Mind Researcher Lilly Explores the Senses

by D. Callaway & G. Simay

John C. Lilly, M.D. (CTF Class of '38) is an explorer of the mind. He discovered that floating in a special tank and undergoing sensory deprivation enabled him to safely experience and other "far out" states of being. Lilly and others have since done extensive work on sensory deprivation. (Feynman was one of his subjects.) Lilly has also studied dolphins and drugs. His books include Man and Dolphin, The Center of the Cyclone; and his soon to be released Simulations of God. His Fugue-covered lecture before a packed Ramo audience last Tuesday concentrated on his tank experiments.

"Feynman was lecturing on quantum mechanics at the Hughes Research Labs in Malibu. I decided to go down there to listen to him. While I was in the lobby, I met a guy I first thought was the janitor. He turned out to be Feynman. I had fifteen minutes to convince him he ought to go in the tank. Well, I succeeded. Every Wednesday morning for the next twelve weeks, Feynman would submerge himself in the tank for two hours. In the afternoon, we'd go to hear him lecture on advanced quantum mechanics. Feynman gave me a copy of his Lectures on Physics with the inscription, 'To John Lilly with thanks for the hallucinations.'"

Into the Tank

In 1954, Lilly began his tank experiments, with himself as one of the subjects. "I discovered many things but didn't dare reveal them. At that time I was with the National Institute of Mental Health as one of the researchers and was in charge of the patients... Later on, the government supported us because they thought we were doing brain-washing experiments."

Actually, the tank experience couldn't be further away from brainwashing. "The intact adult is always there." The tank experience was different from states induced by LSD, pyotone or mescaline. "From 1954 to 1964 we never mixed LSD with sensory deprivation. From 1964 to 1966, when it was still legal, I was in the tank under the influence of LSD and we studied its effects. With LSD, you actually have a constricted consciousness, not an expanded one. LSD is like a searchlight that enables you to go to where you've never gone before, but without the drug you have full peripheral vision. As you know, you keep hearing the phrase 'altered states of consciousness' which includes all the drug induced states. Well, my grandmother had a cat that was altered, so if you want to call these altered states 'altered' I suppose you can. There are really only two states of consciousness; consciousness and unconsciousness. We prefer to use the term 'states of being' to describe the various experiences we undergo."

Junior Hallucinations

Gentle, convective currents keep the subject in the middle of the tank. He is also buoyed by the heavy solution of magnesium sulfate in the water. Construction of the tank is fairly simple. Getting a good solid-state ther-

TANKS FOR THE RESEARCH. Dr. and Mrs. John C. Lilly, along with former guinea pig Richard P. Feynman. Photo by G. Lilly

The Red Cross will be accepting blood in Dalbrey Lounge on April 20 and April 21 from 9 a.m. to 3 p.m. Those interested should contact Veron Walker, x2774, in the Personnel office in Keith Spaulding (Business Services). The Caltech Blood Bank operates somewhat like a checking account in that the donor or any of his relatives may draw up to the amount of deposit anywhere in the U.S. Credit is still retained after the donor has severed his Caltech affiliations. This perhaps the only way that liquid currency can beat inflation. Track some away for a rainy day.

Gee Club Sings at JPL

Last Friday marked the dedication of the new Mariner 10 commemorative stamp at JPL. The Mariner 10 mission was a 16½-month flyby of Venus and Mercury, blasting off November 3, 1973. It carried twin television cameras and a battery of test equipment to delight chemists and physicists alike.

Presiding over ceremonies was Kathryn Wilson, Sectional Postmaster. Dr. W. H. Pickering, director of JPL, handled the introduction, and the Caltech Gee Club combined with the Third Marine Aircraft Wing Band to provide entertainment.

The Gee Club, directed by Orli Freedman, presented several numbers as a prelude, and also gave a selection at the end of the ceremonies. Each member was also presented with two first day covers of the Mariner 10 stamp, and an edible, delectable metal.

Preparation for the Reearch, dr. and Mrs. John C. Lilly, along with former guinea pig Richard P. Feynman. Photo by G. Lilly

Bruins Bow to Tech, 2-1

by Bob D. T. Hardy

Victory to the Caltech Hockey team is like coats to Newcastle. Yet it was surprising how a row of goal tender Cliff Brown's pro tentations that he would be unlikely to see the puck if it came near him (he was in a particularly imperturbable stupor). It was also surprising in view of the manifest vengeance-driven effort of UCLA, infuriated by the score of Tech Hockey team that appeared in the L.A. Times. Finally, it was surprising because novice Fred "Jet" Culick was substituting for veteran coach Jim Warden.

The Caltech Hockey Beaver played brilliantly. They dazzled Dan Dobkin, taking the puck on a nifty pass from Jeff Culick on the bench said, "Believe me, they're everything." Culick merely smiled and said, "Looks aren't everything." Culick merely smiled and said, "Believe me, they're everything."

