

Maynes On U.S.-Soviet Relations

by Chris Meisl

Charles William Maynes, editor of *Foreign Policy* magazine and nationally syndicated columnist, spoke on U.S.-Soviet relations in Baxter Lecture Hall, Wednesday.

Maynes gave a detailed history of contact between the two super-powers, from the first traders through the Alaska land sale to current nuclear detente.

In the prepared talk, Maynes also cited demographic differences that separate the two nations. Furthermore, demographic changes such as the rapidly increasing dependency rate of the U.S. continue to erode the possibility of improved Soviet relations. The dependency rate, which will reach over 50% by the next century, will make it almost impossible for the U.S.



Maynes joins audience after talk

to sustain its projected defense spending.

Later, Maynes outlined problems that currently hamper improved relations with Russia. "American diplomacy must rest on analysis, not fear," Maynes said. He added that "confusion in the land about our relation

with the Soviet Union" must end.

Maynes concluded saying, "there seems likely to be a vigorous attempt to improve relations."

The talk was sponsored by the Caltech Y as part of its Friends Dinner.

photo by Lawrence Anthony

Mixed Grad-Undergrad Housing Investigated

by John Beahan

The Master of Student Houses, Chris Brennen, working in conjunction with the Graduate Housing Office, is currently examining proposals for a group off-campus housing facility which would contain both graduate and undergraduate students.

This possibility has arisen, explained Dr. Brennen, because of the reduced need for single grad student housing, which resulted from the completion of the Catalina grad housing complex. There are a number of different possibilities for the form this housing would take, and the Master is currently seeking input from both grads and undergrads concerning their preferences and evaluations.

One of the proposals being looked at is to open a graduate house to undergrad occupancy. To conserve the number of grad and undergrad spaces,

one or more of the undergrad off-campus houses would be converted into housing for married grad students, which is currently in very short supply.

Under this plan, some modification of the grad house would probably be needed, since undergrads typically seem to require far more kitchen space than grads. One room of the grad house would probably be converted into an extra kitchen, to supplement the one already existing in each grad house.

Another possibility is to use one or more floors of a grad house as women-only housing, since the annex is currently the only type of segregated housing at Caltech. Dr. Brennen stressed that there are no definite plans yet as to what course of action will be taken, but that some sort of mixed grad and undergrad housing is definitely planned, and ideas are being solicited.

Students Fly Space Shuttle Experiments

by Julian West

(This material first appeared in the Vancouver Province)

The recent successful retrieval of errant communications satellites once again focused attention on the American space program.

But one group of Techers is doing more than just talking about the space effort. They're part of it.

Some undergraduates are getting a chance to put their training in science and engineering to the test—by conceiving, designing and building experiments to be flown in the Space Shuttle.

The payloads are built to fit into desktop-sized packages called "getaway specials" because they are an inexpensive way of getting into space. \$10,000 a shot may not sound cheap, but it's a tiny fraction of the multi-million dollar cost of launching a communications satellite.

The group, which is called the Student Space Organization (SSO), already has one "getaway special" built and ready for launch. It contains two experiments: one to test the feasibility of making exotic alloys in space, and one to study the effects of reduced gravity on the growth of plants.

Matt Crandall, a second-year student majoring in physics, demonstrated the payload. At first glance, it looks complicated, but one soon begins to pick out familiar elements.

For instance, what is a Nikon camera doing in there? Well, since the experiment will go into space sealed up tightly

in a metal cylinder, the students need some way of recording their results. Hence, the camera will take photographs of the experiment every half-hour to indicate its progress over time.

Since the experiment could run for a couple of days, that amounts to a lot of photographs. That explains the huge film reels attached to either side of the camera, which they have specially modified to fit 475 exposures of 35mm film.

Directly in front of the camera lens is the experiment itself—four small plastic cells containing mixtures of oil and water. One of the cells will contain an equal ratio of oil to water. One will be 90% oil, and another will be 90% water. The fourth is reserved for advanced testing of a future experiment.

At the beginning of the experiment, the mixtures will be stirred using a magnetic stirrer. Then they will be photographed over time.

On earth, oil and water separate because of their different densities. In the absence of earth's gravity, that will not happen, but droplets are expected to form because of the effects of surface tension.

This experiment has direct application to a very real question in engineering: will it be possible to make alloys of metals in space which could not be made on earth because of the different densities of the metals?

The students decided to use oil and water to simulate metals for two reasons. First, they are transparent, and so

can be photographed, while metals cannot. Second, they are liquids at room temperature, and while it is cold in space, the electronics of the experiment are expected to generate a lot of heat.

Another good reason for having the payload at room temperature is the second experiment it contains. That one will germinate radish seeds in an attempt to discover how their response to gravity works.

The seeds will be grown in water and in the dark, on a series of aluminum disks which are rotating at different rates. The disks will provide a centrifugal force on the plants. This is the same force you feel when you whirl a heavy object on a string about your head. In effect, it will provide an "artificial gravity" on a very small scale.

The radish seeds will be grown at gravities ranging from one-ten thousandth to one-thirty-second of normal earth gravity. They will be examined for evidence of response to gravity.

Then individual cells will be examined under an electron microscope. This will test the theory that it is the movement of tiny structures, called amyloplasts, in the cells which enables the plants to detect which way is up.

If the plants begin to grow in a preferred direction just when there is enough gravity to draw the amyloplasts to the bottoms of the cells, then the group will have settled an interesting biological question.

This knowledge may eventually be important in develop-

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photo by Min Su Yun

Matt Crandall looks over the latest Student Space Organization "Getaway Special" package to be flown on the Space Shuttle in May '85.

the gadfly

An examination of student life at Caltech

TANSTAAFL

by Lily Wu

A Caltech professor gave a luncheon presentation recently at the Athenaeum, where the students who attended got free lunches. After the lunch, the professor began his speech by humorously wondering if any of the students had bothered to stay after having eaten their meal. Everyone present laughed. (Though I'm not too sure if they laughed because they thought the idea was funny or because it is so unusual that faculty members display humor.) I suppose the idea is funny, but it is also true. There is no better way to insure a large student showing at a Caltech event than by advertising free food.

One of the more popular topics for old college tales at reunions is telling exactly how bad the college food was back in those good ol' days. Well, in that respect, Techers of the 1980's will never be at a loss. There are more than enough tales to tell considering that there is almost nothing right about the food service program for undergraduates. We can choose any of the following aspects to tell a tale about: the quality, the price, the preparation, the quantity, the availability or the food service policies.

To start off with, there are the obvious problems. The cost of the meals is exceptionally high. Lunches cost \$4.50 and dinners are \$5.50. Ten dollars a day can buy much better food outside in either restaurants or a supermarket. To add insult to injury though, the quality of the food is usually poor. The meats are tough, sinewy, fatty; the vegetables are seldom fresh at the salad bar; breads tend to be hard and stale; and the list goes on. The preparation is equally poor. Vegetables are overcooked, everything is greasy, bland and left over. Bad as the food tastes, though, people still must eat and even that seems to have caused problems this year. Servomation keeps trying to second guess the number of students who will show up for a given meal. Several times this year, they underestimated and they ran out of food before all the students had a chance to eat. Significant fractions of students in a given house would be left without food or compensation on such evenings. On a regular basis even, it is easy to miss a meal because lunch is only served from 11:30 to 1 and dinner is only served at 6:30 pm. Noon or evening classes, sports, extracurricular activities or special events are not unusual at those meal hours.

All these problems lead to the unveiling of yet more. It is usually the case that if service is poor, one does not subscribe. But Caltech has a compulsory on-campus board contract enrollment policy. It means that the only ways to avoid board are to concoct a bizarre religious excuse, feign terminal stomach illness, or move off-campus. The insistence on waited dinner meals does not help the situation. Fewer companies are willing to bid because they tend to only cater cafeteria style. This limiting factor comes

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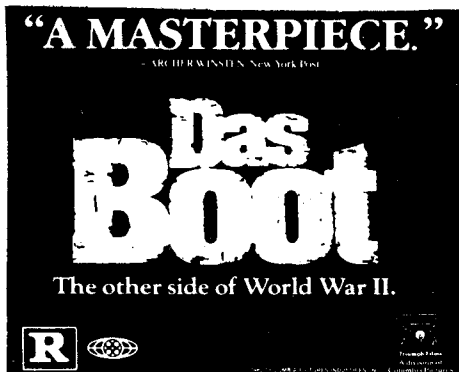
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letters

There's Ain't No Such Thing As A Free Truth, Either

To the Editor:

It is a sign of the times that Caltech's emblem no longer bears the motto "The Truth Shall Make You Free." It may only have been the print which recently disappeared, but the spirit is also gone. Nothing better than the attitude of President Goldberger towards the Caltech community illustrates this.

For those of us who had forgotten his behavior in the Arroyo Center controversy, the news of the closing of Baxter Art Gallery has refreshed our memories. Yet if the intrigue and secrecy which clouded the first affair were dispelled and thus allowed for decent solution, little light has yet been cast on the closing of the Art Gallery and no solution has been arrived at except for President Goldberger's final solution.

Too few questions have been asked; too many lies have been told. The public debate has been but a weak reflection of the concern, resentment and even outrage of the community. Some have minced their words; I will weigh mine.

It is not true that Baxter Art Gallery was closed for financial reasons; little funding came from the Institute and even that tiny contribution could have been obtained from other sources. *It is not true* that Marvin Goldberger consulted with anyone (except

perhaps his wife?); he confronted everyone with a *fait accompli*. *It is not true* that Baxter Art Gallery contributed little to the life of the Caltech community; its exhibits were a source of great enjoyment for many and even those who were indifferent to its appeal recognized the gallery as a good instrument for public relations.

What is true is that there never was an official public announcement or reasonable explanation for the closing (the community was informed through the *Los Angeles Times*!). Furthermore the timing for this action, coinciding with summer recess, seemed deliberately designed to limit public debate. Indeed, the ad-

ministration did not want any debate for it failed to send a representative to explain its decision to a concerned group of students and faculty who gathered last summer to discuss the problem. The articles and letters which have since appeared in *The California Tech* have been useful in raising the level of awareness, yet they have not provided any valid answers or explanations.

Rumours spawned by the uncertainty and confusion as to the President's motives are now shifting from the fanciful to the vicious; they are rather unhealthy substitutes for the truth. It is time for President Goldberger to justify or better yet to rectify his action.

—Louis Godbout
Senior

ASCIT Actions

To the Editor:

I would like to clarify some financial points made in K. A. Tuckman's letter last week. First, *not a single penny* of the students' money is being used to pay for the ice machines or the copier lease. It was simply a good idea that we came up with and pursued. Contrary to Mr. Tuckman's implications, we did not just arbitrarily decide to implement it. The IHC (i.e. house presidents) were asked to discuss it with

members of their houses and they agreed that they were good ideas. Next, funding was discussed. *We know* that copiers are expensive, and we

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The Caltech Y Fly-by

Friday . . . November 16

Noon concert, Mark Levy, Political folk music, noon on the Quad (Let's hope he makes it this time).

Philharmonic Trip tonight. Don't forget.

Want to become involved, but don't know what's involved? Meet the Y and find out at the Y lounge, starting at 5:30. We will have pizza.

Saturday . . . November 17

Sailing, leaves at 7:30

Wednesday . . . November 21

Noon Update, "Relations between South Africa and independent Africa" Ned Munger, Winnett Clubroom 1, noon, bring a lunch and a friend.

Thursday . . . November 22

Thanksgiving. If you are stuck here, you may still be able to have Thanksgiving dinner with a local family. Sign up at the Y.

Watch for banners about Thanksgiving weekend events.

Wednesday . . . November 28

LA Actors Theater, "Women and Water," sign up at the Y.

Friday . . . November 30

Philharmonic Trip, the program includes work by Ravel and Mendelssohn. Sign up at the Y.

