

BRAVING THE ELEMENTS, the Throop Three Consortium's efforts at holiday decoration withstood wind, but not the headache ball. Photo by Don Ivers.

Throop Three Triumphs

Christmas Tree Spirited Up

Another Caltech tradition came to life for the last time during finals, when the last Throop Three mounted the pinnacle of Throop December 13.

After the tree's selection (a six-footer from Alpha Beta), the expedition consisting of Lew Proudfoot, Bob Walkup, and Gavin Claypool went into action. After tunneling under the fence between Guggenheim and Thomas (tunnel courtesy of B&G), they climbed up the stairs inside Throop to the dome. The only access to the roof of the dome seemed to be a drainpipe, and was discounted due to its

unknown stability and lack of firm handholds on the roof edge.

Wanted: Non-Acrophobiacs

Claypool was sent in search of a ladder and recruits, and came back with both. Joining the expedition was Rik Smoody, a veteran of the 1970 attempt. The ladder was placed at the southernmost edge of the dome, making an inclination of almost 75°. Proudfoot carefully made his way up the roof, carrying wire rope, and then hauled the tree up after him. Smoody then ascended and the two moved toward the peak.

Standing on the upper ledge of the cupola, Proudfoot held

the tree centered while Smoody lashed it down. The only near-accident came as Proudfoot attempted to descend the ladder. His foot dislodged a piece of loose tile, which smashed into the lower roof a few feet from Claypool and Walkup, who were holding the ladder.

PR Takes Over

So matters stood for a week. Then KTLA, KNBC, and the *Star-News* came to take pictures of the demolition of Throop. The first act was for two construction workers to be air-lifted to the roof by crane, remove the tree (it took quite a

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The CALIFORNIA Tech

Volume LXXIV

Pasadena, California, Thursday, January 4, 1973

Number 12

Ballot Box Disappears; Election Voided

The ASCIT bylaws amendments vote held last term has been voided, due to the disappearance of the ballots, ballot box, and signature sheets from the Dabney House lounge. At the Board of Directors meeting Tuesday, elections chairman Lee Kondor reported that he had placed the election material in the lounge at 11:30 a.m. When he returned at 1:00 p.m. to pick them up, they had disappeared.

Kondor said that he asked people in the lounge about it, and was told that they "had no idea" what had happened to the box and related items. ASCIT President Joe Morin then directed Kondor to talk to the Dabney President about its whereabouts.

Unofficial results of the election showed the first amendment passing easily, while the other two failed to achieve the necessary two-thirds of the vote. All three proposals dealt with the organization of the social program.

No date has been set for a revote, since the ballot box must be returned or replaced before it can be held.

Will Interhouse Sing Survive?

by Kelly Beatty

Those of you who have had the misfortune to be at Tech for a few years will recall a certain interhouse encounter/extravaganza called Interhouse Sing (IHS), which, for reasons outlined below, has shown a remarkable decline in the past two or three years. Its origin, in 1954, was to bring good singers out of the houses and to the attention of people in the Glee Club. In time, its usefulness as a recruiting ploy has diminished, although several people now are in the Glee Club as a direct result of IHS participation.

As president of the Glee Club last year I was directly responsible for IHS. Acknowledging declining interest in it, I tried some new things to bring some renewed participation to the event. Although fairly entertaining to those attending, there was no increased interest, hence the impetus behind this article. Below I will list some facts, pros,

and cons about IHS:

- it is funded jointly by ASCIT and the Glee Club (50/50) and generally costs about \$150-250 (for an auditorium) or \$0 (for, for example, the gym) to pull it off.

- it is judged by 3 judges, usually, some with musical ability, others only for audience appeal.

- traditional areas of competition have been for choruses and quartets (in Tech's all-men days), but a mixed ensemble and random talent categories have been added in the past couple of years, with mediocre success.

- though enjoyable for those involved, it needs a number of interested people, at least 1 in each house, to get it off the ground.

- about 10 years ago, choruses up to 80 participated, but lately 10-20 is sufficient and 40 is extraordinary.

- IHS is usually held in

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Bookstore To Close At 4:30

Added Hour 'Insufficiently Popular'

by Dennis Mallonee

The Caltech Bookstore will resume its traditional closing time of 4:30 p.m. as of January 8, 1973. The later-hour proposals bandied about by various student groups have been tried out and, according to Bookstore management, have been less than the universal convenience hoped for.

ASCIT Proposal

The first formal suggestion for later Bookstore hours came from ASCIT itself, according to Kenneth R. Elwell, Bookstore Manager. This consisted of a plan to keep the Bookstore open for a lengthy period of time on one given night a week. In a discussion with the Bookstore Advisory Committee, it was decided that this would be an unworkable plan. The needs of the student body could be better served by staying open a half-hour later than the last afternoon class of the day.