In the third period UCLA scored. As the indicator lights flashed and the sirens sounded, goalie Cliff Brown opened his eyes as though to see a dream and scattered. "Get dressed for the game, but Leigh Moyal of Tech got into a slashing tussle with UCLA's Luce. Both were penalized. Although Moyal did not suffer any physical disabilities, he found it hard getting up afterwards.

News Briefs

Give Blood To Those Interested

The first ASCIT budget meeting will be held 4-6 p.m. Tuesday, April 12 in Winnett Clubroom 1, BOD members, BOD committees and organizations seeking funds should send their representatives.

Cash Goodiah

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Dropping, Section Change Rules Amended for Third Term

by Gavin Chuyap

Section and track changes are now due by Drop Day, following approval of a proposal from the Undergraduate Academic Standards and Honors Committee. In previous terms such changes were due by Add Day (does anyone remember the time seen on Min T.A.s changed sections after Add Day?). Another new regulation is that students may drop a course without obtaining the instructor’s signature if they turn in their No. 4 card by Add Day. Interested parties are reminded that Drop Day is May 23, not May 30 as listed in the catalog.

On To Next Year! The 1975–76 academic calendar has been released, with one major divergence from past years. The week of December 22–26 will be Dead Week at Tech, with Christmas Day and four float holidays for employees. Term break, alas, will still be two weeks for students.

As a result, grades will be due at 9 a.m., December 19, the Friday of Final Week. Keep that in mind, bridge trolls.

Fresh registration will be September 24; general registration first term is September 29. Second term registration is January 5, and third term March 29. Memorial Day Falls on May 31, restoring the three day weekend of Senior Finals Week. Ditch day is tomorrow.

**Electronics Seminars To Be Televised**

Four hour-long television programs on microprocessor technology will be broadcast in 20 metropolitan areas on the mornings of April 15–18.

The different sessions will present system architecture, chip fabrication technologies, potential applications for microprocessors, and their use in communication systems.

The series was developed by the Texas Instruments Learning Center as an alternative to traditional methods of dispersing the latest technical information. As an aid to the series, the Center has prepared a 226-page reference data. The seminar was given on March 29 by Associate Editors Eric H. Eichorn and Ken Yoshida. It is also available in printed form.

Fellowship Profiles--Dr. Bruce Murray

by Ed Bielecki

(This article is the first in a series on this year's Guggenheim Fellows, who are currently members of the faculty at Caltech.)

When Professor Bruce Murray, of the Space Photography Lab, was awarded one of three Guggenheim fellowships given to Caltech faculty, he was happy for several reasons, not the least of which being that the fellowship, which is used to help defray the cost of a year of full-time research, will enable him to have an extended escape from Tech for the first time in 15 years (Tech has no regular sabbatical program.).

The Guggenheim fellowships are awarded on the basis of previous accomplishments and future work, in all phases of the arts and sciences. Professor Murray said he will spend his year of work in La Jolla doing research into “the comparative planetology of the terrestrial planets,” (Mars, Earth, Venus, Mercury). Much of the data he will use will be very familiar to Professor Murray, who has worked on planetary probes from Mariner 4, in 1961, to the recent Mariner 10, for which he was photography team leader. His research will culminate in the writing of a book, on the group's findings, for third-year seniors, cards along the old format but printed in blood red on blue background. Choosing to understand or desired by the senior in question, the legend “Third with this book will be added at the bottom.

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**THE CALTECH FORUM**

**"Holocaust Day" Observed**

This week, Holocaust Day is solemnly observed across the globe. It was thirty years ago that the Allied forces liberated the concentration camps. Upon arrival at the concentration camps, the horror that they saw was indescribable. There— a boy who was no more than a skeleton, barely able to move. There—an old man who had been mutilated. There—a woman clutches her dead child. Everywhere—starvation, disease, and death. And further inside—a gas chamber. “This has exterminated 300,000 people,” a Nazi officer explained with pride. And on the liberators went, on to the living quarters of the campmates. There, too, was horror: the soap, the china, the chairs, all made from Jewish bodies. The container which held the fillings of the teeth of those who had been killed, so that the Germans wouldn’t waste anything.

It was indeed a pitiful and frightening scene that met the liberators of the concentration camps. And 30 years later, we have forgotten. Forgotten the textured face, the stench of dead bodies rotting in the sun.

Germany was the most scientific, the most cultured, the most technologically developed country at that time. How could such an inhuman act as the Holocaust have occurred?

The answer is one that is important to us. Here at Caltech we are working to improve the society we live in. But the lesson of the Holocaust we must always keep in mind. Science is not enough. It will not solve the world’s problems. The “doctors” in the concentration camp believed in pure science. And in the name of pure science they conducted experiments on human beings that were shocking. But if we always bear the lesson of the Holocaust in mind, we will never have another Holocaust.

---

**THE ASCIT FRIDAY NIGHT MOVIE**

"The Great Race"

7:30 p.m. & 10:00 p.m.

