

A Week That Will

THE Free reasonable CALIFORNIA TECH

Live In Infamy



Noyes Undergraduate Laboratories, on the eve of its remodeling, decided to hold a massive sale of various objets d'chimie. A group of concerned undergrads helped advertise the bargains with banners plastered on the side of the building (above). A group of holiday shoppers pondering the great selection (below).



Eulogy for a Friend

12/8/80, 10:25 pm. John Lennon is dead. His body is probably not yet cold, but through the miracle of modern communications, I already know all about his death. He was shot in the back, at least twice, outside his apartment on the upper side of west Manhattan. The police said the man who shot him was a well-known "screwball".

John Lennon was a well-known singer and writer. I read the *Playboy* interview with John Lennon and Yoko Ono Saturday night, two nights ago. I felt like I'd had a long talk with him. At first I thought this was the reason that the news of his murder hit

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Caltech Enters Twentieth Century Phone Age

By Eric H. Eichorn
Caltech's aging and overloaded telephone system, with its step-by-step switching relays and cord-in-hole switchboard, is being replaced by a solid-state Custom Dimension 2000 system. A plethora of space-age bells and whistles (detailed below) are included, but the most notable improvement will be the capability for direct dialing campus phones from off campus.

Some sort of improvement was necessitated by the fact that the current 2000 campus extensions are used up, and two new buildings are under construction. Since the current long-distance system is inadequate, and direct inward dialing has long been desired, the decision was made to get a new system rather than expanding the old one. The changeover is being supervised by Robert Fort, director of Physical

Plant; Bill Wong, administrative services supervisor; and Jo Wilson, telephone clerk.

The new switching equipment will be brought up at approximately 8:00 pm, Friday, December 19. At that time all conversations in progress will be terminated, the dial tone will acquire a higher pitch, the Institute switchboard number will change from 795-6811 to 356-6811, direct inward dialing to unrestricted phones will be enabled, all extension numbers will change (most according to a simple algorithm), and all extensions will be enabled for Touch Tone dialing. By Monday morning, December 22, 70% of the rotary dial telephone sets will be replaced by Touch Tone sets, with the rest replaced by early January.

Most extensions will retain the same last three digits they have now, with leading 1 becoming 4, and leading 2 becoming 6. Some new extensions will be created with leading 3. To dial an unrestricted extension from outside the Caltech phone system, one dials '356' followed by the extension. For example, the current *California Tech* extension is 2153. This changes to extension 6153, and can be dialed from outside as 356-6153. Simple, right? To call a restricted extension or an unknown extension from outside, one dials 356-6811 and interacts with the operator.

One temporary exception to the above renumbering algorithm is the student houses. They are being temporarily assigned restricted extensions bearing no relation to their current numbers. In January they will be changed to unrestricted extensions based on their current numbers.

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DNA Recombined for Fun and Profit

by Tracy Furutani
Spectacular new methods in recombinant DNA research were revealed by Dr. Norman Davidson, professor of chemistry, in his Watson Series lecture Wednesday.

Accompanied by a huge array of color slides, he covered how companies like Genetech make money by producing

hard-to-find proteins. He began with some background in molecular biology; namely, the DNA molecule is the blueprint off of which working copies, in the guise of RNA, are made. The RNA, in turn, go to the ribosomes where the proteins encoded within them are finally manufactured out of all the random amino acids floating around in the cytoplasm.

Until ten years ago, molecular biologists had only the electron microscope to see the workings of the cell. Now, however, there are many techniques, such as gel electrophoresis and the use of restriction enzymes, to break up long strands of DNA into shorter, more usable strands. In fact, many of the less lengthy DNA molecules can be synthesized in the lab.

Dr. Davidson's main topic, though, was on the use of bacteria to clone a protein; this was the gist of the recombinant DNA revolution. In this process, a specific portion of a

Josten's Screws Up

By Doug MacKenzie
As you may have noticed, the *Big T* is not out yet this year, even though it arrived during the first week of classes. That's because it's gone again. It's been sent back to Josten's because the company did such a bad job of publishing it.

The problem was that the printing and graphics were poorly done in many spots while the contrast was bad in several of the pictures. One section, which was intended to have the same style throughout, had three different styles because Josten's used three different people to do it. These mistakes mean that the publisher will have to replace eight to ten pages. Even though Josten's did such a bad job this time, ASCIT is going to use them again next year. This is mainly because they have agreed to do some expensive color work next year for free and also absorb the cost of this year's errors. The entire correction is going to cost them about \$1000.

Photo by Paul S & M

Dialing Changes		
Function	Old	New
Switchboard	795-6811	356-6811
Campus Ext.	1xyz	4xyz
Campus Ext.	2xyz	6xyz
Inward dialing		356 ext.
Outward dialing(213)	6,7,8,or 9	9
Direct long distance	3	8
Operator long distance	53 or 55	0
Emergency	50	5000
JPL	57	77
Paging	54	74
Biology Dictation	51	71

EDITORIAL

A Conversation Between a Caltech Student and His Advisor

FAUSTUS

But have they[the planets] all one motion, both *situ et tempore*?

MEPHOSTOPHILIS

All move from east to west in four and twenty hours, upon the poles of the world, but differ in their motions upon the poles of the zodiac.

FAUSTUS

These slender questions Wagner can decide! Hath Mephostophilis no greater skill? Who knows not the double motion of the planets? These are freshmen's suppositions. But tell me, hath every sphere a dominion or intelligentia?

MEPHOSTOPHILIS

Ay.

FAUSTUS

How many heavens, or spheres, are there?

MEPHOSTOPHILIS

Nine: the seven planets, the firmament, and the empyreal heaven.

FAUSTUS

But is there not *coelum igneum? et cristallinum?*

MEPHOSTOPHILIS

No Faustus, they be but fables.

FAUSTUS

Resolve me then in this one question: why are not conjunctions, oppositions, aspects, eclipses, all at one time, but in some years we have more, in some less?

MEPHOSTOPHILIS

Per inaequalem motum, respectu totius.

FAUSTUS

Well, I am answered. Now tell me who made the world?

