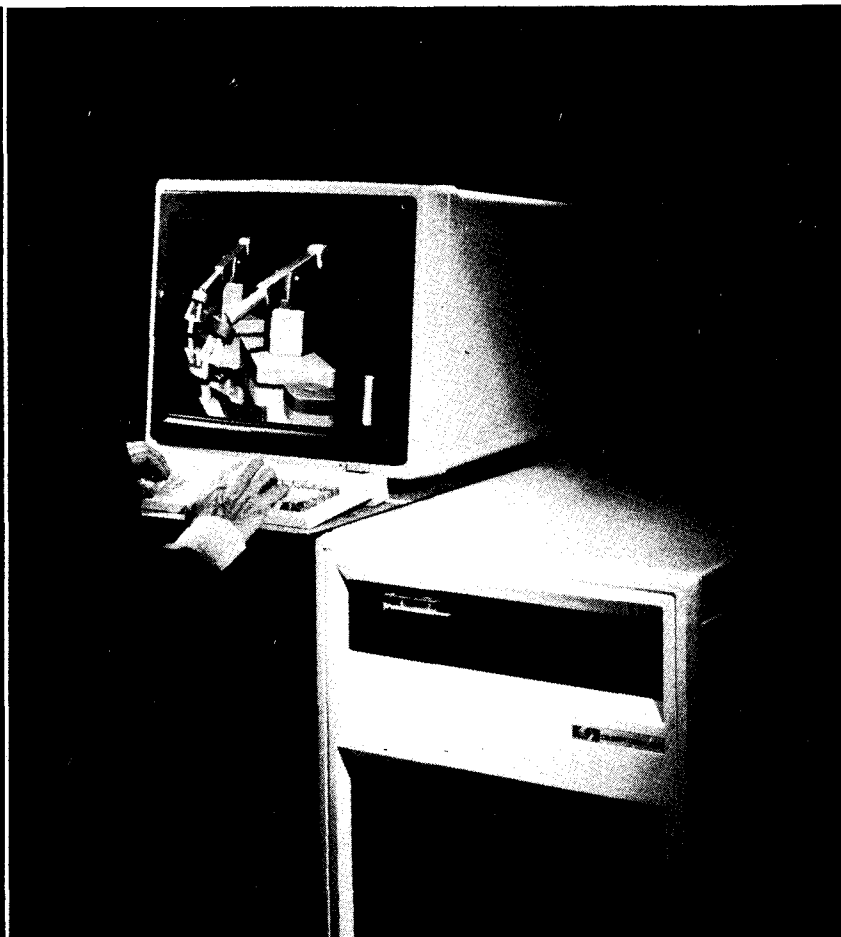
While *Music for Piano and Drums* was a very successful experiment, *Future Memories* comes very close to being a dismal failure. It is by far the least "accessible" of the three albums—indeed of all of Moraz's albums. Moraz left Yes after a year and a half (he played on *Relayer*) because he felt that he was not being allowed to do his own thing; he felt that his keyboards were being subdued in the mix and that they were not important to the music. *Future Memories* is the exact opposite of this situation. It is actually a recording of an entirely unrehearsed improvisational solo session which Moraz did for Swiss television in 1979, of what he calls "instant" composition:

'...the denomination "instant" composition means a live performance not only as far as playing the instruments is concerned but also in terms of organising the conscience in order to convey and transcend the ideas into organised sonic architecture without, however, feeling limited or contrived by the modern-day technological environment.'

Sound a bit pretentious? Unfortunately, it is. In general, this album asks far too much of the listener while giving back far too little. Side one of the album, a nineteen minute track called "Metamorphoses," seems to be little more than random experimentation with electronic instruments and synthesized drums. "Eastern Sundays," the first song on side two, fares little better, although there is a fantastic rehashed version of it on *Music for Piano and Drums*. The only saving grace of the album is the final track, "Black Silk." The only instrument used in "Black Silk" is an acoustic piano, and it does not give the listener the impression that he is being used as a guinea pig. When it comes to piano improvisation, Moraz is second to none. "Black Silk" is an uplifting, flowing piece which gives me some hope the instant composition may not be a worthless concept.