In Baxter Lecture Hall

Admission: $0.50--ASCIT members and their guests; $1.00—anyone else

Next: A Funny Thing Happened on the Way to the Forum

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**THE CALIFORNIA TECH**

Friday, April 11, 1975

Volume LXXVI Number 23

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Associate Editors: Eric H. Eichorn, Ken Yoshida
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Entertainment Editor: Chris Harcourt
Sports Editor: Greg Bonn
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**FRANKLY SPEAKING**

by Phil Frank

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**ID Change Suggested**

As a concerned and part-time participant, I'd like to suggest what I believe to be a beneficial change in student ID. Regardless of any use of birth dates, it seems to me that a very therapeutic alteration would be to replace the birthdate for third-year seniors, cards along the old format but printed in blood red on blue background. Choosing to understand or desired by the senior in question, the legend “Third with this book will be added at the bottom.

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**The CALIFORNIA TECH**

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One of the hardest types of act to review is the kind in which there is no order, no pattern, merely rampant chaos. Such is the case with the Muledeer & Moondogg Medicine Show. I mean, just what do you say about an act which features bits of music, lampooned commercials, an entire staged version of "Tell Laura I Love Her," an ongoing newscast, and a performer firing a rubber-tipped arrow with his guitar. Appar-ently, other reviewers have had the same problem, creating such immortal prose comments as: "There are two of them," "40-minute show," and "They have never held up the next act."

These are not sufficiently descrip-tive, perhaps, but they are probably accurate. There are definitely two of them. It was about a 40-minute show. They were the closing act of the show. That covers all three quite nicely.

Press releases about MMMs presented such facts as: "The latest showbusiness tactic was a second place win at the Dutch Gardens Talent Contest where they came in right after the singing Clydesdale Horses." Now, ordinarily, I would have assumed that this was a simple put-on, but I did see a photo of MMMs standing beside Ted Mack on a stage. I am no longer sure that it was a put-on. "They were disqualified from receiving the coveted Tap Dancing Peacock Trophy when discovered snorting horse manure, a felony in Georgia." I must admit that snorting horse manure is bad taste in California, and just about anything is a felony in Georgia, so that one may be true, too.

Muledeer and Moondogg Medicine Show have been featured on many TV shows for their comedy and several other office workers for tacky things thru the mails." Well, they apparently have been on TV, and the photo of them that I got through the mails was pretty tacky, all right. "A sixth encore at Pasadena's Ice House." Who am I to quibble with the staff.

The Muledeer & Moondogg Medicine Show is sort of a visual Foreign Theatre with fewer people and a piano. I realize that this may not be of much help to those of you who have never seen a piano, but it is the best I can do.

On the bill with MMMs at the Ice House this week is a "new" sort of a musical distillation. David Sommerville, guitarist and the person who stands in the middle of the trio, is a veteran performer whose music has been a part of several groups, including the Diamonds (whose hit, "Little Darlin,'" was one of the biggies of the early sixties), the Four Purps, and Belknap and Sommerville (guess which one he was). Keith Barbour, the guy who stands on the audience's right, has a relatively recent hit with "Echo Park." The third member of the group, Cal Jen-nings, looks like the magazine model and actress she is, but sings even better than she looks, which is indeed saying some-thing. Chevy does music that is a mixture of mule, rock and roll, and country. Their forte is vocal quality and harmony. In fact, they are the only accompaniment in David Sommerville's guitar. Overall, the group reminds me of some of the better musical groups like Peter, Paul and Mary (with singer replacing at least Peter and Paul) or maybe The May's or Ian and Sylvia. So far there is nothing terribly forceful about Chevy's music, but it is definitely nice to listen to, and if they stay together it will be a group worth listening to. Anyway, the group that is having fun up there on the stage, and shares that fun with the audience in the form of music. Chevy is good. I think they will soon be better.

After MMMs and Chevy finish up their stay at the Ice House on Sunday evening, there is a Monday night special show, to be followed on Tuesday by Tim Morgan, Kelly Monteth and Dan Murphy. Frequently, something large and bulbous just ate my mailbox, so I can't figure out who is the featured act on Monday night. Oh, well, maybe I'll remember to get an extra copy next week. Maybe it won't get eaten until after I read it this time.

---Chris Harcourt

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Social Activities Director

"DUTIES OF THE DIRECTOR FOR SOCIAL ACTIVITIES. The Director for Social Activities shall be a member of the Board of Directors. He shall be chairman of the Social Committee. He shall be responsible for the organization of the corporation's social activities and shall coordinate them with the social activities of the undergraduate Houses."

Jack Bacon

Tom Snyder

Do you like to spend Friday night in your room reading your Feynman? Or spending an exciting night solving different problems? The Director of Social Activities should give you that something else. You paid your ASCIT dues, now you deserve a return on your investment. The social director, as chairman of the executive social committee should provide the impetus for a real student social life at Caltech. He should both the present and the desire to get the job done, I would not be doing my best to be a responsible director. I am running again on the same platform.

I am no more (or less) competent to chair the executive social committee than is any other candidate for this office.