A trial period was set up. The Bookstore remained open until

5:30 p.m. each weekday from October 16 through December 16, 1972. During this time, records were kept of customer counts, sales performances and miscellaneous other data.

Data Show What?

During the period of two months that the Bookstore remained open late, records were divided into two sections: 8:15-4:30, and 4:30-5:30. The Bookstore grossed an average of \$1072.63 the first eight hours and \$87.52 the last. 75% of the 27.6 people who made purchases in the last hour were *already* in the Bookstore *before* 4:30 and would have been able to make their purchases anyway.

In the words of Bookstore management, "The test results of the trial period showed the additional hour was used only by a relatively small number of students and was deemed insufficiently popular to warrant continuation."

News Briefs

Olive Walk Folk Concert This Friday

Pat & Jane, beautiful folk guitarists and singers will perform Friday noon-January 5.

The Athletic Department Wants Your Bod

The baseball and track teams begin their 1973 seasons with practices this week. Anyone interested in joining the teams (as always, there is a shortage of personnel) is invited to contact coaches Preisler (baseball) or La-Brucherie (track) in the gym (ext. 2147). Coach Lamb has announced that tennis practices will

begin on Monday, coach Reck says there are also a few openings on the swimming team, and the wrestlers need a Smoody. Join a team and see the world (southern California, anyway)!

Y Lounge Discussion

On Tuesday, Jan. 9th, there will be a Y lounge noon discussion with Don Ivers, Institute Photographer, who will talk about the use of the 35mm camera. There will also be a show of his work in the Y lounge.

Student Shop Meeting: Important

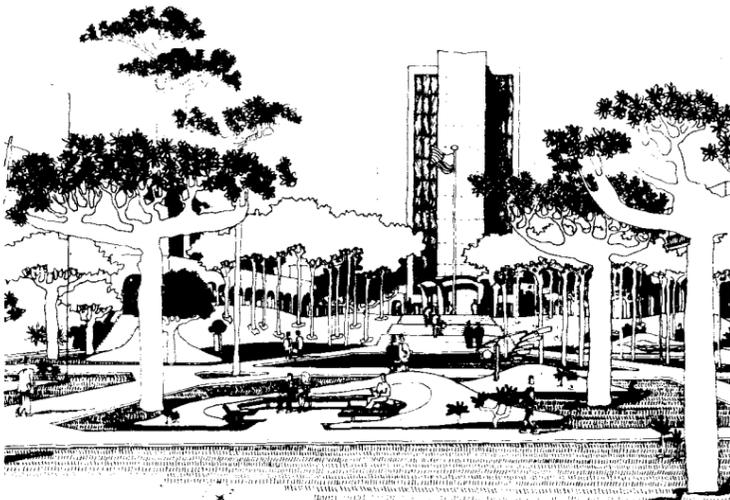
Anyone wanting to become a student shop member must show up at a check-in meeting this Saturday, Jan. 6, at 1:00 p.m. in the shop. Membership can be obtained only at this type of meeting. Fair warning: this could be the only meeting of its type this term.

HSS Credit Restored for Gray's Courses

Pending formulation of new proposals for the HSS require-

Continued on Page Seven

After the Fall



GHOST OF FUTURE PRESENCE - Artist's rendering of Campus Architect's plan for the site of Throop includes shaded walks and lawns from Millikan Library to the Athenaeum.

Editorials

No Master Keys

This page contains an open letter by the members of the Board of Control defining their position on the subject of master keys. On this matter we agree with them wholeheartedly.

There is really no legitimate reason for students to possess master keys. A student smart enough to enter Tech should be able to plan his time so that he can get his work done during those times when buildings are open; or, if he has a need to use various buildings after hours, he generally can obtain keys to those buildings he needs to use. Of course, it is the administration's responsibility to see that building keys are available to students who really need them. If there is a special circumstance where a student needs to enter a building after hours that he has no key to, he can call up the Security Office and have a guard open the building for him.

A master key is a potentially dangerous item. It provides a temptation for a student who does not believe strongly in the honor system, and the easy access it provides can lead a student to dangerous activities which themselves do not violate the honor system. (The now-dead tradition of running across the roof ledge of Millikan Library while drunk comes to mind.)

Caltech does not need master keys and everyone should look forward to the day when they are no longer so readily available.

—Peter W. Beckman

“Ridiculous”

The BOC letter elsewhere in this issue expresses the Board's opinion in the matter of master keys. However, the wording of the letter, along with its logic, is somewhat in question.