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A Weekly Column by Matt Rowe

Best Rock Album of 1984 Except for the Stuff in Next Week's Column

First off, a couple of runners-up. *Purple Rain* was a mighty fine chunk of vinyl, but "Darling Nikki" is no statement of great social significance. Sure, you can dance to it, but you can dance to any Prince. Besides, *Controversy* is the album with "Sexuality." This album reminds me of Echo and the Bunnymen's *Ocean Rain*, another album that critics swallowed whole at first, gushing it back (at least in Britain) all over pop magazines, only to notice later that the thing was really all wet. Not at all wet was *Born in the USA*—on the contrary, like the USA, the Boss's music has some mighty dry stretches in it. (I do like the title track, though.) Huey Lewis' *Sports* might have been a greatest hits album for the group...but why buy it when you can hear half the songs on the radio? *The Unforgettable Fire* by Brian Eno with U2, was a magnificent work, but one with limited goals. With more confidence in the studio, U2's next album might be one of the best things in rock since *Sticky Fingers*—but we'll have to wait a year.

Twisted Sister's *Stay Hungry*, however—now there was an album. Truly a poetic statement of the highest caliber, "We're Not Gonna Take It" is my prediction for the next Muzak smash. Profound questions such as "What do you want to do with your life?" have always struck a chord in my heart, and in Dee Snider's, they strike three. One out. Next at bat...

It's going to be awfully hard for you to take me seriously now, isn't it? Try to, anyway, because the meat of the column approacheth. Ahem.

Buckaroo's nomination for Best Album of 1984: *Cover*, by Tom Verlaine.

Don't worry—you're not alone. It's truly a pity, but most people haven't heard of Tom Verlaine. Let me introduce you, then.

Until 1976, Tom Verlaine, who took his stage name from the French *symboliste* poet Paul Verlaine, was himself a poet; that's no metaphor—he wrote poetry. In that year he formed the band Television with Richard Lloyd, Billy Ficca (now leading the Waitresses), and Patti Smith's husband, Fred, once of the MC5. Television played CBGB's in New York, and like CBGB's other stars, Talking Heads, Blondie, and the Ramones, got the critics (and audiences) excited. Television turned out two albums—the overlooked classic *Marquee Moon*, unfortunately hard to find, and the mellower *Adventurer*—before the band imploded.

Tom Verlaine—Television's lead singer, songwriter, and lead guitarist—immediately began

his solo career. His 1979 eponymous debut included "Kingdom Come," which David Bowie later recorded for *Scary Monsters*; 1981's *Dreamtime* introduced Verlaine's confident individual style of rock-and-roll; and what 1982's *Words from the Front* lacked in musical quality it made up for in beautiful lyrics. That brings us to *Cover*.

Cover (Warner Brothers, 1984) is the most lyrical rock album ever recorded. If William Faulkner and Jean Sibelius wrote an opera, it would be no better than this album. The plot—*Cover* is not a concept album, but its songs are all of a piece—is, in fact, Faulknerian: boy works hard for girl, boy goes to big city and forgets about girl; boy remembers girl but finally decides to pursue his career instead; boy is bewildered by big city; boy sits down to have a think; boy goes back to girl and they live happily ever after. As for Sibelius, the melodies and orchestration ("arrangement" seemed too weak) would do him proud. So much for the album as it was conceived. What is so shockingly wonderful about *Cover* is the execution.

On his previous albums, Tom Verlaine's nasal, somewhat whiny singing voice was occasionally annoying; on *Cover*, he reshapes it into a generalized Southern drawl that is both pleasant and evocative. On previous albums, Verlaine's lead guitar sometimes gets too noisy; on *Cover*, he has toned it down, and, with the help of Jimmy Ripp, provides clear, simple melodies that let the listener get comfortable. On previous albums, Verlaine's lyrics were either mainstream almost to the point of vapidness or dense to the point of undecipherability; on *Cover*, each chorus both summarizes and encompasses the content of the verses, and the result is simple, memorable, yet powerful songs. *Cover* in few ways conforms to convention, but it is so perfectly realized that it singlehandedly creates a new convention.