My reason for running for the office concerns the second half of the year . . . the election office which merged with, Dir. Soc. Act. last year and has since been forgotten: the Director of Student Life. This office holds the responsibility for the numerous social activities and development of the extra-curricular activities and clubs open to undergrads. The office sometimes requires diplomatic relations between the clubs and related Institute departments concerning the use of facilities (Did you know that students are charged "professional" rates for the use of all auditoriums, the Atlantic and the Athletic department, and the equipment check-out procedure? They are not a library). scheduling of the clubs? Why, in the absence of the "little T" student government, there was made an effort to recruit and inform incoming freshmen about the opportunities and responsibilities in the form of "organized" club activities?

In being elected president of 2 major campus organizations, I believe that I have demonstrated my genuine concern for the development of your extra-curricular activities, I care, and even if you don't, please give me the chance to do the job I want to do. I'd appreciate your vote.

Jack Bacon

Morris Jones

The office of Director of Social Activities is one that has been close to to improve the lives of students. At Caltech. Once elected to the office I would be able to do that work. The students here, in most cases, did not come to Caltech because of the extracurricular activities it provides. But once here, the activities are very much a part of making life here enjoyable, and the support and promotion of clubs and activities would be my job.

I emphasize the promotion of student activities, meaning clubs, social events, and everything involving a group of Caltech people. Many of the dying clubs and organizations are dying because they have not been able to make themselves known to the people at Caltech. Also through the promotion of proposed activities and clubs we could help bring the right groups to people together and expand the opportunities for involvement.

The only requirements for this office are a strong interest in student life at Caltech, a knowledge of what needs to be done, and a willingness to do the work. I have all three. I would appreciate your support on election day.

—Tom Snyder

More News Briefs

Candidates

Career

Candidates for the offices of Bf T editor and business manager, California Tech business manager, Coffeehouse manager, little t editor and business manager, Totem business manager and Publications darkroom chairman; please contact Chen Sun, ASCIT treasurer, 24 Fleming.

Coffeehouse

Color

Tomorrow evening at 8 p.m. in Baxter Hall, Coffeehouse is showing two excellent Eastern European films: Dovzhenko's brilliantly photographed masterpiece which won the Best Director Prize at Cannes in 1927, and the haunting Sheherazade. Both films are in color and should not be missed. General admission: $1.50. ASCIT and GSC members: $1.00.

Concerts

Combo

The Caltech Old Time and Bluegrass Music Society will hold a combination organizational meeting and jam session this Saturday, April 12, 1975 in room 250 Baxter at 2:00 p.m. All persons—hold-not thinking about it—are welcome. For information call Jim Mullany at 449-9735 or leave a note at 14 Fleming.

Coffeehouse Café

There will be a series of shows by Harry Ford II (Mr. Ford is Chairman of the Ford Motor Company. He is also Chairman of the National Center for Voluntary Action, and Co-Chairman of the Detroit Renaissance, an organization of business firms designed to attract new businesses to that urban area. He served as the first chairman of the Metropolitan Detroit Renaissance in 1968, whose purpose is to find employment and training for the hard-core unemployed.)

These Trying Times

by Henry Ford II

On Saturday night at the Coffeehouse, a rare 70mm screening of Tomorrow Night, featuring various musical artists and poets from Tech and the surrounding area will start at 8 p.m. Admission to the show is 25 cents. Interested artists, it will be appreciated if you contact Mose Ma at 380-8273.

Con Call

Are you interested in attending the Stair Trek Equation (also includes Fantasy Filmcon) in San Diego (Memorial Day weekend)? Please contact Steve and Barbara Blum. See Bruce Miller in 38 Dabney House for details on car pools and hotel rooms.

Murray

Continued from Page Two respectively, in the field of geology, came to Caltech in 1960. He has been involved in planetology, paleontological science, American's first article on infrared astronomy, subject Mars; and being appointed, in 1963, Caltech's first professor of planetology, came to Caltech in 1960. He has been appointed by Henry Ford II (Mr. Ford is Chairman of the Ford Motor Company. He is also Chairman of the National Center for Voluntary Action, and Co-Chairman of the Detroit Renaissance, an organization of business firms designed to attract new businesses to that urban area. He served as the first chairman of the Metropolitan Detroit Renaissance in 1968, whose purpose is to find employment and training for the hard-core unemployed.)

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The Prisoner of Second Avenue, Simon's adaptation of Neil Simon's play, produced by Warner Broth- ers.

Another Neil Simon play has survived the transition from stage to silver screen. The Prisoner of Second Avenue reflects an optimistic view of the ultimate struggles with urban living.

Jack Lemmon portrays the "prisoner," a middle-aged, moderately successful businessman who loses his cushy job after a score of years and has to face the city on its own terms.

And the terms that New York gives are the core of the story: the eternal sounds of urban living, the cardboard lifestyle, the wailing odors of garbage, the violence of overcrowded people. The prisoner's ego, already weakened by his loss, breaks completely when reality pushes in, leaving Lemmon comically and wonderfully naked.