Admittedly, the number of unauthorized persons in various areas has been growing, although the actual number of suspected Honor System violations remains the sole possession of the BOC, as far as students are concerned. This is clearly a problem of concern for the Board, which is unwilling to make mere possession of a master key a violation of the Honor Code. Instead, as far as we can see, the letter has only two major points, which we will take in order.

(1) The Board believes a student is responsible for a key he produces and possesses, whether in his hands or in another's. This, we feel, is rather ridiculous. To charge a student with being an accessory to a crime he knows nothing about seems to be the result of this move. The

Continued on Page Three

ASCIT PROUDLY PRESENTS
Country Joe MacDonald
 and his group
 in concert at
Beckman Auditorium
Sunday, January 7, 1973
8:00 p.m.
 General Admission \$4
 \$1 discount for Caltech Community
 Tickets on sale at Beckman Ticket Office

THE CALTECH FORUM

El Kondor Pasa?

The Board of Control has become concerned recently with the increasing number of reports of unauthorized entry of private or restricted areas on campus. Because the right of privacy is explicitly guaranteed to every member of the Caltech community by the Honor System, any unauthorized entry of students' rooms, secretaries' or professors' personal offices or laboratories or similar private areas such as storerooms or shops by an undergraduate must come within the purview of the BOC. Furthermore, certain areas of the campus which are not necessarily the private areas of any particular person may have restrictions on their access for safety reasons, and the Board may have to take action in the event of unauthorized entry of such areas if any unfair advantage has been taken.

Since master keys have proliferated greatly in the last two years and since they are the principal method by which unauthorized entry is gained, they have become a specific concern of the Board. Although the BOC does not consider possession of a master key *per se* a direct violation of the Honor System, it is the consensus of the Board that a student who produces or possesses a master key is responsible for its use, whether he retains the key or passes it into the hands of others. With this in mind, the Board recommends that students, while they are at Caltech, exercise careful judgment in using or allowing others to use or duplicate their keys. Further, when students leave Caltech, we believe that they should destroy their master keys rather than take them into the outside world or give them unsolicited to another student who does not have master keys.

When master keys are proliferated in such a manner that it is unlikely that the persons who produced them can keep them within their sphere of personal

influence, the Board feels that the Honor System is being endangered. We feel that keys which are distributed by sale pass so rapidly from the manufacturer's personal control that it is inherently impossible for that person to meet the responsibility of insuring that such keys are not used to take unfair advantage of others in the Caltech community. Thus it is our opinion that students should not participate in the sale of master keys or in their manufacture for sale.

The Board feels we should also point out that most places students need access to can be entered by using authorized building keys. We encourage students who need access to

—Dana L. Roth
 Millikan

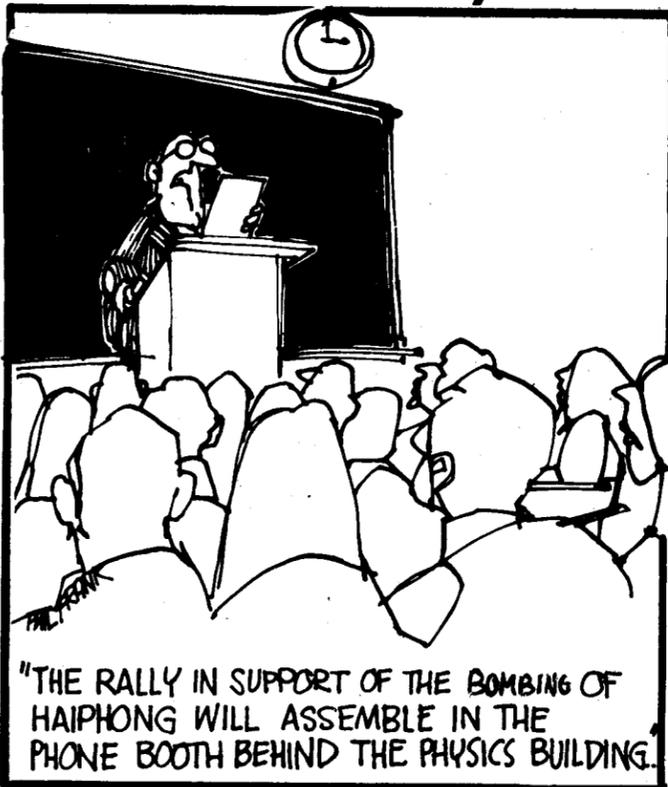
Library Rip-offs Hurt

Your recent letter about inter-library loan service mentioned in passing a problem that is of far greater concern. That is the theft of books from the Biology Library. When an inventory was taken of that collection during August of this year we discovered that in the previous twelve months we had lost 325 books. The average cost of a book added to that library is \$20.00. If we were able to replace all those lost it would cost us \$6,500 for the books themselves, plus several thousand dollars more in ordering and processing costs. The new book expenditures for the Biology Library for fiscal 1971/72 were \$9,800. You can readily see if we were to replace all missing books we would have only a small amount left for the purchase of newly-published books. So we replace only the most essential books, and mark the others as missing in the card catalog. If you know of a system short of checking every one's person and briefcase when leaving to reduce our book losses, please tell us of it. We would like to have the books you need available for you, but the people who are responsible for our losses often make this impossible.