MEPHOSTOPHILIS

I will not.

FAUSTUS

Sweet Mephostophilis, tell me.

MEPHOSTOPHILIS

Move me not Faustus.

FAUSTUS

Villain, have not I bound thee to tell me anything?

MEPHOSTOPHILIS

Ay, that is not against our kingdom. This is: thou art damned, think thou on hell.

FAUSTUS

Think, Faustus, upon God, that made the world.

MEPHOSTOPHILIS

Remember this!

(Exit)

—Christopher Marlowe

THE CALTECH Y fly-by

Saturday, December 13: DECOMPRESSION. Festivities begin at 8:30 P.M. and will go on until 1:30 A.M. Come and relax, detach yourself from the academic life, and enjoy the Caltech Y award-winning films starring Rocky and Bullwinkle. Remember the free munchies and intellectual games which will be available!



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COMMENTARY

Draft registration has returned. In case some of you have been too busy or too apathetic to notice, President Carter has decreed that those persons who have committed the crime of being born males in the year 1962 shall register for the draft this January. Don't do it!

The draft is unnecessary, unconstitutional, and a violation of human rights. It is no secret that if the United States ever fought a war (note: war, not "police action") the war effort would consist of the pushing of small red buttons and would result in the annihilation of all parties involved. The only use for a large supply of personnel is that of marching into some small country for the purpose of bashing some peasant brains. All in good fun, of course.

The 14th amendment to the Constitution prohibits "in-

voluntary servitude without due process of law." Need more be said?

Above necessity and law, however, is the simple fact that 18-year-old males are human beings. No government has the right to order a human being to fight. No government even has the right to order a human being to register to fight. Any such government is a violator of basic human rights.

Enough of theory. There is no practical reason to register for the draft either. The chances of a non-registeree being caught are slim and rapidly approaching none. Last July, of the 4 million men who were to have registered, at least 8 percent did not. Of that 8 percent, exactly 0 persons have been arrested for failing to register. The U.S. government admitted before registration began in July that if more than about 2 percent failed to

register, the law could not be enforced.

It is also helpful to consider the situation from a historical perspective. During the Vietnam War, for every 1000 people who failed to register, only 1 was ever convicted. That 1 person out of a thousand was invariably an activist or someone else with a talent for trouble-making. In contrast, of those who *did* register and later refused induction, a much more significant proportion were convicted. And of those who *did* register and *did* accept induction, a very significant proportion came home in body bags looking like scrambled eggs. Where do the odds lie?

Your decision to register or not to register is your vote. The draft can only be defeated through a vote of no confidence. Consider your vote carefully.

—Steve Martin

LETTERS

Helmet Laws

To the Editor:

The "Commentary", printed in the December 5th issue, deriding the possibility of requiring helmet use by motorcyclists, needs a response. At first, I thought it must be a spoof, but apparently, that was not the intent. The article is based on the assertion that the consequences of not wearing a helmet at the time of collisions were the concern of the individual involved alone, for she or he alone would bear the associated problems. This is simply not true in modern society since we have accepted the responsibility to care for the injured, disabled, and those whose problems are compounded by the serious disability of or sudden death of a family member.

These are the facts. 1) Following a National Highway Traffic Safety Administration to withhold funds from states not requiring helmet use by motorcyclists, forty states pass-

ed helmet-use laws in three years, leading to a welcome plummeting of fatalities among motorcyclists. However, California was one of three states that never had such a law. Senator Alan Cranston (D-Calif.) sponsored a federal

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DaDa

To the Editor:

We remain convinced that it is possible and desirable to keep part of one's consciousness perpetually in a state of revolution. In this way we mentally transcend the sticky

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The California Tech
Friday, December 12, 1980
Volume LXXXII Number 11
Published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed in all articles are strictly those of the authors and do not necessarily reflect those of the editors or of the Tech. © 1980 by the Associated Students of the California Institute of Technology, Inc.

Editor-in-Chief
Stuart Goodnick

Associate Editors
Alan Loh
David Younge

Staff Liaison
Grover

Writers

Mignon Belongie, Dwain David, Margie Farrell, Tracy Furutani, Les Grate, Lisa Grenier, Peter Grieve, Charles Hershey, Peter Kaminski, Muhammad Khan, John Krehbiel, David LePoire, Doug MacKenzie, H.N.I. Mayhem, Chuck Nichols, Richard Pogge, Steve Rabin, Bruce Sams, Lee Sunderlin, Mike Walsh

Cartoonist
Luke Will

Photographers

Ken Gant, Bob Goodrich, Grover, Paul Ste. Marie, Steve Swanson

Production

Margie Farrell, Tracy Furutani, Richard Pogge, Nick Smith, Edward Suranyi

Business Manager
Gavin Claypool

Circulation Manager
Paul Eskridge

Special Consultant
Manny

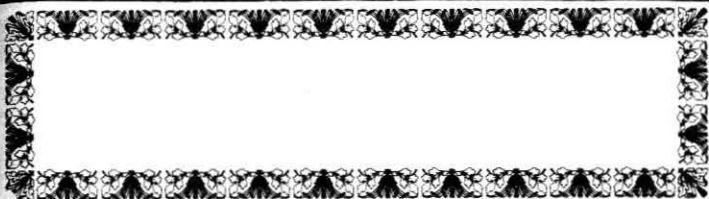
The California Tech publication offices are located in rooms 115 and 107 in Winnett Student Center on the Caltech campus. The address is 107-51, California Institute of Technology, Pasadena, California 91125. Telephone: (213) 795-6811, Editor - ext. 2153, Business Manager - ext. 2154. Printed by News-Type Service, Glendale, California. Postage paid at Pasadena, California.

Subscriptions
\$2.00 per term
\$5.00 per year
\$100 for life ISBN 0008-1562

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He rose, slowly, like a tiny bubble, toward the light. It was not as much an awakening as a birth. He lay for a very long time thus—time had no meaning for him yet. Beneath him he felt a solid supporting surface, perhaps the crust of a planet, though he would never know.