"The Hands of its Enemy," leaves at 7:30 PM, tix are \$4. There may still be some left.

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

letters

ASCIT Actions

Copy and Ice Machines Paid By Outside Funding - ASCIT

from page 1

are quite aware of the fact that we are being entrusted with students' money. That's why we spent a lot of time and energy looking for *outside funding* from the Housing office, President, Alumni Association, and Development. Due to our efforts and the generosity of the above-named sources, the copier lease and the ice machines will be provided at

no cost to the students (and, I might add, higher quality than the copier currently available for 24-hour use). Similar efforts are being made to fund the ASCIT van.

Second, the WATS line. When I came into office, two years ago, the damage had already been done. Although it is not true that the BOD actually does the billing, I agree

that some not insignificant amount of irresponsibility on the part of the previous BOD and the WATS Line Director was involved. This is why we then decided, without the help of Mr. Tuckman, that the responsibility for the billing should not be placed in the hands of one student, and that the software should include an ID check. Two years ago, the WATS line bill was \$27,000. The first thing we did was try to do the 1½ years worth of billing that was overdue. We negotiated with the Institute to

remove the thousands of dollars worth of interest that had been accruing, turned off the WATS line, and made plans for a more failsafe system. The system is only now coming into effect due to reluctance on the part of the institute to take over the billing and difficulty of obtaining appropriate software.

Third, it is true that, *at this point in time, The California Tech* is financially independent. However, this independence is affected by the competence of the editors and business managers who change every year. *The California Tech* has, in the past, as has every student publication, had to come to us for loan financing in times of difficulty. The point I was trying to make in

my letter was only that we spend a great percentage of our time just making sure that all the clubs and publications have as much financial support as possible, not all of which comes from student dues, as mentioned before.

Lastly, I'd just like to bring up the honor system. We shouldn't have to run after every student who knows full well they owe us money. We're only 9 people, after all! Speaking of the honor system, would K. A. Tuckman please stand up? The registrar says we've never had any student by that name. I wish people would stop writing letters about things they know nothing about.

—Teresa Solberg
ASCIT Director-at-Large

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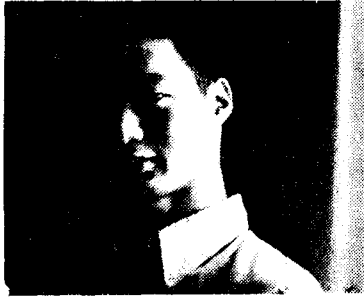
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Notes from here

by Mike Chwe

Who Ya Gonna Call?

One of the more successful, and funny, movies this summer was *Ghostbusters*. The most important marketing symbol for the movie was the now-familiar red-circle-and-slash around a frightened-looking ghost. It was featured in full-page magazine ads, T-shirts, and prominently in the movie.

So I guess we shouldn't be surprised to see endless repetitions on this theme, including "Costbusters," "Conventionbusters," and "Pricebusters." The circle-and-slash appeared in political campaigns as

"Fritzbusters," "Reaganbusters" (we ain't afraid of no actor), and even "Votebusters." Closer to home, one of the ideas suggested for Blacker's Interhouse theme was "Nerdbusters."

So why are the circle-and-slash and the "-busters" suffix so widely imitated? The icon's success definitely testifies to the power of mass marketing to create our symbols, to determine what we put on our chests, and even to establish the vocabulary of our political process (i.e. "Where's the beef?"). But I think that there's

more to its success than the successful marketing of a successful movie.

The "ghostbusters" idea is nothing new, at least for my generation. I remember watching, several years ago, a Saturday morning television series called "Ghostbusters," which featured wacky heroes, strange anti-ghost technology, a gorilla, and a great theme song. The red-circle-and-slash, of course, has long been featured on road signs everywhere.

What do the circle-and-

slash and the "-busters" really mean? The circle-and-slash on road signs is easy to interpret. It means, "Don't do this." But what does it mean when it covers a ghost? It obviously doesn't mean "Don't be (or become) a ghost." In the movie, it means, "We bust (i.e. kill, destroy, exterminate) ghosts."

About a year or so ago the "No Bozos" stickers enjoyed substantial popularity. On each sticker was a picture of Bozo the Clown covered by a red-circle-and-slash, accompanied by the words "No Bozos." The idea was that you could place these stickers wherever you didn't want to be bothered by "bozos." So in this case the circle-and-slash meant "Don't come around here if you're a bozo."

I guess that the circle-and-slash, in the "Ghostbusters" and "No Bozos" cases, could also mean "What's inside (ghost, bozo) should not exist." But really, the circle-and-slash and the "-busters" suffix, especially for the general case, don't seem to mean anything specific at all.

A few weeks ago at a rally at USC, Walter Mondale had to deal with some particularly noisy hecklers, a few of whom decided to throw things at me for holding my Mondale-Ferraro sign too proudly. Anyway, one of them was dressed in a paramilitary-style jumpsuit, black leather boots, and ski goggles. He stood up on a chair, shouted "Who can you call?", and other hecklers yelled "Fritzbusters!" Afterward he was interviewed by some camera crew, perhaps for the eloquence and creativity of his message.

More recently, when Gerry Ferraro and Teddy Kennedy

appeared at the Hollywood Palladium (no hecklers this time), featured prominently in the rally was a large "Reaganbusters" sign, which appeared in the next morning's *Los Angeles Times*.

I'm tired of the whole "-busters" business, and am hoping that the whole thing will go away. But it upsets me that we now have a symbol and catchword for hatred (from slight aversion to extermination), which is confused and "funny" enough to be used in public discussion.

In some recent campaign (I can't remember which) buttons of a slice of watermelon covered by a red-circle-and-slash were circulated. Maybe they signified that the wearer simply didn't like watermelon. But the imprecision of the circle-and-slash scares me. Maybe the buttons meant "Blacks should be exterminated."

In Santa Cruz, a northern California college town with a "mellow" reputation, the hundreds of transients living there have been dubbed "trolls," because many of them live under city bridges. Since July, nineteen transients (and possibly many more unreported) have been assaulted by groups of teenagers. In September a clothing store sold three thousand "Troll Busters" T-shirts, with a caricature of a vagrant covered by a red-circle-and-slash. In this case, it's pretty clear what the circle-and-slash means.

So an innocent symbol of ghost extermination has caught on, and is now a new symbol for old-fashioned violence. But I think the symbol will lose its novelty, and it will soon be forgotten. I hope so.

BLOOM COUNTY

by Berke Breathed

TELEPHONE: HELLO, BHAGWAN RAJNEESH CULT CENTER. LEMME TALK TO BILL THE CAT. YOU COSMIC FRUITCAKES.

I KNOW HE'S THERE... YOU BUSSED HIM UP WITH TWO DOZEN WINGS LAST TUESDAY!

THE SPARROW WHOM FLIES AGAINST THE WIND WILL NEVER SIP THE NECTAR OF THE HOLY AVOCADO.

NOW!! I WANT HIM ON THE PHONE NOW!!

MAY YOUR MOTHER... MAY LOTUS BLOSSOMS AND BRICKS FALL UPON YOUR NOODLE.

TELEPHONE: TELL MISTER BLISSED-OUT BABOON TO GET HIS UGLY TONGUE BACK HERE!

MILLO, PLEASE... HE'S GOING THROUGH A COMPLICATED PERIOD OF SELF-DISCOVERY... I THINK A LITTLE UNDERSTANDING IS IN ORDER.

TELEPHONE: BILL?... NOW LISTEN, BILL... WE'RE JUST -- WHAT? OH, SURE.

FOR NOW ON IT'S "BHAGWAN BILL". GIMME THAT!!

GOOD EVENING. TODAY'S TOP STORY: GIANT RADIOACTIVE SALAMANDERS ARE MOVING UP FROM MEXICO AND DEVOURING ALL PUDGY, FLIGHTLESS WATERFOWL. YOUR KIDDING!

WE'RE NOT KIDDING. YOU HAVE TO BE KIDDING!

WE'RE NOT KIDDING. OH MY GOODNESS... OH MY GOODNESS... YOU'VE GOTTA BE KIDDING!!

WE'LL WE'RE KIDDING A LITTLE. THE MEDIA'S GETTING COCKY!

NOW? NOW. QUICK.

CITING AN INEFFICIENT AND UNSIGHTLY EVOLUTIONARY DESIGN, THE DEPT. OF THE INTERIOR TODAY ANNOUNCED A GENERAL RECALL FOR ALL STUBBY, FLIGHTLESS WATERFOWL.

I HEARD THAT!! WHAT? WHAT?

MY LIFE NEEDS SPIRITUALITY. YEP. THAT'S IT. I NEED RELIGION.

BUT WHICH ONE? I MEAN, THERE'S A LOT RIDING ON THIS.

CHECKED THE "YELLOW PAGES"? OH, IT'S A CONSUMER'S NIGHTMARE. TOO MANY BRAND NAMES.

I WOULDN'T TAKE ANY CHANCES. I'M JOINING 'EM ALL.

HELLO? TRAMP! TART! WHERE'S MY EGBERT?

LISTEN, YOU LITTLE TROLLOP... I KNOW ALL ABOUT YOU TWO! PUT MY WORTHLESS HUSBAND ON THIS PHONE!

I HAVE A FEW WORDS FOR THAT MAN... NO... I HAVE A LOT OF WORDS... A LOT OF LOUD WORDS... A LOT OF 'CUV' HARSH UGLY WORDS... A WORDS-SCCE.

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Do you know
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written in code?
I do.
I broke the code.

Sound incredible? 30 million of Orwell's readers have been told that 1984 is about the Russian dictator Stalin (Stalin is Big Brother) and about Soviet totalitarianism and the individual's loss of freedom living in a Communist state. This is what I thought too after being recognized as an expert on Orwell's 1984 for about six years. Then 3 years ago . . .

Let me introduce myself. I am a scientist trained to do advanced research. I worked in cancer research and preventive medicine.

Am I a scientist with credentials? Yes, I hold advanced degrees from the University of Chicago and the University of California at Irvine. I graduated Phi Beta Kappa from New York University and did two years of research in Preventive Medicine at Sloan Kettering Institute.

Orwell's 1984 first caught my eye in 1971. It was assigned reading for a Future Studies course (remember Alvin Toffler?) I taught at the University of California Irvine during Spring 1972. An incident in class convinced me that his vision of the future may have come from some information to which George Orwell had access while working for the British government.

Intrigued by the possibility, I performed a simple analysis of his 1984 and was able to isolate some definite predictions. Articles were written. I was interviewed extensively by the press. You may have seen me on TV or heard me on the radio any time during the past 10 years. The Associated Press and the United Press International did stories on me. I appeared several times at Town Hall of California as a speaker and I did a guest segment on the "Today Show." It was all quite exhilarating. . .

Hidden Meanings

Then, three years ago, things changed. A biography of George Orwell appeared by Dr. Bernard Crick. I read it very carefully and reviewed the good reference work by Professor William Steinhoff on the origins of 1984. Knowing I had to go more deeply into Orwell matters, I read all of his works again. I visited old bookstores and libraries all around the United States and did research at the Library of Congress. I was a frequent visitor to the great UCLA libraries. I talked to educated people about Orwell's England during World War II.

What I discovered is that the novel 1984 is really a forecast written in code. It is similar in conception to Gulliver's Travels, the satirical masterpiece by Jonathan Swift, a favorite reading by Orwell. Orwell, I concluded, had decided to write about the future world of 1984 and did so in satire.

I had to break the code by plowing through double and triple meanings and by analysis of sly innuendo and double enten-

dre. Orwell could do it. I was sure. He had written Animal Farm as a satire, about the same time he laid out the first detailed outline of 1984.

It is obvious to me that Orwell spent four years writing the satirical code. His effort does justice to Edgar Allan Poe in "The Gold Bug." Or would intrigue Sir Arthur Conan Doyle or, in the present day, the spy-story writers Len Deighton and Frederick Forsyth. Like "The Purloined Letter," Orwell's message was right there under people's noses all the time, but until now, nobody has disclosed the true meaning of the "Orwellian" 1984 forecast.