—Edward R. Moser
 Associate Director of Libraries

FRANKLY SPEAKING

by Phil Frank



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Editorials Continue

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motivation behind this can only be a hope to restrict the number of master key possessors to those who already have them, thus eliminating the problem in four or five years. The Board supports this view by saying students should destroy their keys rather than take them into the outside world, or giving them to a student *who does not have master keys*.

The Board says giving them "unsolicited," but then giving them to non-possessing students who *do* solicit them contradicts the Board's own logic.

We agree with the Board's recommendation that students exercise judgment on the loan or duplication of their keys. This is not anything new; it's simply common sense.

(2) The Board's opinion that students should not participate in the sale or in the manufacture for sale of master keys has the same motivation behind it: to restrict the number of master keys. True, the appearance of a registered student locksmith has greatly increased the number of keys in students' hands, but it seems to us that the problem is not the availability of keys. The problem lies with those students who would use master keys to commit a violation. It's not that difficult to go off-campus for key duplication; all the Board's decision does in effect is screw the student locksmith.

The point is, the BOC wants to make possession of master keys an Honor System violation. They don't think it's feasible. We agree. (Besides, the people who would commit a violation with master keys probably wouldn't turn theirs in, anyway.) But to approach the matter in such a sloppy and unworkable fashion makes the effort worthless. We don't deny the existence of the problem, but we condemn the BOC's semi-solution.

This editorial should not be construed to mean that the *Tech* supports the use of master keys, whether or not an Honor System violation is involved. As one student has said, "I use master keys because they're convenient. Any building I need to get into, I can get in some other way." Master keys can only be used as a tool; they have no motives of their own. If the BOC wants to remove master keys as a possible temptation, they should do it outright; but it won't solve the problem.
—Gavin D. Claypool

SUMMER JOBS FOR JUNIORS IN PHYSICS, CHEMISTRY AND ENGINEERING

The Department of Engineering and Applied Science of Yale University is offering a limited number of Special Grants to college juniors who would like to gain experience in advanced research this summer.

Available projects include work involving air pollution instrumentation, surface chemistry and catalysis, gaseous electrons, plasma physics, heat and mass transport, computer science and data processing, physics of fluids, mechanics of materials, chemical physics, high pressure chemical synthesis, solid state physics, atomic physics and electronics.

Stipends will be in the range \$100-\$120 a week and will be awarded for an 11-week period from June 11 through August 24, 1973.

For further details and application forms please contact your department office, Dean's office, or write to:

Summer Research Program
Department of Engineering and Applied Science
Yale University
New Haven, Connecticut 06520

or call 203: 436-1472

Auditions for "Pirates" Saturday and Sunday

In spite of all obstacles, this year's ASCIT musical will be staged soon. Gilbert and Sullivan's *The Pirates of Penzance* will be performed, in response to many requests. Last year's production of *HMS Pinafore* sold out both nights, showing that Gilbert and Sullivan are popular at Tech.

You have a chance to be part of this public service. Auditions will be held this Saturday and Sunday in 19 Baxter (basement) from 1 to 5 p.m. each day. Virtually all forms of talent will be accepted. If you sing, dance, act, pound nails, play an instru-

ment, draw, create paper mache, organize, run errands, or do anything useful there will probably be a place for you. It is not necessary to limit your aspirations, since a technical director is still needed.

This is a student musical and as such it needs the help and cooperation of the students. It can only succeed with your interest and enthusiasm. If you have questions, or if you can't make auditions, please contact Chris Harcourt (449-8387), K. Jeff Erikson (792-0801), John Middlebrooks (x2181), or Bruce McLaughlin (256-1654).

UCSB Literary Magazine Sponsors Writing Contest

A writing contest is being sponsored by *Spectrum*, the UCSB literary magazine. \$100 is offered for the best work in poetry and \$100 for the best in prose fiction, submitted by any student, graduate or undergraduate, in any college, junior college, or university in California. The deadline is Valentine's Day, February 14, 1973. The winning works will be published in the Spring 1973 *Spectrum*, and works not winning a prize will be considered for publication in the same issue.