His perceptions accumulated slowly. He became aware first of his own existence, his body. He became aware of its needs. First he was hungry, thirsty, then afraid, then curious. He felt a deep emotion you would call loneliness, and he lay steeped in it an aeon.

When he knew his body more, he began to learn to move about. Slowly at first, then faster, he moved downhill, bumping into and steering around objects, until he tired of the effort, and again he lay still. Soon his need overcame his exhaustion and he continued on.

An object in the distance beckoned to his mind. He sought it out, though with difficulty, and found to his joy another like himself. They merged, then lay together contentedly. Later the other showed him some small objects, some of which it consumed. He consumed also, and knew satiation. They existed thus, gathering and satisfying and growing strong. Sometimes they encountered others in their gathering, and with these he shared perceptions, and then they too merged and grew together.

Once he met an older one who had gathered perceptions from far and wide, and knew much. They lay together long and frequently. His curiosity grew with his knowledge, and soon he had questions his teacher could not answer. His sincerity deeply touched his teacher, who told him, "Go to the edge of this place. There you will find seekers and teachers who can help you."

Taking a collection of

sustenance, he set off for the edge. It was a very hard journey, and often he was forced to deprive himself. Finally he came upon a well-worn path, which seemed to go on in both directions forever. He halted the first to pass him on the path, who was moving downhill, and asked him of the path. He learned that the other was much like himself, but was a gatherer, not a seeker or a teacher. The other continued on his way.

The next along the path was moving uphill. He was nearly as old as the teacher had been, and travelled slowly. He was a seeker also, so they moved uphill together. They talked of the world and shared many mysteries. They met others, and sometimes stopped to share perceptions or sustenance. He learned of many faraway regions and knew many new satisfactions.

Sometimes the path would fork. More often two paths would converge, and those from the other paths would bring new ideas to his mind. He found most of those moving uphill to be seekers, those downhill to be gatherers. He met no teachers. Several of his fellow seekers left the path, however, expressing the idea that they would become teachers. They were far away from their native lands, and he thought them brave to do such a thing, but he continued uphill with his aged companion.

At length his companion grew suddenly tired and told him to go on alone. He refused to leave, and shortly witnessed his friend's death and return to the void. He kept a lonely vigil protecting the remains and venting his grief. Much later he began to understand what had happened. From the remains, a new, still unformed entity was beginning to emerge. He took it to a safe place and then resumed his journey with a mixture of sorrow and joy, and a more complete knowledge of that which was himself.

The path grew steadily more difficult. Occasionally he found the remains of those who had died seeking, and brought them to safety. Still he moved on, resting little, gathering only when need overcame him, learning from the few who yet shared his path.

Sadly, his quest could not continue forever. After a long while he realized that he, too, was growing old. During his life he had risen a great distance, through lands both flat and steep. Those he met were continually improving in the quality of their perception, and even those off the paths, he saw, shared with him a deep understanding of life. This he suspected was due to those seekers who had left the path to become teachers. Even the landscape here struck him as more beautiful. His appreciation of life was ever growing.

His infirmity grew ever more bothersome. His progress along the path grew ever slower. Finally, he knew he could go no further. This observation did not sadden him, however. He did not know if the path ever came to an end, or what he would have done upon reaching it. He only knew that his journey had not been futile.

He died a seeker. That which rose from his remains continued on.

—Chuck Nichols

The Body Shop

How has the world been treating you lately? Are your parents breathing down your neck (to get an A in physics)? Do you find yourself sharpening your Bic pen before the big exam? Is your roommate trying to short sheet your bed with you in it? You may well be stressed.

What is Stress?

Stress is a normal part of every day and is actually helpful. HOWEVER, stress left unchecked and allowed to build can result in: decreased productivity, loss of self-confidence, insomnia, loneliness, change in moods, fatigue and headache.

Try This!

1. Take a hike, get away from campus, not every one lives in concrete.
2. Take a friend, walk around the block and share the load.
3. "The play's the thing". Exercise, running, tennis, anything to reduce your mountain to a mole hill.
4. Take a number, put somebody else first.
5. Read a chapter or two out of your favorite book, NOT PHYSICS.

6. Take a shower—it's like starting your day over.
7. Smile, it's simple, quick, and doesn't cost a dime.
8. Try Relaxation Therapy.

Relaxation Therapy

Relaxation therapy is a way of reducing anxiety without drugs. To get the most benefit from relaxation therapy, try to set aside 10–20 minutes once or twice a day. During this time, completely relax your entire body and try not to think of anything except the digit 1.

Some people find it easier to relax while listening to a tape recording that tells them what to do step-by-step. Following is a script you may use to make a recording to help you relax. For best results, record in a quiet room, preferably one with drapes and carpets. Speak slowly in a soothing voice, pausing for a couple of seconds between phrases. If you feel strange listening to your own voice, then have a friend make the recording.

When you wish to practice

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Up From the Well

It's a Monday evening in Pasadena and the air is devoid of apathy, more so than any bonfire has been responsible for (in my recollection, leastways). In fact, the natives of Pasadena, not to mention all these furriners I can see, are just busting out with exuberance. Impromptu parties are coalescing out of the swirling knots of humanity; by and large, it's one of the most good-natured crowds in my experience. Sleeping bags are stretched here and there, dotting the sidewalks and parking lots like an invasion of oversized, stuffed caterpillars; alcohol

in all its forms is making the rounds; and even the cops are mellowed out considerably.

It's 11:40 on the eve of 1980. The people are gathered both to ring in a new year, and to observe on the following morning the Tournament of Roses parade (many also came to see the Doo-Dah parade, held a few hours earlier). A three-to-four block section of Pasadena has been transformed into a gypsy caravan of RV's, parties, buses, etc., not to mention a lot of randomness.

If you, a Techer, a person who lives within walking distance of the famed parade

route, are missing this event, you must clearly be either suicidally depressed or completely out of your tiny little mind. In either case, the remedy is obvious: get up, bundle up, trundle off, and mingle. I enjoyed the social atmosphere possibly more than watching the parade (I committed the unpardonable sin of leaving the parade at least 45 minutes early, compounded by not designating a person to inherit my place; most of the people were so polite that the space I vacated must have stayed free for at least 10 minutes). Inasmuch as the only severe shortcoming of seeing the parade live—namely, driving into and out of Pasadena on 1 January—is neatly avoided by living in this area, you

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Faculty, Grad Students, Attend!