The average listener doesn't care for theoretical b.s., I realize; the average listener wants to know if there are any good songs. "Yes" is my answer, and emphatically. "Five Miles of You"—the album opener and the second single—shows what Prince really meant when he said "I Would Die For U":

*I've been walkin'
Till it ain't true
I've been walkin'
Five miles of you...*

"O Foolish Heart" presents another side of love, and, with its resigned yet regretful blues presents the answer to General Public's question, "Where's the tenderness?" Side Two is more experimental, leading off with "Dissolve/Reveal," the "boy is bewildered" part of the story.

Our hero, a writer in the Big City, finds that fiction often becomes fact, and wishes that fact were just a fiction. (A background chorus shouting "Quote!" and "Unquote!" is a stroke of genius.) *Cover*'s final track, "Swim," brings it all back home. It begins with an excerpt from Verlaine's book of poems, *41 Monologues*, about a lonely man who, late at night up in the north woods, likes to fly around, "...yeah...fly around." The monologue stops, and a bassline as natural as those north woods lies in wait. Tom Verlaine strolls in, with a synopated rhythm guitar he brought from the fifties, and invites us to sing along:

*I could swim
I could swim
I could swim in your love
In your love
In your love
I could swim in your love...*

Cover
Tom Verlaine
Warner Bros. Records

Moraz Jazzes Up '84

from page 5

Timecode shows that Moraz may have learned his lesson—and possibly too well. The keyboards on this album, although still important to the music, are much more subdued. The most remarkable feature, though, is their heavy pop sound. Moraz has teamed up with the vocalist/songwriter John MacBurnie to create some real Top Forty-styled music. While MacBurnie's voice is rather good, his lyrics are quite pedestrian, and the subdued keyboards do little to help. Still, the album is quite pleasant. The high points of the album are "Black Brains of Positronic Africa" (an electronic version of the 'instrumental ballet' "Blue Brains" from *Music For Piano and Drums*) and "Elastic Freedom (In Search Of)", the one song to which Moraz wrote all of the lyrics. *Timecode* is certainly

an enjoyable album, but it is not of the quality I have come to expect from Patrick Moraz.

12th Night & MIT

By Astrid Howard

The MIT Shakespeare Ensemble will present Shakespeare's *Twelfth Night* in Ramo Auditorium Thursday Jan. 24 at 8 p.m. Los Angeles is the last stop on the Ensemble's California tour celebrating their tenth year of existence. In the holiday world of *Twelfth Night*—named for one of Christendom's wildest festivals—"normal" life is turned on its head, and the subtlest romance can be played with the bawdiest farce as a backdrop. Presented by the Office of Public Events and the MIT Alumni Club of Southern California and sponsored in part by the Caltech Y and TACIT. For ticket information and reservations please call 356-4652.

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ASCIT

By-Laws Changes Proposed

The ASCIT EXCOMM and Board of Directors have approved the following three proposed ASCIT Bylaws amendments, which will be put to student vote on Monday, January 14 1985.

Amendment 1. Prohibition of campaigning in the polling place. This amendment is meant to make elections more fair by prohibiting any form of vote coercion during the actual voting process through segregating the polling place from the campaign.

Amendment 2. Staggering of ASCIT officer selections. This amendment provides for two separate elections for ASCIT officers, the first for the President and Treasurer and the latter for all other officials.

Under the current system, after elections, the new BOD is installed and the old BOD retires without ever interacting with their successors. By electing the President and Treasurer early, they will have a month-long opportunity to work with and learn from their experienced counterparts. It is felt that this will provide ASCIT with much-needed continuity for ongoing or long-term BOD projects, and smoother administrative transitions.