George Orwell, I am convinced, was not "just" a novelist. He was, in fact, a journalist, who wrote thousands of words a week. Like Jonathan Swift, he was an essayist, and wrote news commentary for the government BBC. His great "novel" 1984 is a forecast in the grand design, more complicated than most people can imagine. Orwell even named names of who he thought would rule the world in 1984 — from his own experiences. He looked so far ahead that some of his thoughts could not be deciphered until now.

The Military Predictions

What I have found out about Orwell's forecast is now available. In Briefing Book format, its title is **The 137 Predictions: of Orwell's 1984**, it examines all of the "Orwellian" predictions. In 8½" x 11" format, it is clad in soft cover. Richly illustrated, it is written for intelligent executives in the communications industry. For distinguished members of Congress and state legislatures. For perceptive thinkers and for future chancellors of great universities. Written originally for the informed "insider," it is now available for you to enjoy first with your family and friends.

Volume One is now available. It is called **The Military Predictions**. The volume digs deeply into Orwell's predictions for the future of warfare. It delves into the world he confronted daily as a commentator and interviewer for the BBC. Also, the world as encountered by the professional forecaster looking ahead forty years to the future of the British (and the American) war machine.

"So accurate
was George. His
1984 predictions
came true. . ."



GEORGE ORWELL

The text elucidates Orwell's ideas and the forces acting on George the journalist and the forecaster, that went into his futurist memoirs of where the western world was inevitably heading. Orwell predicted (and four decades of technological progress have brought to pass) weather warfare and missile-launched explosives far more powerful than the atomic bomb.

Orwell foresaw that today there'd be helicopter gunships and radio-controlled guided missiles (like the cruise missiles slung in the belly of B-52 bombers). Orwell also foresaw widespread use of defoliants on the battlefield. And, as ultimate offensive weapons, use of battle lasers (or "lenses" in space), improved nerve gases and laboratory-created microbes immunized against all possible antibodies.

Scrutinizing these and Orwell's other prophecies (like his "soil submarine" and "planes independent of earth"), this report minces no words and cuts right to the core. Each military prediction is detailed chronologically from 1944, when Orwell got the idea for 1984, to the present day. You will receive the newest "insider" information never put into print — *until now*.

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Need more persuasion? The first 100 buyers will receive at no extra cost, a bonus: Two articles that will help you tell others the 1984 story. They are, "Countdown to 1984: Big Brother May be Right on Schedule," by David Goodman which appeared in The Futurist magazine. Also, complete with detailed references and footnotes, "Is Orwell's 1984 One Year Away?" a speech delivered at California's Town Hall. It escaped the attention of the assembled press corps who, most likely, expected to hear something else.

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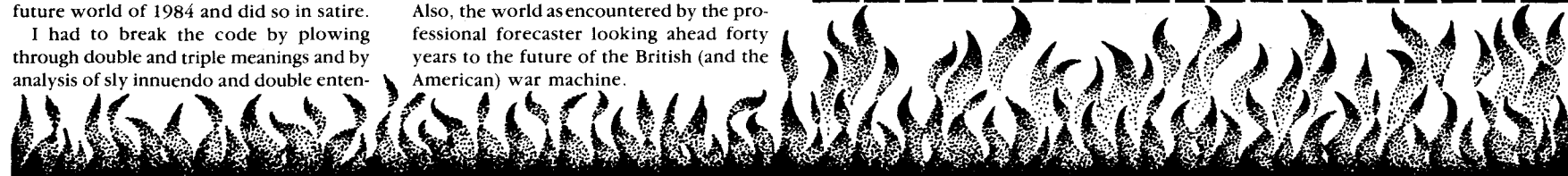
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Body Shop

Plop-plop, Fizz-fizz

by Miki Goodwin

As Thanksgiving approaches perhaps a quick word for our digestive tract is in order. After all, it is usually the first to remind you of that over-spirited, fully stuffed, delicious but devastating meal that, not long ago, slipped down oh, so easily, and now insists on many happy returns.

Indigestion relates to discomfort or distress in the digestive system and includes heartburn, gas, nausea, cramps, constipation, diarrhea or a combination of these symptoms.

Although in this instance we blame indigestion on overindulgence it can also be caused by emotional stress and is something to be aware of if there is no holiday to pass the blame on to!

Commonly, however, symptoms of indigestion result from an episode of increased food or alcohol consumption. For example, heartburn (nothing actually to do with the heart) is a burning sensation under the breastbone often caused by drinking, eating or smoking too much. The well known bloated or gaseous feeling of indigestion is often caused by swallowing air along with your food although it can sometimes be traced to an

overabundance of rich foods in your diet.

Other symptoms of indigestion such as diarrhea or constipation are more often attributed to accompanying factors. If symptoms persist or increase from minor discomforts to any distress it is best to seek medical help. In addition, a gnawing pain in the upper abdomen an hour or so after eating or a severe pain, diarrhea or other symptoms which awaken you during the night should be investigated.

For most people the symptoms of indigestion may be relieved simply by improving eating habits and reducing emotional tension.

If, however, you feel your indigestion warrants medical attention it would be helpful to keep track of the circumstances under which your symptoms develop, such as: do they seem to be related to specific types of food; do they occur regularly and at specific times of the day or do they appear only when you are under considerable tension?

All said and done—you should enjoy a happy, healthy, hearty Thanksgiving dinner. To some, mild indigestion once a year may be well worth it!

Miki Goodwin is an R.N. at the Health Center.

The Food Scoop

continued from page 2

on top of the fact that we have a small student body which also discourages catering companies. Family style dinner also means that dinner tables are set with food regardless of how many students actually sit at those tables. Food is wasted and it makes it more difficult for Servomation to know how much food to prepare. (Despite these facts though, the students overwhelmingly voted to preserve the waited meal service style as opposed to cafeteria style last year, presumably to help maintain house spirits.)

The compulsory 10-meal-a-week plan also perpetuates the unhealthy practice of eating only 2 meals a day. Especially considering the long hours students tend to keep, a third meal is essential for health, either at 7 am or 1 am. However, given the quality of the already existing 2 meals, it is perhaps wiser to look for an outside source for the third meal.

There are not many alternatives for students without cars for eating at midnight. Cooking is out of the question given the state of campus kitchens and refrigerators. Laziness also forbids that option. One possible solution is moving the Coffeehouse on campus, maybe into Winnett Student Center next to the Red Door Cafe. It is open regular long hours and has had an in-

creased menu selection this year. It is a bit inaccessible though, on Holliston. Besides, the student center needs to have a place where students can get food (not junk or espresso) at most hours.

Other possibilities include either eliminating the compulsory board contract enrollment or issue meal cards. A meal card (computerized, of course) can keep track of meals eaten and only those consumed are paid for. Students will not pay for exceptionally bad meals and hopefully, that would compel the food service company to upgrade the quality. Whatever the solution, one should be tried soon. Food and nutrition are serious matters. After my 300th plate of mystery meat and slop, I find it hard to laugh.

It should always be recognized that only *the consumers* can effect a change on this issue. Although the Institute is clearly irresponsible and at fault for allowing such poor quality food to be served at exorbitant prices to the students, they still have no incentive or reason to act on the matter. Effective ways to get the Institute to change food service quality, policy or company can include parental pressure, boycott or petitions. It would be worth the effort because everyone else can joke about it, laugh about it or read about it, but we have to *eat* it.

The Inside World

Blacker: How the heck does This Thing... Wha...? I'm on? PFFFFT! TESTING ONE TWO! HI MOM! HAH! Huh? Oh. Sorry.

So, if you were there Saturday afternoon, you know how bad it looked. But soft! What light through yonder courtyard breaks? 'Tis the sun? (alas, no. It's still dead) 'Tis the... the... Fountain O' Doom! Yes, as the mists wafted through the muddled halls, hordes danced and danced until... (dramatic pause)... even the cows came home.

What's it all mean? Is the basement dry? Who cares.

5 points for Scott McFrosh & friends;

An Italian film director is not sufficient.

— *The guy from R.I.*

Fleming: Oh, what an exciting Interhouse it was. Who can deny that Fleming was the place to be? The Courtyard according to Egg featuring the Jacuzzi was outstanding, as was Broccoli's lounge. Morgan did a great job with food, and Randy & Frank had the games swinging. The play by Glayde, Matt & Bill was the icing on the cake.

Special thanks to Bill Gray for beer-floating Vinnie.

This week's Social Event is the J.D. Treasure Hunt. Does Alley 4 have a team yet? I'm sure they'll win.

Beware of Country Club.

— *Al Fansome*

Page: This year's Interhouse Party was an amazing success. Hundreds either trekked through a jungle and into the depths of a volcano, danced to the beat of our band The Duck Club, roamed on the sandy shore of a lagoon, or went floating through the air on a tram ride. A few, like John Herndon, went floating through the air, but only after the bar had become a few bucks richer.

Page House labored for six days and we rested the morning of Interhouse. Not really, but something special made everything come together. Mark Dombrowski, Lew Aronson, and Steven Molnar did a fantastic job with the ride. Tom Gould and his Mongoloid horde made a steaming volcano, while Paul Filmer and Doug Stohler changed a dull hallway into a living jungle and smouldering passage through the volcano. Anne Davitto added a few touches here and there and brought out the tropical paradise in Page House. Special thanks to Robby Dow and Steve Roshowski for their unending efforts at the bar. Without their help, John Herndon's liver and handshaking ability would not be the same. Last, and perhaps least, Dan Schwartz, with his amazing ability at verbal seduction, saved Page House many dollars and hours of work by charming various companies around the entire state.

In the future, when you tell your friends about the Interhouse Party, be sure to remind them that the Party starts in Page House.

— *Cindi LaPage*

Ricketts: Remove a man's music and he gets back to work... The house was buzzing with preparation. Construction, props, costuming, all this in preparation for that one event that Ricketts excels at. That's right, last week was all just anticipation of *Interhouse Clean-up*.

Once again Ricketts moved into a power burn, kicked off the the pyrotechnic destruction of the choper beacon, in order to have the house back to "normal" in minimum time.

In other news, the first clues to the whereabouts of the missing brake drum have arrived. Also, this weekend comes the great Gumbobolos challenge against our favorite Gumbobolos House, Ruddock, in Volleyball.

— *Bob Bolender*

Ruddock: Okay, what's in the latest news reports from the old Bud?

After an opening loss to the Moles, the Buddock soccer team pulled together to win two straight games over Lloyd and Ricketts and raise its record to 2-1. And as an encore to its 6-0 season, the Buddock softball team, playing with the Interhouse hangover handicap, beat Lloyd 5-1 to take the Discobolus trophy.

Last weekend was Interhouse (if you didn't know that, you must have been somewhere way past Xenon). Anyway, Cafe Ruddeaux was a great success with its good food, good drinks, and great band. If you missed it, TS buddy — you missed a good one.

This weekend's social event is broomball with Page. Now, if you don't know what broomball is, it's like ice hockey with sneakers. And we all know what hockey is an excuse for, right? So let's see some fights. Watch Schemen — he'll show you how the game's supposed to be fought.

And remember, Thanksgiving is only a week away.

I'm walking a line
I'm thinking about empty motion
I'm walking a line
Just barely enough to be living

— *Hos*

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entertainment

Buckaroo Reviews

A Weekly Column by Matt Rowe

Difficult Loves

Italo Calvino

Harcourt Brace Jovanovich

Okay, so, like, *apologies* for the somewhat...uh...sparse? entertainment section last week. Ineluctable modality of the schedule or something. Actually, I was having too much fun reading a book. The book was, as you might have guessed, *Difficult Loves* by Italo Calvino. From "Theft in a Pastry Shop":

"Now the moment had come to force the till.