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ENTERTAINMENT

MOVIES plays SPECIAL EVENTS

Pretty Boys, Pretty Void

They were *almost* inspired, this wierd group with the nerve to call themselves Pretty Things. These days names like "Dead Kennedys" and "Psychotic Pineapple" hardly get a second glance but I still find "Pretty Things" hard to cope with even though they've been together for seventeen years. While the Beatles were still shocking the world as the "moptops", the Pretty Things had hair down to their shoulders and a mean don't-mess-with-me look designed to scare off any but the hardest and most dedicated rockers.

The Who copied *Tommy* directly from the Pretty Things' *S.F. Sorrow*, and Townshend freely admits it. In those days the Pretty Things were at the

leading edge of rock: they *invented*. Though their sound never really caught on, they kept at it for years afterward, supported by a small but loyal group of fans, and made some fine but unnoticed albums. Some of their best were *Parachute*, *Silk Torpedo*, and *Savage Eye*—all solid rock records with occasional flashes of brilliance to set them apart from average. It's been five years since they released *Savage Eye*, and now they've got a new one: *Cross Talk*. I was intrigued by the plain white cover—could it be? Could this simplicity and lack of pretense really extend all the way into the vinyl inside? Have they returned from the grave like Paul Revere to wake us from slumber? Hardly.

The hoped-for revival of rock and roll is, in fact, a thorough disaster. A collection of boring, inane songs all played in the same time, with the same dull, stupid lyrics we've come to expect in the late 70's and early 80's. Who gives a fuck about a song like "Office Love" that offers such bits of wisdom as:

he swears to step cleanly from a marriage that's become so tangled and confused
she knows he's lying for his pleasures
he doesn't see her cry
Oh no office love is such a bitch
Oh no like a knife in the back

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Lennon: Friend

FROM ONE me with such force. But this was not right.

The reason I felt the sense of a personal loss is that it was a personal loss. I've known John Lennon since the fourth grade, since he was 24 and I was nine years old. I loved him in the purely adulatory way a boy of nine or ten must love a man of twenty-four. I wanted John (and Paul and Ringo and George) to be my friend. I wanted to meet him, to know him. I wanted him to come to my town with the other Beatles, to stay in my house.

When the Beatle cards came out (the first set, not the second, which seemed slicker, more commercial, less personal), the first four, which featured pictures of the individual Beatles on the front side and their vital statistics—age, height, weight, color of eyes—on the back, were rarities. But I obtained a copy of the card with John's face on the front, the lean face, the aquiline nose, the intelligent, teasing eyes. He looked as if he was thinking about a joke he wanted to let me in on.

Later, when he and the

others admitted to taking drugs, when they grew their hair very long and grew beards and moustaches and produced the very strange *Magical Mystery Tour* and *Sgt. Pepper's Lonely Hearts Club Band*, when they grew hard to understand—I still liked John. I thought his walrus moustache was handsome and wanted to grow one like it. My parents didn't like them at all, thought them irreverent and immoral, but I still believed John had a good heart. I still believe that.

He left a lot. *A Day in the Life. I Feel Fine. I'm A Loser. Revolution. A Hard Day's Night.*

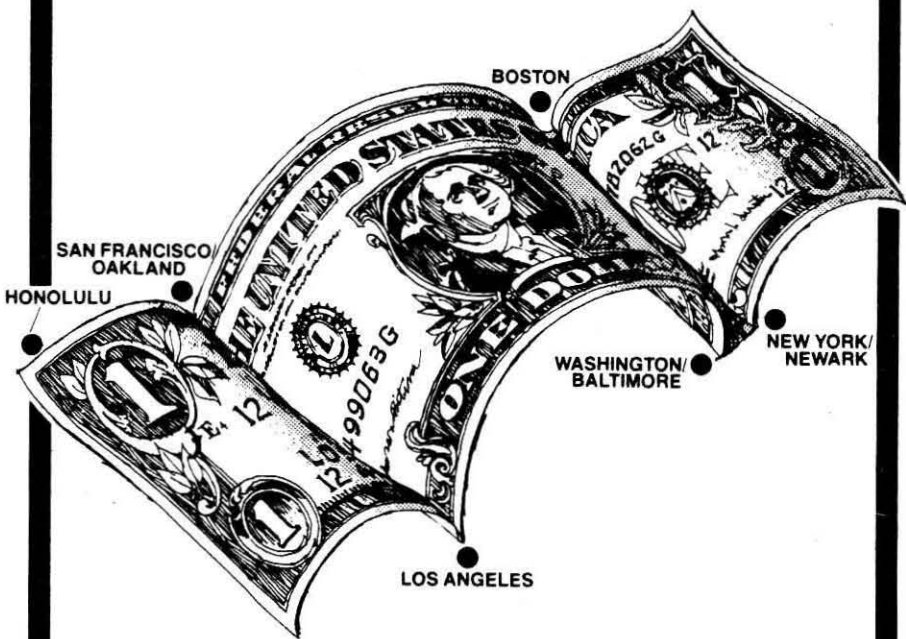
So I shared in his life. And I wonder if the lunatic who shot him for reasons normal minds may never fathom was prompted by the same interview I read myself. The interview that put John's name on the cover of *Playboy*, the interview demanded by people like myself because we bought and read.

Maybe I shared in his death, too.

I'm sorry, John. It's a hell of a reward you get after being my friend for sixteen years.

—Anonymous

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Charlie O'Neil showing one of the awards at the Teaching Awards Luncheon.

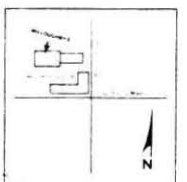
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Christopher Robbin

By C.R.G.