Spectrum was founded in 1955 and has presented the first publication of works by such eminent authors as William Carlos Williams, Samuel Beckett, Donald Davie, Hugh Kenner, and many others. The 1972 issue of *Spectrum* was awarded first prize in the Sixth Annual College Literary Magazine Contest sponsored by the Coordinating Council of Literary Magazines.

Caltech Tradition Rides to the Moon With Astronauts

Astronaut Harrison "Jack" Schmitt received a rude awakening while on the moon last month. At 11:50 p.m. (PST) on Tuesday, December 12, he and mission commander Eugene Cernan awoke to the playing of "The Ride of the Valkyries," a Finals Week gift from Techers.

Two sophomores, Ken Weiner and Bob Cowan, suggested to their Ph 2 T.A., Dr. Albert Hibbs, that the playing be arranged. Dr. Hibbs (who is also acting manager for the Caltech Center for Health Care Science and Technology at JPL) got on the JPL teletype and sent the request to Mission Control. Not leaving anything to chance, he called Dr. James Fletcher, an ex-Techer and head of NASA, and convinced him it was a good idea.

The Los Angeles and New York Times both reported that "The Ride" was played because Schmitt used to awaken his roommate with it. Neither gave any indication what Schmitt's reaction was.

La Brea Tar Pits Need Volunteers For Massive Dig

More volunteers are needed for the dig underway at the Rancho La Brea tar pits. It is being conducted by scientists at the Natural History Museum.

Thousands of the fossil specimens, which have been unearthed in the first 8 feet of the excavation, need to be sorted, classified and prepared for research study.

"No experience is necessary," said project coordinator William Akersten. "We will provide the training for anyone over age 16 who is willing to donate at least eight hours per week."

The La Brea tar pits are located in Hancock Park at 5801 Wilshire Blvd. Those wishing to volunteer or who need more information can telephone 934-5198, or visit the on-site laboratory between 2:00 and 4:00 p.m. on Fridays.

BOC Letter

Continued from Page Two
certain buildings to obtain authorized keys.

The application of the Honor System in this area, however, does not merely consist of a set of suggested restrictions. All members of the Caltech community should be aware that the existence of the Honor System is based on the desirability of an atmosphere of freedom and mutual trust. Thus, the Honor System not only guarantees the right to privacy of a member of the Caltech community, but it also guarantees his freedom from suspicion should he be present in any non-restricted area of campus at any time. This latter right is just as important as the former, but it, too, may have been overlooked in some instances. It therefore seems to us that a solution to the recent concern over unauthorized entry lies simply in the full awareness of both one's right and responsibilities in this aspect of living under the Honor System.

—Russ McDuff (chairman)
Bryan Jack (secretary), Dale Bredesen, Robert Chansler, Mark Johnson, Richard Lyon, Steve Matthews, Pete Peterson, Bruce Seaman, Alan Shiller, Sharon Spivak.

Just because you haven't done any trolling yet is no reason not to have a pizza at

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Beckman Events**Coleman Chamber Concerts Resume**

by Marc Donner

Welcome to Bedlam! As you can see, not only are you back, the *Tech* is back as well. Before you return to infinite trolling and the usual lackluster life at Tech you might like to have one last fling. Good, there are several unique and worthy entertainments to report. The ASCIT officialdom has arranged for a visit by Country Joe MacDonald on Sunday, January 7, 1973, at 8:00 p.m. that will cost a paltry three dollars. Tickets are on sale at the Beckman Ticket Office.

The Dabney Lounge Chamber

Music Concert series will continue on January seventh. This concert, which is free to all, will feature Michael Sanders, a pianist from the University of California at Irvine. Mr. Sanders will play music by Schubert, Schumann, and Scriabin. Included will be Franz Schubert's Impromptus in G flat major and A flat major (Opus 90 nos. 3 and 4); the Symphonic Etudes opus 13 by Schumann; and Scriabin's Tragic Poem, opus 34. If this concert is as good as the last one of the series it should be a pleasure to all.

audience**searing drama of "the crucible"**

by Phil Neches

Of the all-too-numerous episodes which still stain the American conscience, few rate with the Salem witch trials for sheer injustice and stupidity. "One of the strangest and most awful chapters in human history," concluded Arthur Miller in a preface to his dramatization of the trials in *The Crucible*, now playing at the Ahmanson Theater.

To produce this powerful play, the Center Theater Group collected a powerful cast, headed by Charlton Heston. Heston, as John Proctor, plays the hero through and through. Proctor's disdain for the materialistic excesses of the Church bring the suspicion of witchery upon his wife. His love for his wife and unimpeachable honesty bring him to challenge the validity of the trials themselves, and thus seal his doom, first to disgrace, then to accusation, and finally to hanging.