"Hold this," said Dritto, handing the flashlight to Baby with the beam pointing downward so that it could not be seen from outside.

"But Baby was holding the flashlight with one hand and groping around with the other. He seized an entire plum cake while Dritto was busy at the lock with his tools, and began chewing it as if it were a loaf

of bread."

Italo Calvino has been writing in Italy since World War II, but the rest of the world has only noticed him in the last fifteen years or so. You might think he's one of those European authors you never hear of until he wins the Nobel Prize; the kind you always imagine walking through the old part of town in a sweater, smoking a pipe and looking into second-story windows. He may be; I don't know. The point is, he's not dour and *serious* like everyone else in the business seems to be these days. The main reason he's my favorite author is that I've

continued on page 12

The Sixth Time's
The Charm

by Diana Foss

Winter's Tale

Mark Helprin

Pocket Books

There's a big rack in the bookstore, and it's full of these pretty paperback books. They're blue, with a picture of a city at night on the bottom of the cover and a starry sky on the top. A translucent horse flies through the air. In the middle of the cover, in white

Art Deco letters with gold edging, it says: *Winter's Tale*, Mark Helprin. If you pick up the book and read the back cover, (probably thinking, "pretty book; wonder what it's about,") you read: "Vault into the cold clear air across a frozen, fabulous time of love and laughter with Peter Lake, master thief, and his flying white horse. Thunder toward the 21st century, leading lunatics, lovers, rascals and dreamers over snowdrifts, through raging storms, furious battles, walls of ice and pillars of fire, to the golden city of our glorious future." And if you're like me, the first five or so times you do this, you end up putting the pretty book down and buying some physics text instead.

Well. The sixth time I actually bought the book.

Let's get straight to the point here. This is the most beautifully written book I've read in a very long time. It is peopled with wonderful, sharply drawn characters, and the story flows along and pokes into all sorts of lovely, quirky corners. For once I found myself in complete agreement with the *Wall Street Journal*, which is quoted on the back cover as saying, "Mr. Helprin writes like an angel!"

Winter's Tale is a love story about New York. I've never been to New York, but reading this book did something to convince me that some of the rapturous things my friends say about "the city" are actually true. While the blurb quoted above implies that Peter Lake and his flying white horse are the main characters of the novel, and indeed theirs is the majority of the story, the real focus is the city itself. New York City, as Helprin writes about it, is alive, especially in the winters that give the book its name. We watch the glittering city of the late nineteenth century move and grow into the golden city of the dawn of the twenty-first. One of the characters carries with him a platter that bears an inscription, the most significant line of the book, and all of the plot summary that I'm going to give: "For what can be imagined more beautiful than the sight of a perfectly just city rejoicing in justice alone."

Rather a cryptic plot summary, you say? *Winter's Tale* is one of those books whose "plot" is impossible to summarize. In my opinion, mood and characterization are more important in this novel than story line, but the story and its conclusion are eminently satisfying. *Winter's Tale* will be thoroughly enjoyed by people who only read science fiction and fantasy, as well as by those for whom "science fiction" is a dirty word. (Or two dirty words, anyway.)



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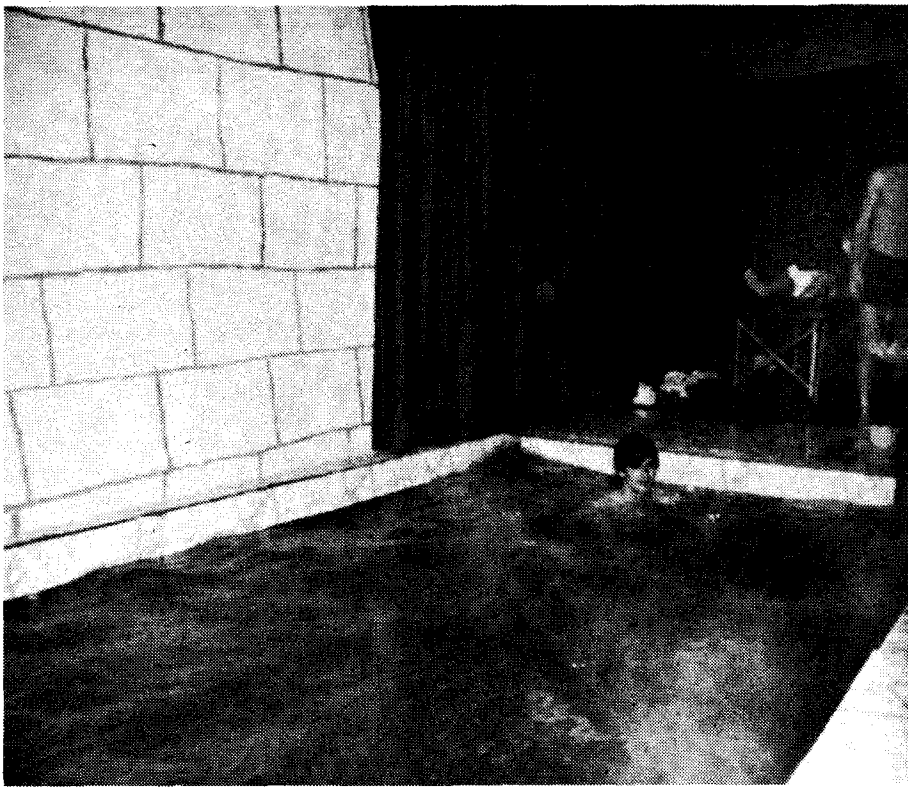
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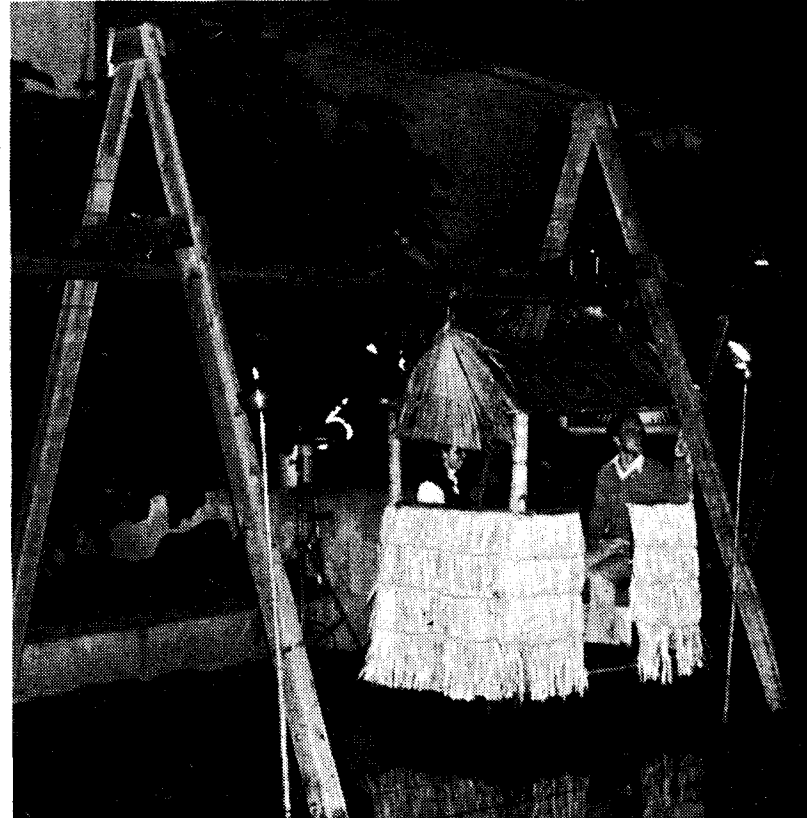
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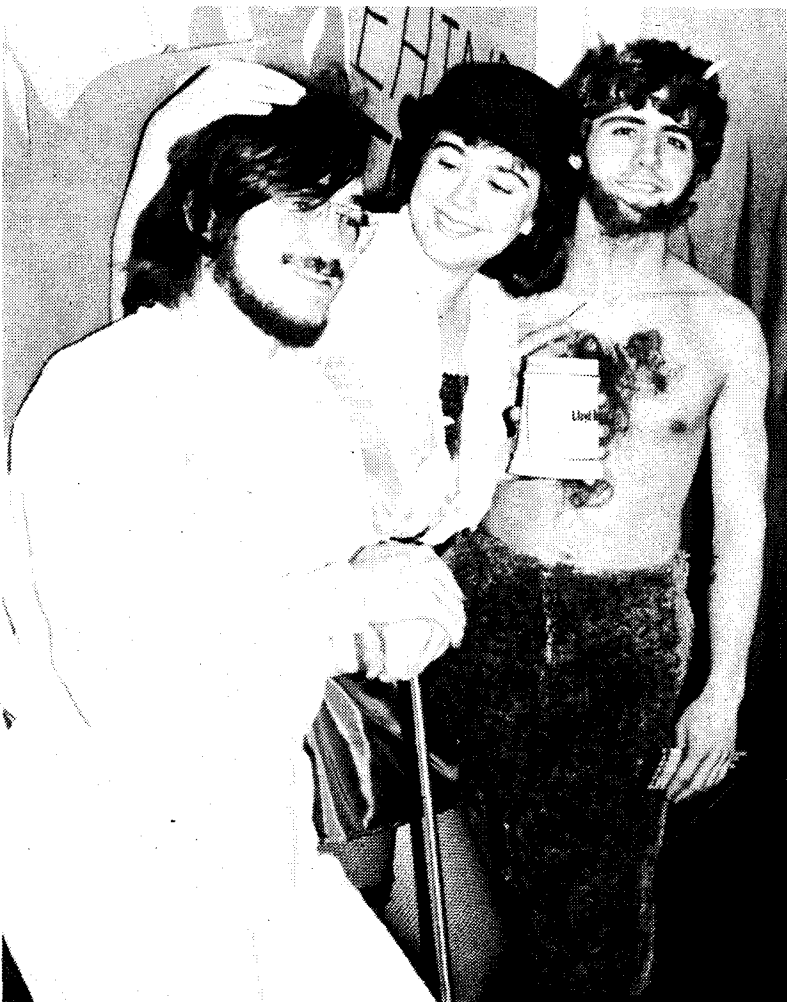
Lloyd



MSY Page

Interhouse 19

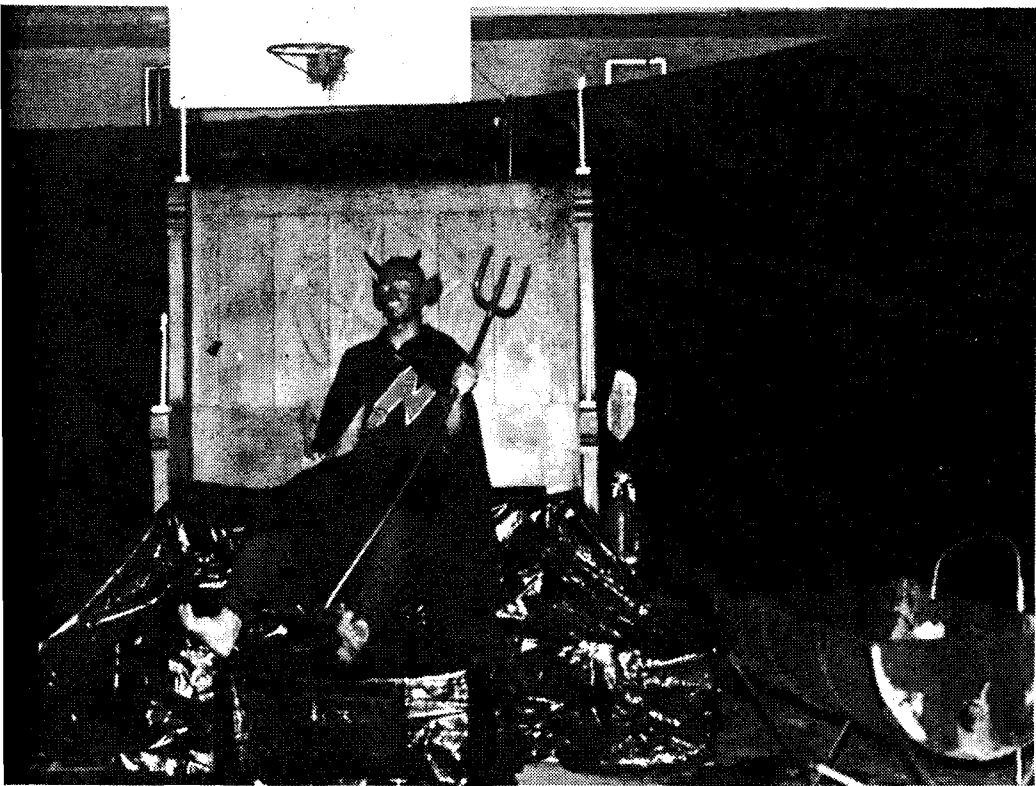
Photos by Min Su Yun (MSY) and Ron Gidseg (RG)