You guys just don't know what you're missing. Christmas will be here in two weeks and you can still go outside in a short sleeve shirt! These southern California Christmases are nothing compared to back East. The only way you can tell it's Christmas out here is when Santa Claus is stolen from Lake and the grandstands go up on Colorado.

Today is Friday the 12th and my family is cutting down this year's tree back home. That's right, not all trees come out of boxes with silver needles and "ready to plug in" lights. Tomorrow they'll start stringing popcorn and baking cookies. Dad just bought a couple of cords so the fire'll be roarin'. My sister is learning some Christmas songs for the piano and my brother's getting the snow shovel out for some extra shopping money.

I'm getting home Monday night and we plan to go out carolling. We go to all the houses up and down the street, adding more people. By the time you get to the end of the block, you've got a mob! People usually invite you in for hot chocolate or warm rum. You wind up back home and break out the egg nog. And those Christmas cookies melt in your mouth. Everyone sits around the tree by the fireplace. Someone starts reminiscing about Christmas past, and you realize how special this time of year is. You get a warm feeling inside. Enjoy every minute, every second. You don't know when you'll see those people again.

So what are you doing special this Christmas? Are you going to sit around the house all day waiting till vacation's over? Are you gonna go out and "Party Hearty"? What a way to spend a holiday.

How about helping someone? You've been given a very special gift: the ability to be a normal person. I mean, you have two eyes, two ears, two arms, two legs, a working mind. There are a lot of people who will spend Christmas in hospitals, a lot will spend Christmas alone, and even

more will wake up Christmas morning to find a small gift or two under their tree. It should make you feel very lucky that you've got friends and family to spend the holiday season with. Why don't you put a dollar in the Salvation Army pot, or donate a toy to the "Toys for Tots" in your neighborhood. Hey we're the lucky ones, we're the ones who should be sharing our good fortune.

No, I'm not saying "Buy every orphan a Rolls Royce." I'm just telling you to share yourself. Help an old lady across the street. Say "Merry Christmas" to people. That's right, say "Merry Christmas". Go outside and do some carolling (even if you do live in Southern California)! Believe it or not Christmas only comes once a year. *Merry Christmas & Happy New Year.*



Personals

Somehow "Hapiness is a Warm Gun," will never be quite the same.

To the Editor of *The California Tech*,

I am writing in referene to a 'proof' that was printed in the Nov. 21, 1980 issue of *The California Tech*. In the 'proof', a crucial assumption was made but not noted. The 'proof' read:

- (1) ME-SHE=0
- (2) ME=SHE
- (3) M=SH

The step from (2) to (3) can only be made if one assumes that E does not equal 0. Without this assumption, the 'proof' fall to tiny shriveled pieces of useless nonsense. [As does this letter—eds.]

Most Sincerely Yours,
Leland C. Mah
MIT

Baxart Body Shop

by Lisa Grenier

The new exhibit at Baxter Art Gallery is a welcome change from such works as the Horizontal Pillar. Terry Allen is an artist who approaches the subject of art with a refreshing lack of pretentiousness. The exhibit was divided into four sections: "studies for object/drama... *Whisper*," "some in between," "a regional growing," and "Ring."

The section entitled "studies for object/drama... *Whisper*" consists of seven works labeled as possible explanations for modern art, arson, weather, and other aspects of modern life. All works consist of a composition 'explaining' the subject and a border. In the border are silhouettes of two people who are whispering about the composition. This group of work pokes fun at the pretentiousness surrounding art and raises the idea that creating is better than criticizing.

"Some in between" and "Ring" further expound the concept that criticism is unnecessary and that the creation of art and ideas should be encouraged rather than stifled. These groups are comprised of three dimensional collages made of lead, tacks, glitter, and other unconventional art materials. Allen clarifies that his support of creating does not require the absence of thinking in *The Nelson* which states "It is by the real that we live. It is by the ideal that we exist."

"A regional grouping" is a more somber grouping which is strongly infused with the regional flavor of the Texas where Allen grew up. These works consist of starkly beautiful oil pastel scenes of Lubbock, Texas bordered by written and pictorial comments. The dramatic construction and oppressive mood of "a regional grouping" act as a balance for the sly witticisms of "studies for object/drama... *whisper*."

relaxation therapy, find a quiet place where you will not be disturbed and get into a comfortable position. Sitting is probably better than lying down, because you don't want to fall asleep. Play the tape recording; when the voice finishes, stay relaxed for 10 more minutes while you concentrate on the digit 1.

Even if you choose not to use the tape, you will want to read the script over carefully to learn the basics of relaxation therapy.

Let There Be Light

By Joe Balke

The "Festival of Light" was once again a spectacular and successful show, leaving the expectations of its audiences more than fulfilled. The forcefulness and emotion of the performances combined with the tight control of the vocal groups by Olaf Frodsham and Monica Roegler Bown led to an expressive demonstration of the spirit of Hanukkah and Christmas.

It was evident that much time and labor was put into the preparation of the show. The actors posing on stage for the various scenes did magnificent jobs, the costumes and lighting were dazzling, and the musical accomplishment was majestic and crisp. The lighting and the soloists seemed to set the mood for the show, a solemn and joyous observance of two religious festivals, Hanukkah and Christmas, united by a common theme of light and hope.

Altogether, it was a very moving performance, and its participants should be proud of the way they touched the hearts and souls of their audiences.

Script
Get into a comfortable position...are you comfortable?...Close your eyes...Start relaxing your entire body...begin with your toes and slowly move to the top of your head...Concentrate on relaxing...When other thoughts enter your head, disregard them and return your attention to your muscles...

First, relax your toes...Relax the rest of your foot...Now relax your calf muscles...Move up to your thighs...Make them feel limp...The whole leg should feel limp...Now start relaxing your lower abdominal area...Your buttocks...get all the tightness out...

Start relaxing your chest muscles...the back...the front...Concentrate on relaxing your chest muscles...Now start relaxing your fingers...the muscles in the rest of your hand...Start at the wrists...move up to the shoulders...relax your arms...Get all the tension out of your shoulders...

Then relax the neck muscles...make your neck feel limp...Start relaxing your face...your chin...your cheeks...around your eyes...your forehead...Now relax the top of your head...