Annie Bancroft gives a strong performance as the prisoner's wife—her reasons for marrying him are not programmer's. For all of his troubles with urban living, the character Lemmon portrays never once considers leaving the city. It is his wife who continually broaches the possibility, meeting only with strict negatives.

The role of the wife is sensitive, however. It is a more than a counterpoint to the role of the husband than it is a role of its own. When Lemmon loses his job, Bancroft is forced to look for one. When Lemmon suddenly regains his ego, Bancroft loses her job and begins to have a breakdown of her own. It is a sustaining role, strong only where it needs to be.

Gene Saks performs the only other strong characterization in the movie as the prisoner's Continued on Page Eight

Approaching Oblivion (Road Signs on Their Highway) by Harlan Ellison, published by Walker and Co., hardbound. $5.00. Quite often I don't get around to reading a book until it has been out for quite a while. In this case it was laziness and cheapness on my part, since we didn't get a review copy, and I didn't feel like tracks one down until someone handed it to me in my hand.

Approaching Oblivion is a book of stories about the ends of things: live, worlds, civilizations, childhood and just about anything else that seems permanent when you come to it. Several million of us were made up of stories, ten of them relatively new, one written in 1962. There are also ten pages of forewords and introductions, ones that are actually worth reading.

"The great lizards owned the planet for something like 130,000,000 years, but they didn't have some-thing-wrangling, pesticides, pollution, fast breeders, defoliants, demagogues, thermonuclear warheads, non-biodegradable plastics. The Penta- gon, the Kremlin, The General Staff of the People's Army, Ronald Reagan, Richard Nixon and the rest of them.

"Poor lizards. What joys they missed. Had they not been so culturally deprived, they might have sunk into the swamps in a mere three thousand years." The reviews of this collection as more disillu-sionism with the world than ever before, and that is really hard to call him cynical when so much of what he says is flat-out true, and then to tell the real bummer. A few years ago, people talked about using love to save the world, about ending pollution, ending wars, about cleaning up governments. Now they talk about where they are going to escape when civilization as we know it falls. I doubt about you, but that sort of thing scares me shitless, because it means that there are more pests than ever among the most optimistic groups willing to do anything. No more love and Woodstock. Just get out from under, and fast.

In Ellison's introduction, there is mention of the letters he received after dedicating one of his books to the memories of the four Kent State students killed by the National Guard. The most frightening one, perhaps in its entirety, is an attempt to "con-" Ellison's thinking by in-flicting him of the fact, in a calm and reasoning manner, that the Kent State students were Communists, revolutionaries and anarchists, and de- served to be, whether by a firing squad or by the National Guard.

"Detested to be shot, do you idiots even understand that? There are people out there who really want to shoot anyone who isn't a flag-waving, pablum- sucking, my-country-right-or-wrong android.

This collection includes both relatively contemporary stories about the death of free-dom in the world as it is about to be, to hopefully insane fantasies of different futures, with all the visions of hope and devastators. There is even a Yiddish science fiction story, only the second I've ever seen. There is a story about the earth rebelling against the stupidities of man, and a story of an alien planet ranging from Detroit to Barbara Streisand. There is a story of a thief in a world where there is almost nothing to steal. There is an old-fashioned horror story, a jazz story, and a truly undying love (one of my personal favorites since it was written by Harlan). There is even a story about the last man in the world (the world that is, the one inhabited by the dead), for a high-school reunion. There is an old-fashioned horror story, a jazz story, and a truly undying love (one of my personal favorites since it was written by Harlan). There is even a story about the last man in the world (the world that is, the one inhabited by the dead), for a high-school reunion.

"Silent in Gehenna" is a story about the love affair in America, the last one rebellion against a police state that puts barbed wire around the USC campus and tries professors for deviating from approved course materials. "Knock" is a devastating story about the destruction of one man. "One Life, Four Wrists" is a story about the kind of story that Rod Serling liked to do on TV, of a man who has a series of ecologies; these are good literature, not just good SF, and that is just what Harlan Ellison has always done.

Harlan Ellison marched in Selma with King in 1965. He walked out on money-making projects that he didn't like on any number of occasions. He is a man with a heart. No, he is the truth no matter who it hurts.

His stories are the better for it. This book is the better for it.

There is a quotation that begins the first story in Approach Oblivion, from Pastoral-Martin Niemoller.

"In Germany they first came for the Communists and I didn't speak up because I wasn't a Communist. Then they came for the Jews, and I didn't speak up because I wasn't a Jew. Then they came for the trade unionists, and I didn't speak up because I wasn't a trade unionist. Then they came for the Catho- lics, and I didn't speak up because I was a Protestant. Then they came for me—and by that time no one was left to speak up.

"Harlan Ellison is trying to speak up. It's too bad that so few are left to listen."