Lloyd

MSY Ricketts



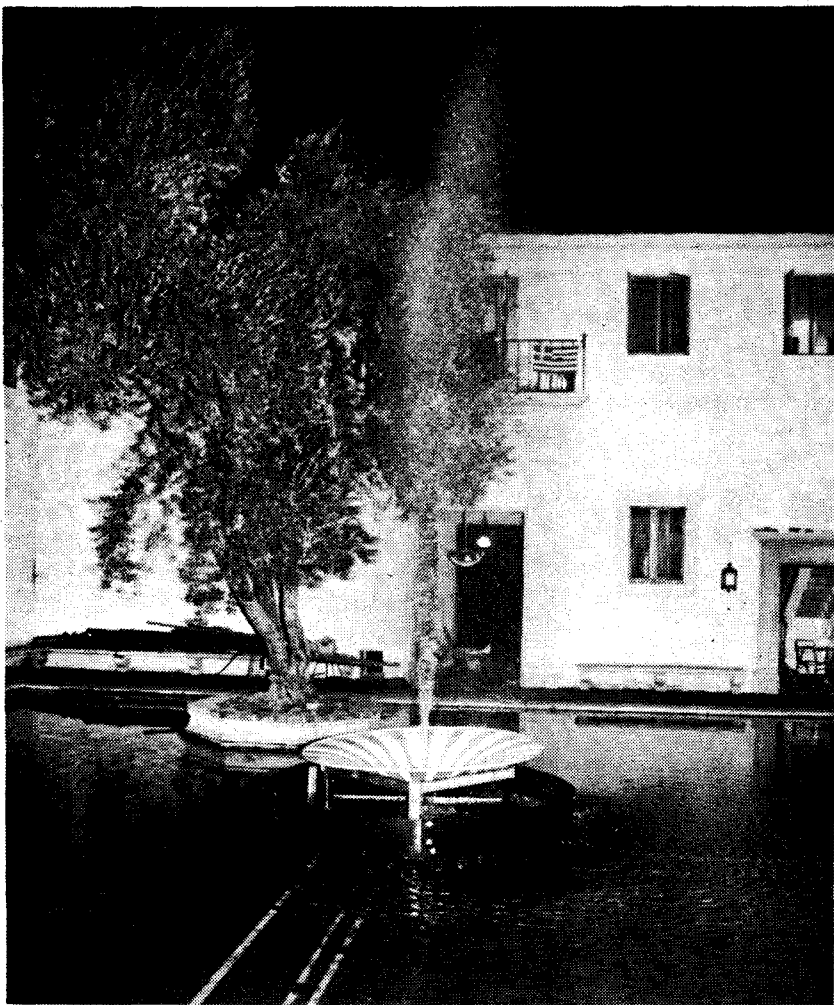


MSY



Ruddock

RG



MSY

Blacker

RG



Blacker

MSY



RG

Blacker



RG

entertainment

Jazz Review

Best Jazz Debut

by John Fourkas
Makoto Ozone
Columbia Records

As promised, here is my pick for Best Debut Jazz Album of the Year: *Makoto Ozone* by Makoto Ozone (of course you have never heard of him; this is his debut album). This 23-year-old jazz pianist is nothing short of amazing. He was born in Kobe, Japan to Minoru Ozone, one of Japan's finest jazz pianists. He began playing the piano in his teens (as a step up from the Hammond organ), and later came to the United States to study at Berklee College in Boston. Interestingly, he has never had his own piano.

Perhaps it is Ozone's diverse and intricate compositional style which first grabs the attention of the listener. Once caught, that attention is firmly held by unbelievable piano work. Ozone constructs fabulously interwoven melodies which put many fully orchestrated pieces to shame, and yet he makes use of only three instruments: piano, vibraphone (played by Gary Burton, who also produced the album), and bass (played by Eddie Gomez). Indeed, one begins to suspect that Ozone has received much classical piano training along with his jazz piano training. The superb blending of these two styles is perhaps even more pleasing than Ozone's melodical intuition or his technical excellence. Put these three things together and you get one marvelous debut album.

"Crystal Love" starts off the album in an upbeat fashion. Bright piano chords, ascending vibraphone scales, and extended bass notes are used to create a very light-hearted feeling. In "I Need You Here," Ozone mixes classic piano bar style with expressive bass to create a moving love song without words. As a contrast, "Endless Season Part I" is very reminiscent of Ligeti's *Concerto for Cello and Orchestra*, in that the piece begins with a disconcerting dissonance which eventually resolves into a cheerful, smooth-flowing melody.

I highly recommend this album—it is one of the finest debut jazz albums I have ever had the pleasure of listening to. My only problem with the album is the mixing: the piano tends to be drowned out by the vibraphone at times. Considering the musical quality of the album, this is an exceedingly minor problem. I look forward to many more albums from Makoto Ozone after this promising debut. If you have \$5.99 after buying *Modern Times*, you might consider stopping by Music Plus...

Shrew

by Bucky
The Oregon Shakespeare Festival's much-acclaimed production of *The Taming of the Shrew* will be presented tonight at 8 p.m. in Beckman Auditorium. The play — the basis for *Kiss Me, Kate* — is one of Shakespeare's most popular comedies. It's the story of Kate, a woman liberated before her time, and Petruchio, a man determined to marry her. Not only is the play a lot of fun, but it also makes a great Lit paper (or *Tech* article for that matter). A limited number of \$5 student rush tickets will be available. Call OPE or stop by the Ticket Office for more information.

Caltech Musical

Mikado Comes to Tech

by M.S. Pettersen
Once again, the Caltech Musical has been awakened, like Frankenstein's monster, into cumbrous life. This feat of necromancy is due to director Bruce McLaughlin (alum and JPL), and producers Jerry Burch (alum/grad student), Rosanna Gatti (Career Development Office), and George Williams (alum/JPL).

This year's musical is Gilbert and Sullivan's *Mikado*, an appropriate choice since 1985 marks the Japanese gentleman's centennial. For those of you out there whose brains have not been turned by countless repetitions of the record player, and thus cannot recite the dialogue verbatim, the plot goes something like this (in so far as one can explain a Gilbert and Sullivan plot): Nanki-Poo, son of the

Mikado (or Emperor) of Japan, has fled his father's court to escape the unwanted attentions of Katisha. He falls in love with Yum-Yum, ward of Ko-Ko, the Lord High Executioner; but Ko-Ko also loves Yum-Yum and wishes to marry her himself. Meanwhile, the Mikado has ordered Ko-Ko to execute somebody or lose his job; however, it turns out that Ko-Ko is himself under sentence of death (for flirting) and "who's next to be decapitated cannot cut off another's head until he's cut his own off." And that's just the first act. Sounds silly? Yes it does. It's wonderful. Once you're hooked, you too will be tempted to rise from the grave to tap your toes once more to the tune of "A Wandering Minstrel I." (Don't believe me? G&S madness has even dragged

poor old Bruce, who once managed to graduate, back to Caltech...)

Auditions are to be held November 17 and 18, 10-6 in Baxter Basement. Come along, even if you don't act or sing; musicals are always a great deal of fun to work on, and there's plenty of opportunity to build sets, construct costumes, hang lights, run props, do make-up (the entire cast will be done up as Japanese)...Arie Michelsohn, music director and biology graduate student, will be looking for musicians and rehearsal pianists.

The musical is open to the entire Caltech community, including grads, undergrads, staff, faculty, JPL and family. It's a great chance to meet some of these people in a relaxed social atmosphere. Don't miss it: join us!

Movie Review

Can Anyone Stop Schwarzenegger?

by Nick Smith
The Terminator
Orion Pictures
When I first saw a description of *The Terminator's* plot, it reminded me strongly of *Cyborg 2087*, an old turkey full of time paradoxes and cyborgs trying to prevent themselves from happening. But, what the heck, Arnold Schwarzenegger looked to be playing the meanest-looking villain since *The Alien*, so I thought I'd give it a try. I am very glad I did.

The basic plot of *The Terminator* is familiar to anyone who's ever read any science fic-

tion, or even seen a few good *Outer Limits* episodes. A good guy and a bad guy go back in time to decide which one's version of reality is going to survive. Pretty standard stuff. This time, the good guy is a human soldier of the resistance against a machine future, and the bad guy is a cyborg sent back by the machines. To tell you exactly why and how this is done would spoil a few good moments of the plot, so I will only say that both arrive buck naked and have to arm themselves with current (1980's) weaponry, instead of the more advanced 21st century stuff that they were more familiar

with. The bad news is, the cyborg was designed to stand up to that much better 21st century weaponry, and we haven't built anything yet that can really stop him. This puts the good guys at one heck of a disadvantage. To give you an idea, think of Lee Majors as the Six Million Dollar Man. Got him in focus? Good. Now, stand him alongside Arnold Schwarzenegger and think of him with all those nifty gadgets all over instead of just inside a couple of limbs. This guy has powers and abilities far beyond those of mortal men.

The whole point to this continued on page 12

Folk Music Society Presents 3

by Brian Toby
The Caltech Folk Music Society presents an unusual triple-bill concert featuring three of our country's best songwriters at 7:30 pm tomorrow (Saturday) night in Dabney Hall. This will be the first time that the Folk Music Society has presented three acts on the same stage. (This concert will begin earlier than normal, so that each performer can have a full, unhurried set.)

Don Lange performs a style influenced by Chicago blues. However, much of Don's writing reflects his political concerns with our world. His song "Take the Children and Run", inspired while Don was performing at a college near Three Mile Island at the time of the nuclear accident, has been used as an anthem by anti-nuclear energy groups around the world. Another of his songs attacks the Woody

Guthrie-inspired image of the hobo-as-hero, by describing the story of Don's grandfather through the eyes of the family that he abandoned. Bill Griffin, who will back-up Don, is a member of the well known bluegrass group, the Cache Valley Drifters. Ewan MacColl, the eminent Scottish songwriter, called Don, "the best songwriter in America."

When the late great singer and songwriter, Stan Rogers, appeared here at Caltech, he introduced a Bob Franke song saying, "here is a song by one of my favorite songwriters." Bob Franke uses very different sources as inspiration for his writing. As a devout Christian, it is not surprising that many of Bob's songs have religious undercurrents, but often in untraditional ways. The *Black Sheep Review* said "the main theme in his work [is] the power of love to transform our lives and lift each of us beyond

our limitations." Bob and his wife make their home in Marblehead, Massachusetts. This will be his first Southern California concert appearance.

Dick Pinney primarily performs his own songs and songs of his former partner, Greg Brown. His album *Devil Take My Shiny Coins* was a "pick" by *People* magazine, which noted Dick's jaunty picking style, lyrical freshness and his attractive voice. *Variety* described him as "a first-rate folk singer." Central to Dick's writing is dedication to originality and integrity, but beyond that his writing is too diverse to categorize. Dick recently moved to Studio City from the midwest. Since then, he has performed at KPFK, McCabe's, Caltech and for the Olympic athletes.