Stay relaxed...breathe deeply through your nose...breathe slowly and evenly...Picture the digit 1...Keep breathing slowly and evenly...Say "one" over and over to yourself...Say "one" each time you exhale...Concentrate on your mental picture of the digit 1...When other thoughts enter your mind, disregard them...Keep saying "one"....."one"....."one".....

To learn more about relaxation therapy, you may want to read *The Relaxation Response*, written by Herbert Benson, M.D., New York, Avon, 1976.

You've got friends here at the Health Center who care, so please be aware that you can count on us it the going gets rough.

—Rhonda Campbell, R.N.N.P.

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Helmets

FROM TWO

bill rescinding the federal financial sanctions; in the three-year period following this, 27 states repealed or weakened their laws. Since then, deaths have risen 46%, although sales and registration figures have remained constant. In fact, in Colorado, for instance, along with a 50% increase in deaths, there has been a 260% increase in serious head injuries associated with motorcycle accidents.

2) UCLA researchers have found that "use of a safety helmet is the single critical factor in the prevention or reduction of head injury" in their study of motorcycle crashes in Los Angeles. In other studies, it has been shown that helmet use is lower for those involved in crashes; it seems likely that those who do not wear helmets

tend to be risk-takers. However, helmet laws are easily enforced so in states with these laws, compliance is almost 100%. Repeal has led to drops in usage of 40-to-50%. It is often those who are young, inexperienced, and ignorant of the potential consequences who are exposed to the trauma.

3) The helmetless injured cost taxpayers money, for the majority do not have insurance to pay for their hospitalization. In Maryland, the unpaid bills, which taxpayers had to cover, at one trauma center was \$433,200 for injured motorcyclists. By April 1978, the average cost of treatment was over \$11,000; this did not cover: rehabilitation or continued treatment at other hospitals; Disability Insurance payments; or the effects on insurance rates of the losses incurred by unhelmeted but insured riders. It did not deal with the loss of earnings, a factor which the previous article ridiculed, but one which has a serious effect on society. The loss of earnings for a family

dependent on the injured or killed rider is significant; it is in addition to the direct costs to families involved in this problem. The *Los Angeles Times* reported on December 7th that, in California within the next months, the typical cost of one day in a hospital will be \$411 and of the average hospital stay, \$2874; just imagine the cost for a head-injured motorcyclist!

4) The vast majority of Americans have never studied physics and therefore are unaware of the forces present in even a low-speed collision. They do not realize that the force of impact is approximately the product of the speed of the vehicle and the weight of the object, whether animate or inanimate. They do not consider that their heads may hit solid objects with a force of over 3000 pounds, even assuming the person to be only 100 pounds in a 30 mph collision.

It is surprising to me that members of a community where the study of physics is universal would ignore the

risks inherent in exposing one's brains unprotected to the possibility of such a collision and would support the specious argument that it is an individual's right to destroy or incapacitate himself/herself to the point of dependency on the rest of us. I ask your writers to reconsider their position in light of the facts and to consider what it would be like to live in this country if we did not require immunization against serious disease as a facet of public health responsibility. I invite those unhelmeted riders to observe the condition of injured cyclists and to consider if they really had the awareness to choose those terrible consequences for themselves.

Finally, I would like to contrast two collisions which occurred in Pasadena about a year ago. In one, the Pasadena City College Homecoming Queen, while riding on a moped, had a low-speed collision with a car; within days, she was dead of head injuries, preventable had she been

helmeted. In the second, Caltech grad student on motorcycle and a motor vehicle collided. He was helmeted; today, despite the pain of his injuries, he is a productive and talented member of our community.

Any motorcyclist, indeed moped and bicycle rider, travelling on streets shared with larger motor vehicles needs to protect him/herself with a helmet. It seems, from the experience of the past few years, that the most effective way to reach that goal is to require the use of a helmet.

Sincerely yours,

—Stephanie M. Tombrello

P.S. A summary of the studies noted is in "Status Report", Vol. 15, No. 7, May 6, 1980, a publication of the Insurance Institute for Highway Safety.

Well

FROM THREE

have a prime opportunity. It is even worth cutting a day or two off of your Christmas vacation to come back in time to witness the Tournament. (Seeing as how registration is usually scheduled for 2 Jan., you might want to come back on the 1st anyway.)

One warning: dress warmly. If your experiences run similarly to mine, you'll be too active to notice the cold during most of the evening and early morning, but once you settle down to watch the parade you will free your *tuchis* if you aren't wearing a good, warm jacket.

I'll see you there. Enjoy your vacation and God bless you.

—the realist

P.S.: the snowline is still dropping. ETA Caltech on 6 January 1981.