The California Tech

Swords & Starships

Electronics Showing to be Held

On the sixteenth of April, a Wednesday, AMP Special Industries will present a trade show in electronic connectors and inter-facing devices for the benefit of all those interested in this field. The products shown will range from simple LSI connectors and substrate modules to complex programming boards and miniature electromechanical relays. All facets of connector technology will be fully covered with the aid of technical experts on hand and the availability of working samples and literature. With the state of the art changing so rapidly in connector technology it is hoped that this show will bring you up to date with what is new and useful in your labs. If you missed the NECCON and WESTCON this year, you don't want to miss it this year.

The show will be held on April 16th from 8 A.M. till 5 P.M. at the HIC HOUSE, 24th and 4th, San Francisco, CA 94104. This Winnette Student Center on campus. It is an all-day affair but with no formal program, so you may come and go as you please. There will be handbooks and samples available for those interested.
The Fred Logs

Haden Joins Fray

by Fred

Hugh spent the next two weeks in the able hands of Father Aaron, his young friar mentor. He was without fear of the rear of the party as the orc battled raged. Through his consistent prayers and unfailing faith, Hugh recovered quickly from wounds that might have kept another male child bedridden for months.

Late the last night before a new face appeared before the fire. His name was Haden. One's first impression of Haden was size. He stood more than six feet tall and wore a huge winged helmet that made him look like a giant. Besides his fearsome appearance he proved to be quite a friendly sort. I had just been talking to a noble (hitherto on a being referred to as Superell) and was struck by the contrast in their personalities. I had heard of our adventures and had sworn to never to bring honor to the family name with some great feat of bravery. I thought to myself that I had barely been able to restrain him when he counted himself in to the next expedition we were planning.

Hugh was up and walking around now and I was eager to strike another blow against the forces of chaos.

Well, that was less than a proof that my research that seemed more worthwhile than running through a dungeon and was more likely to bring honor to the family name instead of just a few witnesses, a small crowd, and Father John counted them all. Then the attention turned to the left and broke.

"What need is there to discover the limits of science? Until we understand the reason of the universe, everything that is, we have the problem of miracles, or "nonoccurring non- equilibrium states." Is there any science limited to verifying only those events that repeat themselves. When an event occurs only once we cannot verify such events. Only during a large part of his talk, Murray had a large list of unverified phenomena on the screen. Some phenomena were finally verified; others were debunked. ("Velikovsky's theories are less a scientific law and they still aren't.") But most phenomena—from UFOs to ESP to astrology, they are too many, too unlikely, and too scattered. Coocher UFOs, "which continue to occupy the large simians we know. Are the footprints a hoax? Not long ago, another man bedridden for months in the hospital appeared he proved to be quite a rationalist today... Astrology, which has no scientific basis at all, can be considered through and kept coming, though our knowledge of astronomy is greater than ever before in history.

Three Limits to Science

Murray believes that an understandings of the universe, science can help combat irrationalism (as opposed to nonrational beliefs). Science must rely on experimentations as the builder of knowledge. Demanding of the scientist a prior information he cannot give will not bring us any closer to solving our social prob-

Second, "we cannot predict how certain phenomena will be...

A Fourth Limit

Murray found that some that convinces skepticism can be unscientific as wide-eyed credulity. After that, the most scientific thing one can do is to "jumping from colored blips on the radar. But Murray points out that "jumping from colored blips on the..." He started getting restless. By the time Haden was born, it was evident that the "jumping from colored blips on the..."

Continued on Page Eight

Lilly

Continued from Page One

mal regulator to keep the water at skin temperature is the most challenging problem.

Sensory deprivation does not always lead to hallucinations. "Most people have very powerful programs against such activities... But the very young often lack the sophistication needed for a..."

I am still nervous from the last battle, but being rather curious myself I agreed. We broke down the door to find five kobolds reaching for their weapons. Before they were half drawn, Superell and Sterling had leaped in and manhandled them with their swords. There was no treasure, so returning the door to make it easier to state as possible, we moved on.

The surface was only a few moments walk ahead now. Our vigilance relaxed a little as we climbed the second flight of stairs. Up ahead a harsh voice called to someone else, also unusual. Legolas slipped forward to check the first comer and verified the voice and there was a moody kind. Both mummies lay silent. We had Hugh and Golden Boy guarding the door. Halfway to the next stairs Superell stopped at a door we'd the second one and put his finger to his mouth. He stood and better understand their physical behavior and needs we may learn to use science to see how they affect society.

We'll just have to wait and see."

Continued on Page Eight

Murray considers Science Limits in Watson Lecture

by D. Calaway

Dr. Murray, Professor of Planetary Science at Caltech, addressed an audience of 300 on the limits of science in his Watson lecture, "Science, Technology, and Medicine.

"What need is there to discover the limits of science? Until we understand the reason of the universe, everything that is, we have the problem of miracles, or "nonoccurring non- equilibrium states." Is there any science limited to verifying only those events that repeat themselves. When an event occurs only once we cannot verify such events. Only during a large part of his talk, Murray had a large list of unverified phenomena on the screen. Some phenomena were finally verified; others were debunked. ("Velikovsky's theories are less a scientific law and they still aren't.") But most phenomena—from UFOs to ESP to astrology, they are too many, too unlikely, and too scattered. Coocher UFOs, "which continue to occupy the large simians we know. Are the footprints a hoax? Not long ago, another man bedridden for months in the hospital appeared he proved to be quite a rationalist today... Astrology, which has no scientific basis at all, can be considered through and kept coming, though our knowledge of astronomy is greater than ever before in history.