Concert tickets for the public are \$5 if purchased in advance, and \$6 at the door.

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entertainment

SSO Prepares for May Shuttle Launch

Can You Spell Schwarzenegger? Chessatech

from page 10

movie is that it's *not* just a cheapie SF flick. The future scenes seem to be just two sets, but they're very good ones. The cyborg and robotic effects are gory in spots, but well done. Schwarzenegger, Michael Biehn (as the good-guy soldier) and Linda Hamilton (as the object of the quest through time—she's the Terminator's target) do a good, believable job, and seem to be well directed. The visual stuff is handled well, and they had the sense not to let the special effects really dominate any scenes. The characters aren't as well developed as they might have been (the movie is only 105 minutes), but the whole action takes place in a couple of days.

The movie is violent. People keep getting in the Terminator's way (he'd be happy to just kill his victim and be done with it, but everything's so confusing in these primitive times...), and most of them die horribly. The Terminator, by the way, uses a progression of weapons that reminds me of some of the classic martial arts cinematic duels. You know, where the fight progresses from style to style, from weapon to weapon. Bruce Lee did one of

those in *Enter the Dragon*. Well, as the movie progresses, the Terminator progresses from using fists, to knives, to a pistol, a shotgun, an Uzi sub-machine gun (described by a sporting goods salesman as a great little "home defense weapon"—home defense? From what, the Mongol hordes?), and a heavy assault rifle. His only real disappointment comes when he discovers that he can't get a plasma rifle in a sporting goods store. The Terminator goes through a police station firing the assault rifle with one hand, and the shotgun with the other. Now *that's* strong!

The point is, if you are squeamish about blood, even cyborg blood, you should stay away from this one. It isn't as bad as a Peckinpah movie, by any means, but lots of people die violently, and a few of them somewhat graphically. If cinematic blood isn't too upsetting, you may find yourself enjoying this one. The plot is simple, and much of the ending is predictable, but it's well executed, and well worth plunking down a few bucks at a theater.

The Terminator is showing at Eagle Rock Plaza and other local theatres.

Buckaroo Reviews

from page 7

never had more fun reading. The twenty-eight short stories that comprise *Difficult Loves* come from the forties and early fifties. The book is divided into four sections: "Riviera Stories," "Wartime Stories," "Postwar Stories," and "Stories of Love and Loneliness." While the "Wartime Stories" and some others seem unpolished, none lacks the singularly bemused (and bemusing) subjects Calvino delights with.

Calvino's talent is in noticing what is bizarre about the everyday. The adventurer of "The Adventure of a Traveler" is traveling overnight by train to Rome to see his girlfriend. He anticipates (as the reader does) the happiness he will find at the end of his journey (the story), and the intrusions of conductor, fellow passengers, and the climate leave us just as frustrated as he, half because they are not the goal of his trip, half because even in themselves they are uninteresting. And yet, on the whole, it is interesting, because the reader, too, wants to reach the station at the other end.

Calvino tells his stories with an almost childlike simplicity. A lover may write one line about his love, then twenty about her perfume. The directness, and at the same time the abstractness, of his tales give them the feel of fables. It is no surprise that, after writing the stories in *Difficult Loves*, Calvino went on to compile a marvelous collection of *Italian Folktales*. His recent work, such as *If on a winter's night a*

traveler, is more experimental, but Calvino still delights in playful writing for the child in all of us.

Now, supposing Calvino sounds interesting to you. You're probably not about to run out and buy *Difficult Loves*; it'll run you \$14.95. What I would recommend instead is *Marcovaldo, or The Seasons in the City* a collection of twenty stories—which I'm sure you'll agree would make perfect bedtime stories—from the early sixties. *Marcovaldo* is in paperback for just a few bucks. Buy a couple; they make great presents. You might also wish to try *The Baron in the Trees* (a very normal picaresque novel with a singularly bizarre premise) and *If on a winter's night a traveler* (1979), which holds great promise for some possible novels-to-come. Both of these can be had in nice-but-cheap paper editions, available at Hunter's, Crown, B. Dalton, and other established houses of literature.

Supposing, however, Calvino doesn't yet sound appealing. Let me then quote the opening of *If on a winter's night a traveler*:

"You are about to begin reading Italo Calvino's new novel, *If on a winter's night a traveler*. Relax. Concentrate. Dispel every other thought. Let the world around you fade. Best to close the door; the TV is always on in the next room...."

Are you not asking (as does any reader, as does the author, as does the book itself): "What story down there awaits its end?"

Stats & Contest

by Doug Dekker

After two rounds of play in the Caltech Chess Club's "Doug Dekker Concept Swiss" tournament, Tim Parrott of Lloyd House leads with a perfect score. Close behind is Chris Bond with 1½ points. Gerry Jungman and Mark Weitzman each have 1 point plus an adjourned game (with each other) which looks drawish to this columnist. Other scores: Kent Cantwell, Eric Babson, and Chris Dodd 1, Tim Smith ½, Brian Leahy and Brad Solberg 0.

Next issue we will analyze a classic Chess endgame, whose innocent appearance belies its considerable complexity. The Club will award free entry to its next tournament to any reader who (independently) provides a *complete* solution before November 30. Submissions may be made to this writer or to the *Tech* office. The position: White K/b6, P/c7; Black K/a1, R/d6; White to play and win. (Don't worry about the number of moves required; just demonstrate White's win against all reasonable defenses.)

from page 1

ing agricultural systems to grow food in space.

The two experiments actually take up a minority of the volume of the cannister. The rest goes to three rather bulky batteries, a computer system to control the experiments, a pump to carry the water to the seeds, and other such pieces of "supporting hardware."

A fan has been included to circulate air, keeping the experiments at a constant temperature. Fluctuating temperatures could affect some of the results.

Also, a lot of effort has been made to meet NASA's stringent temperature control and safety standards. When the experimenters put a block of dry ice on top of the payload, the sub-zero temperatures have no effect through the bulky insulation.

But the students don't object to the additional efforts. It's all considered to be a valuable lesson in doing science in the real world.

In fact, when the head of the SSO, Chris Hougen, a sophomore in applied physics, shows off their files to visitors, the files on the experiment are the shortest of all. Far longer are the reports of safety tests to meet the stringent requirements of space flight. Longer still are the financial files. The SSO has to obtain their own funding, encouraging industry to donate

useful material and financial support.

All of their members are volunteers. The only time they accept pay is when they work during the summer.

One more lesson they learned about the real world was that whatever can go wrong, will. A similar payload was already flown once, on the seventh flight of the Shuttle. When experimenters from the SSO opened it up, however, they discovered that it had blown a fuse, and all results had been lost.

Due to that setback, and NASA's own technical difficulties, they now have to wait for a mission in May to launch their payload. That leads to another problem. A lot of the people who did important work on the project have now graduated and moved on to graduate schools in other cities.

Although their charter limits participation to current students, they are thinking of inviting some of their old members back when the mission actually flies.

Apart from the thrill of building experiments for space flight, the students see the program as an opportunity to learn valuable job skills.

And some lucky ones will get to fly to Florida for the launch, and to complete the preliminary analysis when their brainchild returns to earth.

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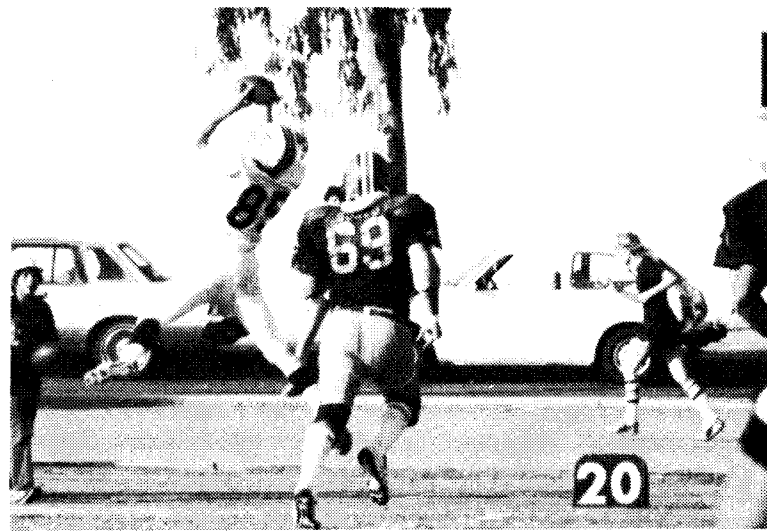


CORPORATE

sports



QB Brouillett runs one in to score



Steve Roskowski makes a critical catch

Caltech Football Gets Huge Win For Homecoming

by Santosh Krishnan

The Caltech football team won the Homecoming game with a brilliant offensive and defensive onslaught. The Beavers defeated the North East Bengals in a 52-28 win.

Following a touchdown run by Beaver QB Martin Brouillette on Caltech's opening drive, a fumble by the Bengals on the ensuing kickoff placed the Beavers, well positioned to score, at the Bengal 20. This led to another Brouillette touchdown, resulting in a 14-0 CIT first quarter lead.

In the second quarter, the Bengals attempted a fake punt play from their 25. The Beaver defense, however, was not fooled and CIT was once again threatening to score. Two plays later, Lee Mallory ran it in, increasing the Beaver lead to 21 points.

The Bengals then started their comeback. A long pass from Bengal QB Castro set up a touchdown, but a heads-up performance stopped the two-point conversion play at the goal line. Then Martin Brouillette was sacked and fumbled. The Bengal recovery set up their second touchdown. This time the two-point conversion was good, and CIT led by only 7.

With the momentum shifting towards the Bengals, CIT needed the big play. This was provided by Dwight Evard. On the next play, Evard took the Bengal kick-off 85 yards for a touchdown. After Steve Collins ran in the two-point conversion, Caltech led 29-14.

The Bengals then set up a long drive, but lost the ball when Lee Mallory recovered a fumble. In the waning

moments of the first half, a long pass from Castro set for the Bengals a first-and-goal from the 3. With only 4 seconds left, the Bengals scored a TD and succeeded in the two-point conversion, thus making the score 29-22. Thus at the end of the first half, the Beavers had the lead but not the momentum.

CIT took the opening kickoff of the second half and scored with a Lee Mallory TD run to lead 36-22. The Bengals, however, came back to score a TD on a long pass from Castro. The extra point was no good, and the Beavers led 36-28.

Towards the end of the third quarter, Caltech, with some fine running by Gene Toshima, drove to the Bengal 14. Martin Brouillette then ran in from the 11 for his third

touchdown of the day to put the Beavers ahead 42-28.

The extra point kick was missed, but a face-mask penalty against the Bengals gave Caltech another chance. This time it was a pass to Steve Roskowski, and Caltech led 44-28. On the resulting Bengal drive, a fumble gave Caltech the ball at its 28. Following an eleven-yard pass reception by Steve Roskowski and a ten-yard run by Lee Mallory, Brouillette ran the ball to the epsilon yard line. An illegal motion call against the Beavers, however, returned them to the 5. The next play featured a TD pass from Brouillette to Roskowski, and Steve Collins ran in the 2-point conversion to make the score 52-28.

The defense stopped the Bengals on fourth down to give

Caltech the ball at the Bengal 30, and the offense took over once again.

A pass to Roskowski gave CIT a first down at the 11 and set up a nine-yard Vince Riley run to the 2. The Beavers then fumbled, but the Bengals had only a few seconds with which to operate, leaving the score at 52-28 Caltech.

Next week, the Beavers play the Ventura County Athletic Club. This will be the last game of the season and will be played at the Antelope Valley J.V. field. The "Pasadena powerhouse", as Scott Ostler called the Beavers (*L.A. Times*, Part III, Wed. Nov. 14, 1984, p.3), will be going for the win and their second straight winning season. Antelope Valley is only a few hours from here, and everyone who can go should go.