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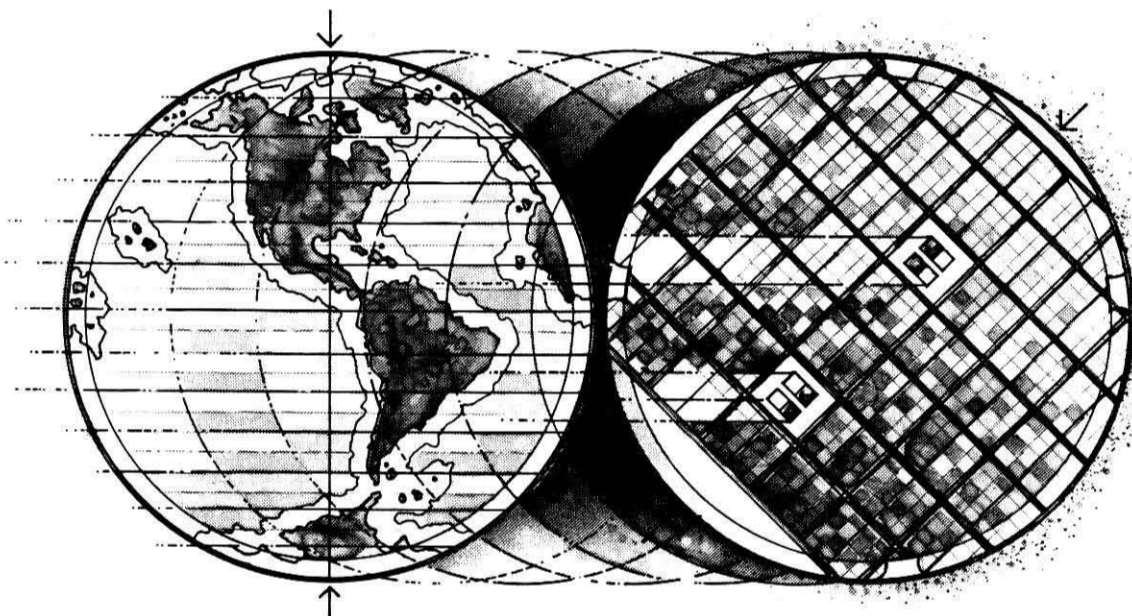
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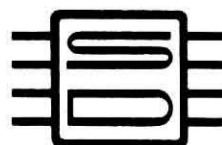
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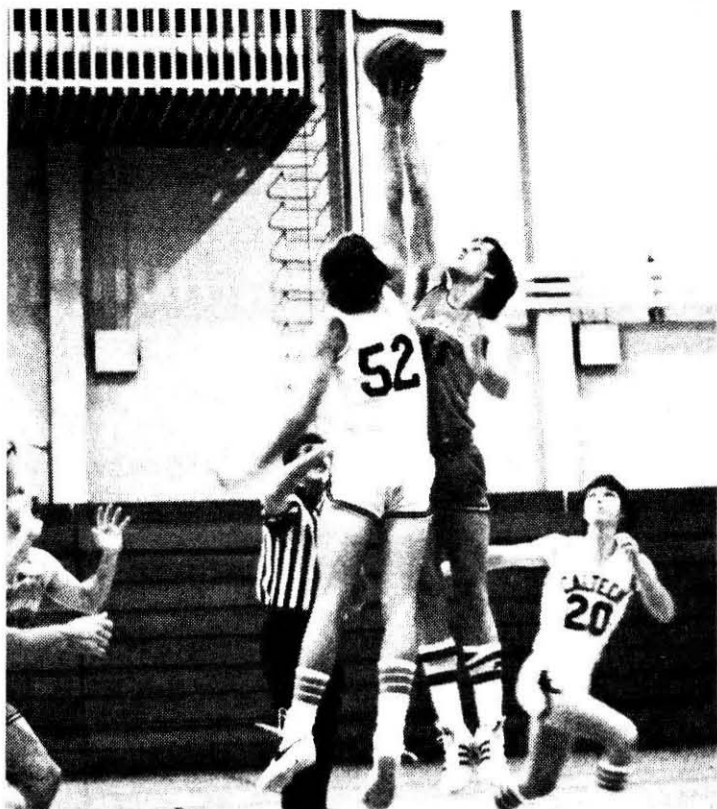
Alumni B-Ball Game Played

By P. G. Hepzibah

After losing the first three games of the year, the Caltech varsity put together a string of three consecutive victories on the basketball court and will go into 1981 with a 3-3 record. The B-Ball Beavers opened their home season last Friday with an impressive 71-33 win over LIFE Bible College. The victory margin was the biggest for a Caltech varsity squad in over a decade as they employed a tough zone defense to squelch LIFE's scoring opportunities.

Frank Janeczek scored career highs in points (23), rebounds (9), and assists (6) to lead the team in all three departments. Frank scored Tech's last ten points as the Beavers broke the 69-point barrier for the first time this year. Pat McMurtry added 18 points. It was the first win for new head coach Mike Poizner, who praised his team for their ability to move the ball, play tough defense, and play a good team-oriented game.

Beaver Fever struck again on Saturday as the Varsity defeated the Alumni, 48-34. 18 veterans of Caltech basketball returned to challenge this year's squad. Pat McMurtry scored



14 points for the winners while Gary Tornquist, Mike Pearson and Bob Golden had eight points each. John Pender led the Alumni with eight points. This year's alumni squad, coached by Ed Preisler and Huddy Scott, featured Pete Edwards, Mark Bandhauer, Greg Blaisdell, Tom Heinz and Roger Noll as the starting lineup. Noll led all rebounders with nine.

Roger Noll returned on Wednesday with the "Lunch Bunch" to challenge the Varsity. Comprised of professors, graduate students, JPL employees, and JV players, the

"Lunch Bunch" jumped out to a 16-0 lead. It was not until Phil Patten hit a free throw with 8:00 left in the half that the Varsity got going. After shaving the margin to 23-16 at the half, the Beavers took control of the game. Gary Tornquist had 8 of his 10 points in the second half as the Beavers came away with a 44-38 victory. Bob Roth led the "Lunch Bunch" with ten points and Greg Blaisdell added eight. On January 7 the Beavers will play Southern California College as the final preparation for the conference game opener on January 10 against Oxy.

Pretty Void Clone

FROM ONE
FROM FOUR

Or if that's not bad enough, consider "Falling Again"—a piss-poor imitation of rockabilly boogie. This one boogies like an overturned cement truck. As the lyrics proclaim of the beautiful lover:

I jumped a freighter bound for Mombassa

I worked every day neath a burning sky

I wrote her sea poems and nautical letters

I remember her words till the day that I die.

She said Doop Doop:

She must have been something, eh? Not every girl can imitate R2-D2 with a head-cold.

Phil May, instead of relying on his good, solid rock voice has had a stroke of inspiration: sing like Elvis Costello! But when Elvis Costello sings like Elvis Costello it sounds great; when Phil May sings like Elvis Costello it sounds like a baby elephant with his balls caught in a barbed wire fence.

I tried to make it all the way through this record but I couldn't. Tried my hardest, honest I did, but in the middle of the second side I flicked it in and put on Big Mama Thornton's "Wade in the Water".

Ahhhh.....