Proposed Changes

Amendment 1: Article VIII, Section 3. (addition) There shall be no campaigning or campaign materials present in a room where polling takes place during any election.

Amendment 2: Article VII, Section 1. Nominations for the offices of President and Treasurer shall open at 8:00

am the second Wednesday of second term, and shall close at 5:00 pm the following Tuesday.

Nominations for all other elected officers shall open at 8:00 am on the fourth Wednesday of second term, and shall close at 5:00 pm the following Tuesday.

For a nomination to be valid, the nominee must be a current ASCIT member. All nominations must be given in writing to the secretary and must be signed by the nominee. Prior to the election *The California Tech* shall publish a complete list of nominated candidates and any statements they wish to make.

Section 2. All nominated candidates shall be listed on a ballot and voted upon at elections to occur the Monday immediately following the closing of nominations for that office. A final election, if necessary, shall occur on Friday of the same week.

Section 10. (replace first sentence.) All officers shall be installed at the second Board of Directors meeting following the election of the non-Treasurer/President officers.

More ASCIT

If Amendment Two on Monday's ballot (which causes the President and Treasurer of ASCIT to be elected two weeks before the other officers) passes, nominations for President and Treasurer will open this coming Wednesday (Jan. 16) at 8:00 am. Nominations for other officers (Vice President, Secretary, Directors at Large, IHC Chairman, Director for Academic Affairs, Director for Social Activities, Activities Chairman, Athletic Manager, BOC Secretary, and Editor of *the California Tech*) will open Wednesday, Jan. 30 at 8:00 am. Nominations will close at 5:00 pm the Tuesday following their opening.

If Amendment Two fails, nominations for ALL ASCIT elected offices will open on Wednesday, Jan. 16 at 8:00 am

and close the following Tuesday, Jan. 22, at 5:00 pm.

The election for each office will occur on the Monday immediately following the close of nominations for that office.

An official nomination should say something like "I wish to be added to the list of nominees for the office of _____". It must be signed by the nominee. The nomination should be addressed to Joy Watanabe, the ASCIT Secretary, and delivered personally to the Dean's Office.

A current list of nominees will be posted on or near the door to the Master's office daily.

All nominees should submit their statements to *the California Tech* by 8:00 pm on the Tuesday before the elections (which is also 3 hours after nominations close) so they can be included in the election issue of *the Tech*.

Weekly Sports Calendar

DAY	DATE	TIME	SPORT	OPPONENT	LOCATION
Sat.	1-12	6:00 pm	Basketball (JV)	Occidental	Caltech
Sat.	1-12	8:00 pm	Basketball (Varsity)	Occidental	Caltech
Sat.	1-12	All Day	Swimming (M/W)	UCI Swim Invitational	UCI
Sun.	1-12	All Day	Swimming (M/W)	UCI Swim Invitational	UCI
Wed.	1-16	6:00 pm	Basketball (JV)	Redlands	Caltech
Wed.	1-16	8:00 pm	Basketball (Varsity)	Redlands	Caltech
Wed.	1-16	11:00 pm	Ice Hockey Club	Pierce #2	Pas. Ice Capades
Thu.	1-17	7:00 pm	Wrestling	Pomona-Pitzer	Biola

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**Campus Interviews
Monday, January 28**

If you are unable to meet us for a campus interview, send your resume directly to us; **Professional Staffing, ELXSI, 2334 Lundy Place, San Jose, CA 95131.** An equal opportunity employer.

*UNIX is a trademark of AT&T Bell Labs.

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.

Hey, Seniors!

Remember that letter you got from the Big T editors near the end of last term, warning you about senior pictures? Well, we weren't kidding.

The deadline for senior pictures is February 1. Period. For anything turned in after that, we make no guarantee that it will even be in the yearbook. Submit your black and white print (no negatives) with your name, hometown, and option to "Big T", 107-51, or drop it off with Glen Crawford, 242 Ru.

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LOST--

Lost: Black and white cat, strange meow. Please call 356-3970.

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.