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To obtain an application call Ruth at (213) 556-1451 or write The Jerusalem Fellowship, 170 No. Canon Drive, Beverly Hills, California 90210.

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There is no affiliation between Aish HaTorah-Jerusalem and a similarly named organization called Aish HaTorah in North Hollywood.



The Basketball Beavers opened their season against CIT alumni this week

sports

Score With Santosh

by Santosh Krishnan

Last Week's Record:

W-L: 7-7

Against Spread: 5-9

Cumulative:

W-L: 32-23

Against Spread: 25-30

AFC

Kansas City (5-6) at L.A. Raiders (7-4)

Plunkett, Wilson et al. will be healthy. The Raiders cannot lose 4 in a row.

*Prediction: Raiders by 6.***Seattle (9-2) at Cincinnati (4-7)**

Seattle won last week with of luck bit of luck and partial referees. They will not have this in cold Cincinnati. Unfortunately mediocrity + Chuck Knox = Success.

*Prediction: Seattle by 7.***Miami (11-0) at San Diego (5-6)**

Miami continues to amaze proving how evil rules this world. San Diego has no defence and Miami will become 12-0.

*Prediction: Miami by 9.***N.Y. Jets (6-5) at Houston (1-10)***Prediction: Jets by 4.***New England (7-4) at Indianapolis (4-7)***Prediction: New England by 6.*

NFC

Detroit (3-7-1) at Chicago (7-4)*Predictions: Chicago by 9.***L.A. Rams (7-4) at Green Bay (4-7) in Milwaukee**

The Rams may be good, but Green Bay is better. The game may be close, but Green Bay should win.

*Prediction: Green Bay by 2.***St. Louis (6-5) at N.Y. Giants (6-5)**

A big NFC East battle. The giants have been really unpredictable this year. St. Louis has lost two close games in a row. This game has definite play-off implications.

*Prediction: Giants by 2.***Tampa Bay (4-7) at San Francisco***Prediction: San Francisco by 10*
Washington (7-4) at Philadelphia (4-6-1)*Prediction: Washington by 7.*

Interconference

Cleveland (2-9) at Atlanta (3-8)*Prediction: Cleveland by 1.***Dallas (7-4) at Buffalo (0-11)***Prediction: Dallas by 6.***Minnesota (3-8) at Denver (10-1)***Prediction: Denver by 6.*

photo by Ron Gidseg

Not all athletic events are organized

Pittsburg (6-5) at New Orleans (5-6) [Monday Night]*Prediction: Pittsburg by 6.*

Thanksgiving Games

Green Bay (4-7) at Detroit (3-7-1)*Prediction: Green Bay by 6.***New England (7-4) at Dallas (7-4)**

Should be an interesting game to watch. Both are good teams.

Prediction: Dallas by 3.

Runners Exhausted

by Big MO

For the last two weekends, the Caltech Cross-Country teams battled it out in the championship races.

First, the League Final at Whittier College, on their brutal course, was attacked. We faired well, but missed in our battle against Claremont by a few points.

This placed us fifth in our league of seven. We soundly defeated Whittier and LaVerne. By far the best performance of the day was Jenny Haase's seventh place finish in the women's race.

Last weekend, after a restful week of easy practices,

we ran at Bonelli Park in the NCAA Division III Western Regionals. As the last race of the season, it was difficult to stay motivated.

Despite injury and asphyxiation, everyone ran respectably, except Jenny, who ran an amazing race. Against twice as many people as in the league race, she took eighth by sprinting past three women in the last quarter-mile.

So, the cross-country season is over. No more five-mile painful, grueling, and masochistic races for me. Congratulations, team, for working hard and enjoying the whole experience. Track is just a few months away! Get psyched!

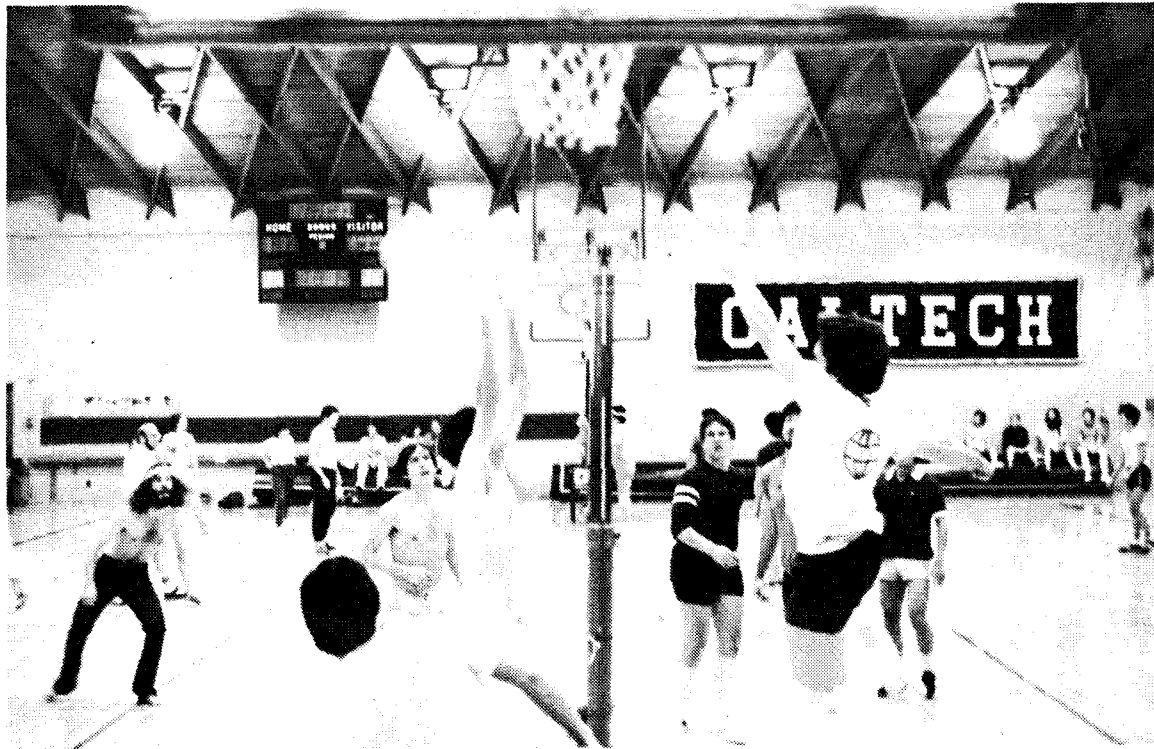


photo by Ron Gidseg

Ricketts playing Ruddock in GSC Volleyball

Women's V-Ball Ends Season

by Busy Sue

Last Saturday the women on the volleyball team played their last game. We drove all the way to Newport Beach and lost. We lost to a bible school. What a waste of gas. Don't get me wrong—the game was not without high points. Chris M. played real well, the donuts were pretty nutritious, and the coffee was extremely black. Some people even got to sleep as we drove up for the game.

By the time we got back to campus it was almost time for interhouse; we'd managed to miss all the last minute preparations and got back just in time for the druuuuuugs.

All in all this has been a pretty good year for us. We had a lot of new people come out (for the team, not like last year) even some frosh (yea frosh) and some upperclasspersons. This year, we should

receive letters for the first time. I guess that makes volleyball an official varsity sport (yea us!).

Next year should be even better. We'll have a bunch of returning players and hopefully some new frosh. If you dig volleyball, even if you're short and clumsy and don't think that you're very good, come play next year—it's really a lot of fun.

You are warmly invited—
a free one hour Christian Science lecture.Exploring
the
Universe:

Is It Spiritual or Material?

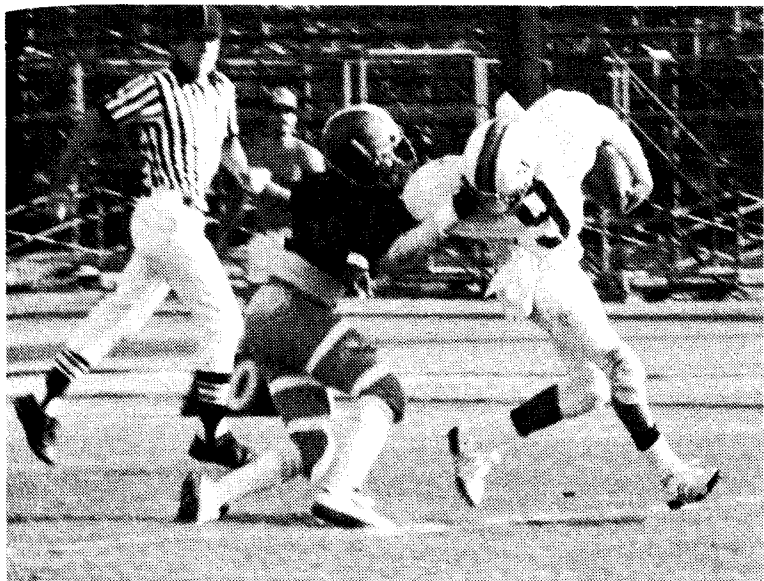
Thursday, November 29, at 8 p.m.

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"Praise ye him, sun and moon: praise him, all ye stars of light. Praise him, ye heavens of heavens, and ye waters that be above the heavens. Let them praise the name of the Lord: for he commanded, and they were created." Psalms 148

Jack Hubbell, C.S.B. of Palo Alto, California
member of The Christian Science Board of
Lectureship.

sports



Lee Mallory crosses the goal line

- photo by Ron Gidseg

Weekly Sports Calendar

Intercollegiate

DAY	DATE	TIME	SPORT	OPPONENT	LOCATION
Fri.	11-16	7:30 pm	B. B. Varsity	L. I. F. E.	CIT
Sat.	11-17	TBA	Cross Country	NCAA National (m/w)	Virginia
Sat.	11-17	TBA	Water Polo	Div II/III Championships	UCSD
Sat.	11-17	1:00 pm	Fencing	Cal State Long Beach	CIT
Sat.	11-17	3:30 pm	Football	Ventura Co. Athletic Club	Antelope Valley
Sat.	11-17	7:00 pm	B. B. Varsity	Cal State San Bernadino	CSSB
Tue.	11-20	7:30 pm	B. B. Varsity	Pac. Coast Bap. Bible Col.	PCBBC
Wed.	11-21	11:00 pm	Ice Hockey	Harbor number 2	Olympic Arena

Interhouse (Soccer)

Day	Date	Teams	Referees	Location
Fri.	11-16	Dabney vs. Ruddock	Blacker	East
Fri.	11-16	Fleming vs. Ricketts	Page	West
Mon.	11-19	Page vs. Ricketts	Ruddock	East
Mon.	11-19	Fleming vs. Lloyd	Dabney	West
Tue.	11-20	Blacker vs. Lloyd	Dabney	East

G.S.C. Volleyball

A League

Day	Date	Time	Teams	Referees	Court
Mon.	11-19	6:15 pm	TAPIR vs. Six Hitters	Bump n Grind	West
Mon.	11-19	7:15 pm	Bump n Grind vs. Brute Force	Six Hitters	West
Mon.	11-19	8:15 pm	Joy of Set vs. Page	Jet Setters	West
Mon.	11-19	9:15 pm	Upsetters vs. Jet Setters	Page	West
Tue.	11-20	10:00 pm	Fleming vs. Blockheads	Tammy's Town	West
Tue.	11-20	11:00 pm	Tammy's Town vs. Turing Machines	Fleming	East

B1 League

Day	Date	Time	Teams	Referees	Court
Tue.	11-20	10:00 pm	Derelick vs. Coherent Spikers	To Be Determined	East
Wed.	11-21	6:15 pm	Derelick vs. HIM's	McGill Mean	East
Wed.	11-21	7:15 pm	McGill Mean Machine vs. Rotorheads	HIM's	East
Wed.	11-21	8:15 pm	Smashers vs. Earth People	Rotorheads	East
Wed.	11-21	9:15 pm	Ovrpd Amateurs vs. Coherent Spikers	Smashers	East
Wed.	11-21	10:15 pm	Lloyd Juggernaut vs. T.B.Determnd	Overpaid Amateur	East

B2 League

Day	Date	Time	Teams	Referees	Court
Tue.	11-20	11:00 pm	Ruddock vs. Kinetics	Not Yet Known	West
Wed.	11-21	6:15 pm	Ruddock vs. Natural Satellites	Eh? Team	West
Wed.	11-21	7:15 pm	Cubbies vs. Eh? Team	Natural Satellites	West
Wed.	11-21	8:15 pm	Astronomy vs. Jerry's Kids II	Face	West
Wed.	11-21	9:15 pm	Not Yet Known vs. Face	Face	West
West	11-21	10:15 pm	X-Men vs. Kinetics	Not Yet Known	West

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Beaver Fencers Keep Trying

by Parry Riposte

Last Saturday the Caltech fencing team travelled to Santa Barbara and met UCSB and UCLA. They were tough competition.