—Bruce Sams

DNA molecule is obtained, either through synthesis or from the natural source, and is combined with the DNA of a host bacterium. Thus, the host bacterium DNA will accept the foreign DNA as its own and will make the RNA from the DNA. Once the RNA is created, the protein can be formed in the ribosome and taken out of the bacterium. Finally, the bacterium's protein is dissolved, leaving the foreign protein. In this way, proteins such as somatostatin, a stomach enzyme and the pituitary hormone have been fashioned.

But not to worry about the creation of "Andromeda Strain" kinds of bacteria, assured Dr. Davidson, for not only are the most sterile lab procedures performed, but a type of bacteria, *E. Coli K12* is used, which cannot survive outside of laboratory conditions.

He concluded by going over some current topics of research. A particularly mystifying topic is that of why some parts of the DNA are used in all cells, but other parts are used only in specialized cells, though all cells may contain the DNA.

The evening was lightened by some of Dr. Davidson's anecdotes, and despite some early shakiness, turned out to be a general cloning around.

THANK YOU

We would like to thank the Caltech Community for your continued support and remind you that we will always continue to offer a tremendous discount to Caltech and JPL.

We would also like to announce the moving of our store at 2390 East Foothill to 1244 East Colorado (Colorado and Chester). Our move to this new and bigger store will be completed after finals.

We will be carrying a variety of brands including: Adcom, Aiwa, Akai, Amber, Audio Interface, Audire, Blaupunkt, Dbx, Denon, Discwasher, Dynavector, Hafler, Harmon Kardon, Jensen, JVC, Koetsu, Koss, Lustre, Maxell, Micro Acoustics, NAD, Ortofon, Proprius, Sennheiser, Sheffield, TDK, Teac, Technics, and of course GNP Speakers.

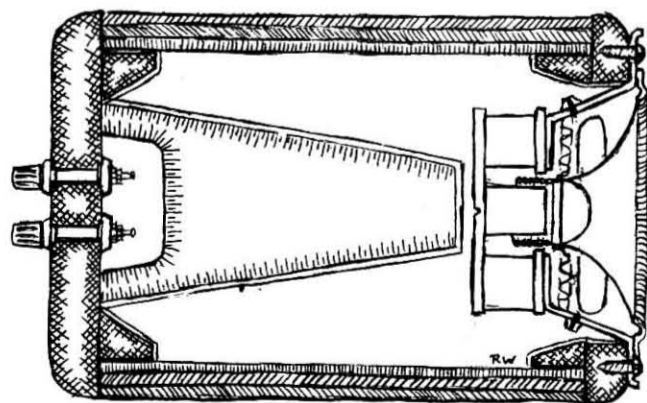


fig.1

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* all the news that fits in print *

On Campus Recruiting for All Degree Candidates

On campus interviews for permanent employment will begin January 12, 1981.

Procedures for On-Campus Interviews:

For every interview you have:

- 1. Research each company before making an appointment.
2. Resume must be submitted at time appointment is made.
3. Write the name of the company you are interviewing on each resume submitted.
4. Sign a transcript release form.

A list of organizations that will be recruiting on campus will be available DECEMBER 8, 1980.

GDG

the Caltech Gay Discussion Group will have a meeting tonight in Clubroom 2 in Winnett at 7PM.

For Whom The Bell Tolls

The Caltech Coffeehouse on Holliston Avenue (look for the red light) will close Friday for the winter break.

Job Seminar

Mr. Donald Rowe—Vice President of Industrial Relations at General Valve Company will present a seminar on "How to Approach Getting a Job".

Be sure to mark January 8, 1981 on your calendar! The seminar will be held in 153 Noyes from 4:00-6:00PM.

Get Strung Out

Caltech will offer a new guitar class with guitarist Darryl Denning starting in the Winter term. The new Intermediate Guitar Class will emphasize note reading on the entire guitar fingerboard and will enable students to make a smooth transition from the Beginning to the Advanced Class.

Phony News

There will be two make-up sessions on how to use the new phone system on Dec. 16, at 2:15PM, and Dec. 17, at 2:00PM, in the Salvatori Room (365 South Mudd).

Hallelujah!

The Credit Union Offices (JPL and Campus) will be closed for twelve days beginning 3:30PM Dec. 23. They will open for business at 9:00AM on January 5, 1981.

Big T Phones

FROM ONE To call off campus within the 213 area, it has been necessary to dial 6, 7, 8, or 9 to get a trunk to the proper area. If you guess wrong, your call is aborted.

The various two-digit access codes are also changing. The JPL tie line will change from 57 to 77. The 24-hour emergency number will change from 50 to 5000.

FROM ONE The yearbook cost \$9750 to produce and the 800 copies should come out around Christmas. It will be 208 pages and have a format similar to that of '75 and '76.

If you're interested in helping with the Big T, be sure and see next year's editor, Mark Randolph.

operator assisted long distance, 53 and 55, will be eliminated; to get operator assistance, just dial the obvious 0. The Biology dictation number will change from 51 to 71. Pagers will be accessed with 74 instead of 54.

Many custom calling features will be available with the new system. Call Waiting notifies someone with a call in progress when another caller is calling, and allows him to answer the second call while holding the first.

Seminars on the new procedures will be held today in the Salvatori Room (365 South Mudd), and in Millikan Board Room. Times in both rooms will be 8:30, 10:00, 1:00, and 2:30.

Technical questions and problems with the new system should be directed to Betty Bosserman at (new) extension 4741. Policy-level questions and complaints should be directed to Bill Wong at (new) extension 4875.

P. Proton:

As an elvish construct, one must have a savoir faire for the art of the whirling dervish. So best of luck Sunday. -the master

Dada

FROM TWO

paralyzing goo of unaware life-and, since every thought has a parallel action, we transform the world.

While the usual (political) revolution espouses a particular goal, and religious conversion (the other metaphor for this state) is seen as conversion to something, we say that the state of revolutionary conscious awareness can and should exist even in the absence of a specific symbol on which to fixate.

DADA MANIFESTO XIII

We have no use for the forms and methods of the past, nor for those of the future, nor of the present. The march of mankind is a procession into lavender lacquer. The motor-scooter does not taste like my sister and Dada hereby abolishes physics.

-Pierre Sie

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