Heston plays so strongly, so dominantly, that the audience has a hard time identifying with the struggles of Proctor the man, seeing only the rectitude and resignation of the martyred superhero. This detracts from Heston's last few scenes, in which Proctor must choose between saving his life by falsely confessing and implicating others, or dying a useless and unrequited death.

While Heston clearly commands the respect of the audience, many of his castmates turn in comparably creditable performances. Unfortunately (for them, anyhow), *The Crucible* is a

villain's play: and the cast includes many superb villains and villainesses.

Donald Moffat as Reverend Parris ought to head the villain list. As Salem's preacher, he represents the Church at its worst. When the townsmen attend to hear the glories of their Creator praised, Reverend Parris preaches a steady stream of hellfire and damnation. "He seems more interested in Satan than in God," dryly observes John Proctor. The suspicions of witchcraft begin in Parris's household, ironically enough. Yet he tries to suppress the issue since his reputation as preacher is threatened. Moffat portrays Parris so maliciously, so pig-headedly, so obsequiously that even at curtain calls one still thinks him an arrant villain.

The major exploiter of the atmosphere of fear and guilt is a vicious young girl named Abigail Williams. Playwright Miller portrays her as being older than she was in historical fact, adding coquetry and harlotry to her repertoire of deceit and malicious spite. Sandra Morgan brings out the duplicity and repugnance in the role with strict professionalism.

Other notable parts include James Olson as Reverend Hale, a serious-minded Harvard-educated

Silver Screenings**Two by G. B. Shaw**

Admittedly West L.A. is a far drive just to see a couple of old movies. But it is well worth the effort to catch the Bernard Shaw revival at the Nuart Theater (Santa Monica at Sawetelle Blvds.), which features two of Shaw's best-remembered plays-made-into-movies: *Pygmalion* and *Caesar and Cleopatra*.

Shaw only reluctantly sold film rights to his plays to British producer Gabriel Pascal, and then only under terms which would have made any Hollywood screenplay author jealous. Basically, Shaw was to keep his hands off the camera, and Pascal to keep his off the dialog.

The partnership resulted in several successes, of which *Pygmalion* is perhaps the most notable. With Leslie Howard, cast against type as the overbearing Professor Higgins, this 1938 production captures the best points of Shaw's retelling of the story of the sculptor who fell in love with his own creation. The performances are strong, the lines witty, the satire sharp. *Pygmalion* is worth the admission by itself.

The co-feature in all frankness does not measure up to the standard. *Caesar and Cleopatra*

was a British attempt to challenge Hollywood on its home ground: the lavish super-spectacular. Gabriel Pascal even went so far as to borrow one of Hollywood's bright and rising stars, Vivien Leigh (who was much younger then), to play a kittenish Cleopatra.

However, the \$5 million-budget, cast of thousands techniques do injustice to Shaw's dialog. Shaw's portrayal of Caesar as a canny soldier who knew how to wage peace as well as war is somehow lost in the elaborate sets and rich costumes. Since *Caesar and Cleopatra* came out in 1946, the British have largely abandoned the spectacular to Hollywood (and done so wisely). However, the standards for acting and dialog in this production are far higher than what may be found in most Hollywood fare.

The two Shaw films comprise the first offering of the Nuart's British revival series, planned for the next few months. Upcoming offerings include Laurence Olivier's film adaptations of Shakespeare's histories and some vintage Hitchcock chillers.

-Philip M. Neches

cleric who is too busy doing holy works to realize the harm being done, until too late. Brendan Dillon and Ford Rainey as the judges bring to life the monumental pomp and monumental stupidity of the Salem judges.

The Crucible has only one emotional level: intense. The script leaves no room for subtlety. The characters all have historical models, but still lack the human mantle of historical reality: they only symbolize the conflict in bold, almost crude terms.

But then, the situation calls for little subtlety.

The Crucible should be added to every theater-goer's "must see" list. The last performance will be on Saturday, January 13. As usual, the Ahmanson will sell any remaining seats to students with I.D. for \$2.50 starting half an hour before curtain time.

IH Sing . . .

Continued from Page One
mid-February, after midterms.

• the Glee Club will no longer support it if low-level interest continues, and ASCIT may not have the money for it this year.

• the winners of the chorus and quartet categories are given perpetual trophies, currently held by Ruddock.

• if there is an Interhouse Sing this year it will be handled by Tim Erickson, and will be

**ASCIT Presents
Country Joe MacDonald
In Beckman Concert**

by Steve Sweeney

You could have heard some at the frosh orientation picnic last September. Or at the Behavioral Bio Fence Paint-In in October. But if you're waiting for Beckman Auditorium to offer it, now's your chance.