SURF's Up

1985 SURF applications are available in the SURF office, Room 3 Dabney Hall. A notebook containing proposed SURF projects is also available for students to look at in the SURF office. If you have questions, please contact Carolyn Merkel (101-40, Room 3 Dabney, x3675) or a member of the SURF Administrative Committee.

Seminar Notice

Professor Wang Yu-Yun from the Institute of Systems Science, Academia Sinica, Beijing, will be giving a seminar here on Thursday, January 17th at 4:00 pm in Baxter 125. The topic of the seminar will be "Resource Allocation in the Development of the Yellow River Basin."

C•L•A•G•S

The Caltech Lesbian and Gay Society will have its first meeting of this term at 2:00 on Sunday in 210 Baxter. We will discuss designs for the CLAGS T-shirts and plan this term's activities. Everyone is welcome to attend.

Great White North

Any undergraduate interested in attending a conference on "Canada and the United States" at the Air Force Academy in Colorado Springs, Colorado, March 5-9, 1985, should come to the Dean's Office no later than Monday, January 14 (102 Parsons-Gates). All expenses will be paid.

Summer Recruiting

There are several companies coming on campus to recruit summer employees. If you'd like more information, please drop by the Career Development Center, Room 8, Parsons-Gates or call x6361.

Fluid Talk

There will be a portion of the "Perspectives In Fluid Mechanics" symposium which is open to the public, starting at 9:00 am on Saturday, January 12, in Ramo. Complete information may be obtained from Donald Coles at x4483.

Letter-Writing

There will be a letter-writing session to help Soviet Jewry, along with a deli dinner for participants, on Sunday, Jan. 13 at 5:30 pm in the Red Door Cafe, Winnett Center. \$3 for the deli dinner. Writing materials provided by Hillel.

BEM Time Change

BEM 100b—Business Economics and Management, taught by Steven LeRoy, will now be taught on MWF from 10-11 pm in Baxter 25.

Newman Club

Caltech students are invited to join the Catholic Student Newman Club for discussions of contemporary faith and scripture study, Tuesdays and Thursdays at 12 noon, Pasadena City College Building C, Classroom 333. For further information, call Fr. Peter Canavan at (213) 661-4323.

Skiers!

The Caltech Ski Team will have a meeting at 10 pm, Mon. in the Y Lounge. We'll be discussing upcoming races, lodging, practices, and letter requirements. All racers and others who are interested in skiing or vacating for a weekend or two during second or third term should attend. Contact Mickey at 356-9111 or Dan at x6274.

Problem Solvers

The problem solving seminar will resume this Friday, January 11 at 4 pm in 469 Lauritsen. The diophantine equation $1!2!\dots n! = n!$ and the problem of moving a string on a surface with friction will be discussed.

Guitar Classes

Caltech offers guitar classes with classical guitarist Darryl Denning on Tuesdays in the Fleming Music Room starting January 15. The classes are free to Caltech students, and undergraduates can receive 2 units of academic credit. The schedule is as follows:
Beginning guitar 4:30-5:30 pm
Intermediate guitar 3:30-4:30 pm
Advanced guitar 5:30-6:30 pm
For further information call Mr. Denning at (213) 465-0881.

Model UN

Attention: anyone interested in attending the Model UN this year should attend our first meeting, which will be held at 8:00 pm in Winnett Clubroom 1 on Wednesday, January 16. If you can't come please contact Mark McDonald at 223 Ruddock, x3776 or Tracy Peterson at 793-9906.

Teach Science

The Caltech Chapter of Sigma Xi is looking for people to get involved in a project to expand the science program in a local private elementary school.

Participants will invent, prepare, and demonstrate science experiments to 3-6 graders, which would involve a total time commitment, including classroom time and preparation, of approximately 10 hours over a 2-3 week period.

Sigma Xi will pay a stipend for teaching associates and can give some support in planning, etc.

Those interested should please contact Carolyn Merkel, x4285, 03 Dabney Hall, 101-40.