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Fencers Compete in NCAA Tourney

by Lt. Brigade

With the completion of the NCAA Regional Championships last Saturday, the Caltech fencing team completed another season. As mentioned in an earlier issue, the team was represented by three fencers, one in epee, one in foil, and one in saber. All started on Wednesday of last week and were required to show up at the Cal State Fullerton arena to check in our weapons. After the long trip down there, we found that our weapons needed some last minute adjustments before they could be legally accepted. This done, we made our way back to Tech (most schools stayed down in the area for the whole weekend), and prepared ourselves for the grueling task ahead of us. The next morning, before 7 a.m., we set out for the day's activities at Cal State Fullerton: three fencers daring to challenge the odds and thesuperiority of the other participants: three against the world! Well, we were successful in the foil match, and the immediate foil competition began around 9 a.m. Steve Connors, our entry in this event, squared off against opponents from such schools as Notre Dame, Columbia, University of North Carolina, and, of course, Cal State Long Beach. In all, he fenced nine or ten bouts, winning some of them. I didn't see much of his last few bouts, as I was warming up for my own match. About 1 p.m., I made my pool of the epee competition begin. In this, the seeding round, I was bent upon by fencers from Johns Hopkins University, Cal State Fullerton, and Brooklyn College (I should have beaten him), and the returning two time champion from, alternatively, New York University or Finland, Risto Humre. (He went on to defend his title.) Also there, but not in my pool, were two fencers, one from my old high school in New York, One, Ken Tomton, from Cornell, has made it to the finals of the epee competition for at least the past two years. In round two, two of us were left, I won the only bout which I won at the meet, and was eliminated from further competition.

It is the lonely privilege to ponder the past, but here I will make one remark that sports fans have sorely noticed before: athletics not only belong to the man who gives them to us, but to Mr. Benko made up for this by winning athletic prowess when he can. The fencers, by giving him the rose, but went over to all the others and gave the every other girl in the world. Later on, when the team awards were presented, he led his coach, Bivian Damoli, a septuagenarian, I think, through the same procedures. It was fun, but now we are looking ahead to next year. The team will be losing only two seniors, but one of them being the only remaining girl on the team. If Caltech ever hopes to rejoin the Southern California fencing league, it will need girls on the team. The boys have come to know that there are quite a few girls out there who have taken an interest in the sport. Whether the spirit of rebellion and the TEAMS COMPETE ON THE STRENGTH OF TWO FIRST PLACES (IN FOIL AND SABER) AND THE AFOREMENTIONED SECOND PLACE IN EPEE. THE SABER FINALS WERE FUN TO WATCH, WITH GREAT ACTING GOING ON ALL OVER THE PLACE. YOU see, Saber is judged by people (rather than electronic recording devices), and to con- trast, Cal State Long Beach. The next morning, before 7 a.m., we set out for the day's activities at Cal State Fullerton: three fencers daring to challenge the odds and the superiority of the other participants: three against the world! Well, we were successful in the foil match, and the immediate foil competition began around 9 a.m. Steve Connors, our entry in this event, squared off against opponents from such schools as Notre Dame, Columbia, University of North Carolina, and, of course, Cal State Long Beach. In all, he fenced nine or ten bouts, winning some of them. I didn't see much of his last few bouts, as I was warming up for my own match. About 1 p.m., I made my pool of the epee competition begin. In this, the seeding round, I was bent upon by fencers from Johns Hopkins University, Cal State Fullerton, and Brooklyn College (I should have beaten him), and the returning two time champion from, alternatively, New York University or Finland, Risto Humre. (He went on to defend his title.) Also there, but not in my pool, were two fencers, one from my old high school in New York, One, Ken Tomton, from Cornell, has made it to the finals of the epee competition for at least the past two years. In round two, two of us were left, I won the only bout which I won at the meet, and was eliminated from further competition.

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by Dick O'Malley

In the true spirit of Discobolus sports, the titans of Page defeated the evil hordes of Fleming in the nifty sport of handball last Sunday. This is not to be confused with European handball, which is something else entirely.

The victory brought the jock division of PETER/R to within 13 points (and five more victories) of Big Red, setting the stage for the traditional final showdown two weeks before finals, assuming that the Big Blue Machine doesn't blow it in the meantime.

Individual Efforts

In Sunday's competition, Page won all four of the singles matches, losing only the doubles set (all of which were pushed to three games). The athletic scene, in case anyone is really interested) performing for Fleming were Romero, Laige, Liang, and Cheng in the singles; Land and Vik in the doubles. The athletes performing for Page were Kober, Broswick, Rea, and the cute Bandhauer. Alonzi and Beall also played, and lost the doubles match.