Country Joe MacDonald and his group will be ending Beckman's rock concert drought this Sunday with a performance at 8 p.m. Tickets are \$3 for Tech students, faculty, and staff, etc., and \$4 for the remaining twenty-three (23) persons in Southern California.

The possibility of other concerts occurring depends to a large part on the success of this one, so give yourself a good time and insure future good times by shuffling over to Beckman Sunday evening.

Country Joe freaks will be able to see him later this year in his movie, "Zachariah," at the ASCIT Friday-Night-at-the-Four-Bit-Flicks.

held probably in Ramo about mid-February.

• to make it "worthwhile" we need definite commitments from at least four (4) houses for the chorus event, and more than one house in the quartet event. Other categories will be continued or added if sufficient interest is shown.

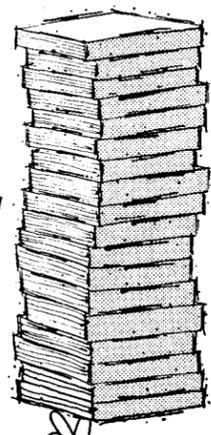
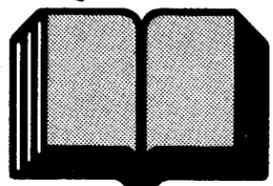
For the time being, Tim will make a reservation of Ramo for some mid-February date; in the meantime, a meeting will be scheduled late next week (Quantitatively defined in the next *Tech*) to decide this matter.

Inquiries and comments are welcomed and may be directed to me c/o Ruddock, or any Glee Club troll.

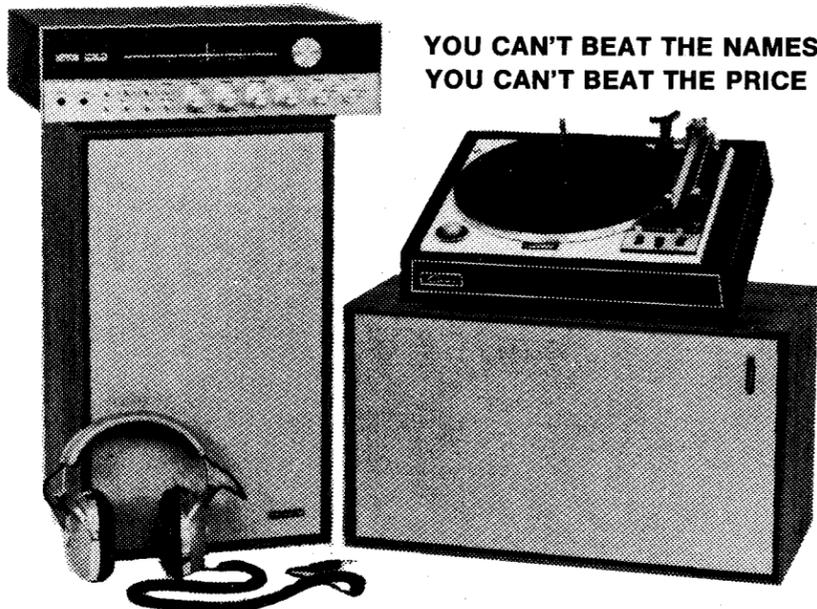
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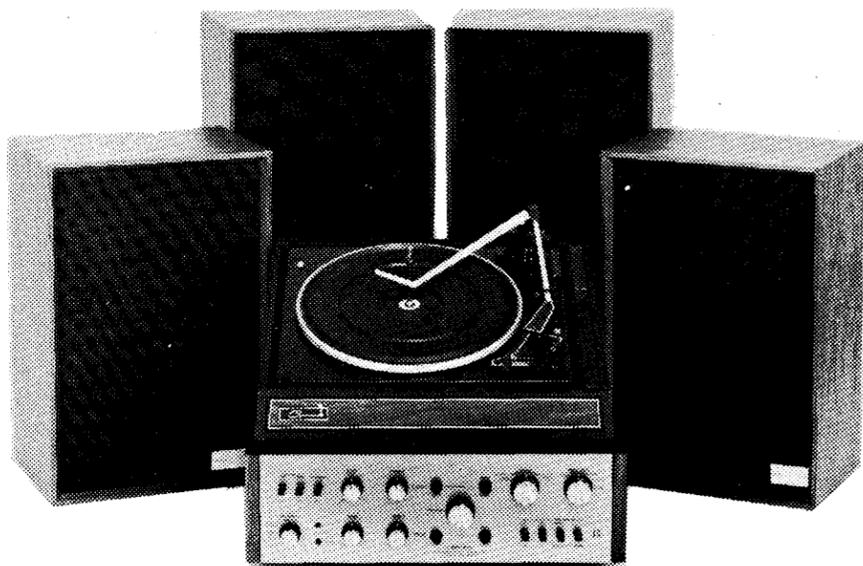