Chamber Concert

There will be a free chamber music concert on January 20 at 8:00 pm in Dabney Hall Lounge. This concert is sponsored by the Office of Student Affairs, and features Caltech students performing a wide variety of chamber music for strings, wind, brass, harpsichord and piano, by Handel, Telemann, Beethoven, Ibert, and Martinu.

Universe On VHS

Videotapes of several programs from *The Mechanical Universe*, Caltech's physics course for television, are now complete and available for viewing in Millikan.

The cassettes are available at the Reserve Desk on the first floor of Millikan, and equipment for viewing them is available in the Millikan reading room.

Free Spirit

"Authority, Autonomy & a Free Spirit" will be the first of a series of talks by Jonathan Omer-Man. The talks will be Tuesdays, January 15, 22 and 29 in Winnett Lounge, 4:30-6:00 pm. Sponsored by Caltech Hillel.

Caltech Bridge Club

Bridge Club meets at 7:00 pm on Mondays in the Red Door Cafe, Winnett Center. Beginners and experts welcome. We play duplicate and rubber bridge.

Student Shop Meets

The Caltech Student Shop will meet Saturday at 1:00 pm in the shop (Winnett basement). All old and new members *must* attend to get second term keys. General maintenance and cleanup will also be performed. For more information call Craig Zupke at 578-9768.

PA 15 Meeting

There will be a meeting of the PA 15 class, which is the student newspaper, at 12:15 pm Friday, in 127 Baxter.

OWC Brown Bags

The second of three OWC (Organization for Women at Caltech) noon Brown Bag Seminars will be Wednesday, January 16 in Winnett Lounge.

Psychotherapist Madeline Mark will speak on "Stress and Substance abuse." The meetings are free and open to everyone.

On January 23, Madeline Mark will give the third seminar, on the subject of "Divorce and Single Parenting".

Career Seminars

On Campus Recruiting—On Monday, January 14th, 3 to 4 pm, Winnett Clubroom 1. Overview of the recruiting process at Caltech.

Assertive Interview—On Tuesday, January 15th, 4 to 6 pm, Winnett Clubroom 1. The assertive interview and interviewing techniques.

For more information, call x6361 or come by the Career Development Center, 08 Parsons-Gates.

Enterprise Forum

Caltech alumnus David Strand, President of Dynamic Solutions Corporation, will be the featured presenter at the Caltech/MIT Enterprise Forum on Tuesday, January 15, 6 to 9 pm in Baxter Hall. The presentation will center on an analysis of DSC's business plan. It begins at 7 pm in Baxter Hall. Reduced fee for Caltech students with ID is \$5. Please call Margaret Brennan at 356-3916 for reservations.

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to anyone who disproves any of the following points with references to electromagnetic radiation:

1. In Maxwell's equation $\nabla \times \vec{D} = -\frac{\partial \vec{E}}{\partial t}$, the internal field of the photon is constant and represented by \vec{E} .
2. The field of \vec{E} is that of a magnetic dipole whose axis coincides with its direction of motion.
3. The time differential, $\frac{\partial}{\partial t}$, is due to the motion of \vec{E} (the photon) relative to the detection device.
4. The electric field $\nabla \times \vec{D}$ appears in matter when a photon(s) passes in its vicinity.
5. Electric fields are not a part of, nor do they appear in the vicinity of, a photon in free space.
6. Maxwell's equation $\nabla \times \vec{H} = \vec{J} + \frac{\partial \vec{D}}{\partial t}$ applies to matter, not radiation.
7. There is no displacement current in electromagnetic radiation.
8. The photon is the same as other elementary particles, possessing a discrete physical character and a continuous field as one indivisible entity.
9. The wave-particle duality of quantum theory refers to how matter interacts, not to the actual physical nature of matter.

If the above points cannot be disproved, the \$10,000 will be paid to anyone who performs the following experiment to decide these questions: Oldani, R. "The photon with a classical field," *Annales de la Fondation Louis de Broglie* 5, (1980), p. 225.

If the money is claimed, we will announce it in these pages.

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