The women's foil team lost 4-12 against UCSB. The leading scorer was Phyllis Li, who won all of her four bouts. She executed many effective moves to get touches. Dana Pillsbury, Susan Ridgeway, and Janice Peters did not win any but made a good showing. Against UCLA, they also lost 2-14. Li and Peters both won one bout each. They had a difficult time fencing with their opponents who had the advantage of several years of experience.

The men's foil team lost 3-6 against UCSB. Scott Grossman, Craig Keller, and Adam Lewenburg all won one bout each. Lewenburg won his

first bout of the season. Grossman and Keller felt they had each fumbled away one easy bout, turning the tide and the score unfavorably. The team did not score any against UCLA and lost 0-9.

The men's epee team did well against UCSB, but lost a close match 4-5. Andrew O'Dea surprisingly defeated all three opponents. Charles Todd defeated one. Joe Bechenbach and Thomas Luke gave their opponents a hard time. The team gave a shot at UCLA and lost 2-7. The only two scorers were O'Dea and Bechenbach. The latter won his first bout of the season.

The men's saber team did almost as well as the epee team. They lost 3-6 to UCSB. The leading scorer was Chien-Wei Han, who defeated two. He thought he could have won a third bout if he had concen-

trated on the match better. Scott Lewicki defeated the same guy he fenced last year and was satisfied about the win. Jeff Greason and Matt Himmelstein fought hard. The team had no luck against UCLA. They lost 2-7. Han won one and could have done better if he had used more wrist action. Himmelstein scored one by forcing his opponent off the fencing strip.

This Saturday the Caltech fencing team is hosting Cal State Long Beach. The match will start at 1 pm in the gym. For anyone who has not seen a fencing match, this is the perfect time to see it. Another reason you might want to see the team is that some of the Caltech fencers are so fast that it seems as though their blades get shorter whenever they move.

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.

CLASSIFIED

FOR SALE—

FOR SALE: AMC Gremlin 1975, body good, runs, well, 82,000 miles, \$800.00. Call Peter, x4871, 793-3357.

FOR SALE: Quality dining room set. Drexel "profile" table, extends to 8 feet. 4 side, 2 arm chairs, custom leather seats. \$250. Ext. 6324 or (818) 357-3733 after 6.

FOR SALE: 1970 Mustang automatic, V8 engine, rebuilt transmission, power steering, power brakes, very clean, \$2000 firm. Call Pilar at 509-3065 day, 842-6259 eve.

HELP WANTED—

WORK YOUR OWN HOURS. Earn extra money. Call Cathy Estrada at (818) 449-3244.

HELP WANTED: 780 Machine language programming—software and hardware. Contact Joe Vu 794-2411 after 5 PM.

HOUSING—

APARTMENT OFFERED Quiet apt. offered to share in exchange for helping an active paralyzed teacher. 1 block west of Caltech w/ own bedroom and bath. Ideal for person who spends most evenings working at home. Reliable, friendly person sought, prefer grad student, non-smoker. Inquire at 449-8928.

REAL ESTATE opportunity. Studio condo 2 blocks from campus, only \$2000 cash to move in. Contact Victor Herrell 449-5030. See ad on page 4 for details.

GENERAL—

AVAILABLE GRATIS to Caltech student or staff: Queen size bed frame, box and mattress. Used but in good condition. One block from Caltech. Call Ned at x4468.

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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 \$5.40/line with a \$2.00 min. and prepayment is required.

Churchill Awards

Seniors: Applications for the Churchill Foundation Scholarships at Churchill College, Cambridge University, England, are due in the Dean's Office, 102 Parsons-Gates, on Monday November 26.

Now, Your Very Own

Yes, once again, the Men's Glee Club is selling black Caltech sports coats. These coats are in excellent condition, and their prices range from \$14 to \$20. See Concetto Geremia in Keck or any other Men's Glee Club members for more information.

Oxy-CIT Orchestra

The Occidental-Caltech Orchestra will open its new season this coming Tuesday, November 20 at 8:30 pm in Ramo Auditorium. The program will consist of a selection from Verdi's *La Forza del Destino*, Schumann's Fourth Symphony, and the Mozart Bassoon Concerto, with John Steinmetz of the Los Angeles Chamber Orchestra as a soloist.

The orchestra, directed by Dr. Allen Gross, is composed of students, staff, and faculty from both schools; it has over 60 members, including around 20 from Caltech.

The concert is sponsored by the Office of Student Affairs, with support from the Caltech Student Investment Fund and the Office of Public Events. It is free and open to the public.

Math Club Putnam Clinic Offered

The Caltech Math Club is sponsoring a clinic to prepare for the Putnam Exam at 7:30 pm on Tuesday November 20. Professors Gary Lorden and Barry Simon will talk on how to do well on the exam, which will be administered on Saturday December 1. Everyone signed up for the exam is invited. Refreshments will be served.

Penthouse Party!

Get psyched up for the joint Caltech/Cal State Fullerton party at the Keith-Spalding Penthouse tonight! The party has been publicized on many campuses in southern California, so it should be well-attended. Our DJ will be TNT. Admission is free for CCSA members and only \$5 for non-members. Be there!

Autographed Far Side

Nationally syndicated cartoonist Gary Larson will autograph "The Far Side Gallery" and his other "Far Side" books Wednesday, November 21 from 3 pm to 5 pm at Vroman's Bookstore in Pasadena, 695 E. Colorado Blvd.

See Deputy MOSH

Bernie Santarsiero, Deputy Master of Student Houses, will hold office hours at the MOSH office from 3-4 pm every afternoon, and will be moving into the MOSH residence this week (1170 E. Del Mar, Apt. 8). Drop on by sometime!

New Lit Class

Lit 105 - The Novel and History/Le Roman et l'histoire - will be taught in French in the Winter term. The course will study four 19th century French novels (Hugo's *1793*, Stendhal's *Le Rouge et le noir*, Balzac's *Le Pere Goriot* and Flaubert's *L'Education sentimentale*) which reflect the 19th century fascination with history. The instructor is Nanette Le Coat and the class will meet on Mondays at 3:00 p.m.

New Student Center

There will be a meeting of the Caltech Action Group on Sunday, November 18 at 8:00 pm in the Y Lounge to discuss the current plans for a new or improved student center and also the mixed grad-undergrad housing ideas.

Celebrate Shabbat

Come join Caltech and Cal State Los Angeles Hillels in a brief service and a delicious potluck vegetarian/dairy dinner this Friday, November 16 at 6:30 pm in the Y Lounge (upstairs Winnett).

Everyone is welcome, but bring a dish or drink if possible. Any questions or RSVP's (when possible it helps coordinate the meal but come either way) contact Myra at (213) -208-4427 or (818) -792-8959 or call the Caltech Y office at x6163. Thanks, and see you on Friday.

Classic Film

The Film *Aguirre, der Zorn Gottes (Aguirre, the Wrath of God)* will be shown in Baxter Lecture Hall at 7:30 pm on Monday, November 19. Admission is free and all Caltech affiliates are invited to attend.

Undergrad Women!

Our group will be getting together to talk about experiences and feelings, over an informal lunch. Once again two women from the counseling center will be present to help facilitate the discussion.

The discussion will take place today (Nov. 16) in the Y lounge at noon. Food will be provided. Questions should be referred to Felice at x6171. All undergraduate women are welcome.

Numismatic Meeting

Albertus Hoogeveen will return to the Caltech-JPL Numismatic Society on November 21 to talk about the coins of Queen Wilhelmina, reigning monarch of the Netherlands from 1890 to 1948. The evening will also include the ever-popular coin drawing and refreshments will be served.

All Caltech and JPL personell and their families are invited to attend meetings which are held on the third Wednesday of each month at 7:30 pm in the Church Laboratory on Caltech campus.

Steam Shutoff

There will be a scheduled campus-wide shutoff of the steam supply on December 8 and 9. (No showers or heat).

CLAGS Meeting

The Caltech Lesbian and Gay Society will meet this Sunday at 2:00 pm in 210 Baxter. Everyone is welcome to attend. For more information, contact Eric Stier, 1-58, x3771.

Mikado Auditions

Auditions for the Annual Caltech Musical will be held this weekend, on Saturday and Sunday from 10:00 am to 6:00 pm in the basement of Baxter. Those interested in auditioning should bring some prepared music, and anyone interested in tech work should drop by and leave a description of the type you wish to do.

This year's show is Gilbert & Sullivan's "The Mikado." All Caltech and JPL affiliates -students (undergraduate and graduate), faculty, staff, family and friends - are invited to participate in the production. Performances will be the last weekend in February, and the first weekend in March.

Procrastinator's Anonymous

In order to make changes in your patterns of procrastination, it is often most helpful to understand the reasons behind them. On Tuesday, November 20, beginning at 4:00 pm in Winnett Clubroom 1, the Career Development Center will offer a two-hour workshop on *Procrastination: Causes and Contributing Factors*.

There is a limit of no more than 20 participants so **DON'T DELAY!** Begin to break that habit now and call the Career Development Center (6361) to sign up.

Caltech Y Pizza

On Friday, November 16 at 5:30 pm in the Caltech Y Lounge, the Y will be sponsoring a get-to-know-the-Y session for those students (both grad and undergrad) who are interested in joining the Y Executive Committee. General socializing will go on until 6:00, when the presentation will begin, with the dinner (pizza, beer, soda, etc.) served after the presentation. All students who think that they would like to participate in campus activities, or would just like to find out what the Y is doing on campus are invited to attend.

Newspaper Meeting

There will be a meeting of all students interested in the *California Tech* on Friday at 12:15 in 127 Baxter. All Tech staff should please attend. We welcome anyone who is interested in either working or writing for the newspaper.

Anyone who thinks they might like to write or help produce the paper should either attend the meeting or contact the Editor, in downstairs Winnett Student Center, male code 107-51.

Annual Winetasting

The Organization for Women at Caltech is sponsoring their Annual Autumn Winetasting, to be held Monday November 19 from 4:30 to 7:00 pm in Dabney Lounge. Fine wines, cheeses, crackers, and door prizes will be available. Everyone is invited, with tickets costing \$5 at the door.

DISCOUNT AIRFARES

Kansas City	\$304 r/t	New York	\$356 r/t
Washington D.C.	\$322 r/t	St. Louis	\$304 r/t
Puerta Vallarta	\$97 ea	Acapulco	\$125 ea
Mexico City	\$189 ea	Guadalajara	\$171 ea
Cancun	\$195 ea	Mazatlan	\$86 ea
San Jose	\$68 ea	Reno	\$68 ea
Las Vegas	\$51 ea	Tucson	\$64 ea
Oaklahoma City	\$106 ea		

Also—Red Onion gift certificates at discount!

(818) 242-7988

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Caltech 107-51

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