Current Discobolus standups and challenge order are: Page 22, Blacker 3, Ricketts 3, Florence RA Steve Sheffield and the prolific hitting of Scurves were burying Lloyd, Page, (including backups), so that the Big Blue Machine doesn't blow it in the meantime.

Lilly

Continued from Page Six

"All right, you silly two-year-olds do this all the time."

Copolate Casually?

Still, our brains are rather playful. In an on-the-spot experiment, Lilly asked the audience to concentrate on the contents of the tape. Every 0.7 seconds, for 13 minutes, Lilly's voice drowed out. Even at the end of that time the audience claimed they heard a plethora of words (by the way, can anyone guess... casually) Lilly: "How many of you heard just the word 'calculate'?" (Very few hands go up.) "You're the only sane people in the room—in a funny sort of way. After six hours of listening to nothing but 'calculate,' I heard 2,720 words. Of these, five or six were the only words we rest the words we don't use yet."

Among the many audience questions, two stuck in my mind. One was the inevitable "What is reality?" Lilly: "Reality is a very complex system of beliefs, made by an observer which no one in the sciences has been able to piece down yet." (I have a feeling the question will remain a popular one.) The other was more promising: "Are there any cultures which have practiced sensory deprivations?" Lilly: "Fibetians lock you in a bare room for three years, passing food through a tiny slot and refusing to speak with you. They want you to first create a bad deity and give him your bad qualities. Then they want you to create a good deity and give him your good qualities. Then you destroy them both."

Hockey Undefeated

Continued from Page One

Diego, the team will fly to Boulder, Colorado, for the Western Regional facing San Francisco State in round one. If Tech wins, they will play the winner of the Denver versus Northern Arizona State series.

Prisoner

Continued from Page Five

brother: very rich, very secure, very much out of New York and living in the country.

The humor of The Prisoner of Second Avenue is darker than the humor of most of Simon's other works, and seemed provided only to break or modify the tension of the plot. A good point in Lennon's conclusion would be to have the couple on the terrace above, always ending with a bucket of water in the face. The play is rather than the comedy, and the comedy fairly glows with truths, most of them bitter. The Prisoner of Second Avenue reflects just a little shine from all of us.

——Donald L. Mallonee

Page Eight
Friday, April 11, 1975

Page Beats Fleming

by Tom Creswell

Behind the strong pitching of Fleming from Kevin Miller and the prolific hitting of Scurves and Steve Eckman, the Caltech baseball team romped to a 9–2 victory over Pomona-Pitzer last Monday.

Eckman got two homers and a double and 5 hits on the day (it was a doubleheader, Tech losing the first one 16–4). Winning, up to now, has not been the name of the game for the Beavers (1–5 conference, 2–10 total) but the picture in the future looks good, according to coach Ed Preiter.

"We've got 3 good pitchers in Miller, Ed Rea (Page), and Doug Roundtree (Dabney), as well as an excellent catcher (Rick Gayle), and nobody we haven't had in recent years," Preiter commented. He also added that Gayle had thrown out the first three men that had tried to steal second this first game, more than had been thrown out last year.

The Beaver coach went on to comment on each position, paying tribute to his outfield (Renee Johnson, Eckman and Miller) and junior shortstop John Dilles. He also indicated that the team's speedy record was due to absences and the changing juggling of positions, sometimes leaving a player with which he is totally unfamiliar. The recent rains have been responsible for many of the absences, since rained-out games were frequently rescheduled for days on which players had labs, etc. Of course, there's always a few slackers in the crowd ("I'm not here, coach.").

Getting first baseman Rick Mitchell and second baseman Greg Holt are the only seniors on a team (Quinn and Gayle, long dictation back-up), so that the future of the Beavers with a little luck may be a winning one. Preiter observed that for few more wins to come this season and has higher hopes for next year.

YMCA

Continued from Page Seven

downstairs in Winnett. Also, I will be maintaining this column during my membership as a means of keeping you informed on what we are doing. Make our effort worthwhile and don't let your mind stagnate on academics but turn to the Y's services and programs.

The California Tech

Lilly, Ricketts

by Tom Creswell

With an 8 point third quarter blitz, Page defeated Fleming 34–27 in Interhouse basketball action last Tuesday.

After holding a slim 16–15 lead at the half, Page, paced by the 14 points of freshman John Pender, overtook the Flies 18–12 in the second half. Consistent rebounding as a team also contributed heavily to the victory.

Fleming RA Steve Sheffield led that 110 points, followed by fresh sub Jim Hickey with six. Questionable showmanship and frequent substitution characterized the Fleming second half play until finally Page pulled up an eleven point lead and coasted to victory.

Elsewhere in the gym the Scorers were burying Lloyd, 40–17.

Help Wanted

Business Opportunities

Address envelopes at home. $500 per month, possible. Offer details, address to: TRIPLE S, 680–0274 Hwy. 138, Pinion Hills, CA 92372.

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Fourth year of flights to Europe. Contact Dr. Mandel, extension 1078 or 476–4543.

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