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BOOK NOOK

Asimov's New Novel

by millikan troll

Science fiction fans received an unusual treat for Christmas: publication of Isaac Asimov's first science fiction novel in fifteen years (discounting, of course, *Fantastic Voyage*, Dr. Asimov's revision of—and considerable improvement upon—the screenplay of the same name). *The Gods Themselves* (Doubleday, \$5.95) marks the esteemed doctor's return to the true art.

In the long years of Dr. Asimov's absence from sci-fi, science proper has been catching up with its imaginative harbingers at an alarming rate. Moon landings have moved from the fiction shelf to the history shelf. Physics has hit on things which even science fiction writers could not have dreamed of: black holes, quarks, quasars, pulsars, *et al.*

Dr. Asimov's new novel makes great use of some of these discoveries, which works both for and against the novel. A liberal sprinkling of concepts and terms from current issues of *Astrophysical Journal* gives the work an unmistakable stamp of authenticity: it is without doubt hard-core science fiction. This is all the more welcome since lately the science part has been giving way to the fiction part. While no one quarrels with the virtue of good imaginative fiction, those of us who were raised in the science fiction tradition of Jules Verne still seek the sort of cerebral escapism Asimov so deftly provides.

However, the heavy use of the new and unusual may limit the work's appeal even among science fiction fans to those who happen to be up on their strong interactions and big-bang cosmology. Which is too bad, since Dr. Asimov's message will not reach as widely as it should.

The title, *The Gods Themselves*, contains part of the message. The story has nothing to do with deities, except as they relate to the bromide, "Against stupidity, the gods themselves contend in vain." In Asimov's fiction, as in contemporary fact, society becomes so enamored of

the short term benefits of a particular technology, that they ignore the long-term perils.

In Asimov's nightmare future, the technology involved is an energy transfer pump operating between two universes where the strength of the strong nuclear interaction is different. Dr. Asimov manages to convince us that while apparently providing an unlimited source of clean, ecological power, his "Electron Pump" will, if allowed to operate for a few years, upset the balance of things enough to cause the sun to go supernova, and possibly turn the Milky Way into a quasar. While his heroes know this, society refuses to listen. The earth has weathered the Great Ecological Crisis, in which the population fell from six billion to a stable two billion, and does not wish to surrender its good things.

Asimov shows how the Electron Pump affects three cultures: the Earth, the inhabitants of the para-Universe, and Earth's colony on the Moon. In each, the "hard-minded practical men" (or beings) refuse to listen to truth, because the cost of doing right is just too high. In each society, the power of society seems determined to crush the dissenting individual.

The novel is a striking parable of our times, and deserves the attention of a much wider readership than the hard-core sci-fi community. Welcome back, Dr. A!

JFK School Announces New Graduate Programs

The John Fitzgerald Kennedy School of Government of Harvard University announces a new graduate program in Public Policy. Ph.D., Master's, or joint Master's-professional school degrees offered. Applicants should be interested in policy analysis and be at ease in both the world of words and the world of numbers. Write Dean Harry Weiner, Littauer Center, Harvard University, Cambridge, Massachusetts 02138 for catalog and application.

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NEXT WEEK:

SUMMER OF '42

A Garble Tom Adventure

The Truth About Italian Dressing

by David Miller

The Italian dressing frowned at Garble Tom Headweak. Then it flung out a goopy tentacle, looped it around his neck, and attempted to drag his head into the bowl where it lay. Darwin Millstone quickly poured a glass of lemonade onto the tentacle, and with dramatic writhings it released Garble Tom's neck and subsided into the heaving mass in the bowl. "Doggone. Third time this week," said Darwin Millstone. "They ought to throw that stuff out and make up a fresh batch."

"But, but how," said Garble Tom Headweak, uncomfortably aware that his collar was going to smell of vinegar and garlic for the rest of the day, "how could Italian dressing do that?"

"Who knows what sinister evolution goes on in the opaque depths? The food service just goes on adding ingredients day by day as people eat it."

Garble Tom Headweak was silent for several minutes as he pondered the situation. If something in Italian dressing could evolve, maybe other sorts of life could evolve — a most strange and astounding concept. Yes, evolving Italian dressing was certainly food for thought.

"We haven't seen you for quite a while," said Darwin Millstone.

"No, I've been rather busy. You know we had a problem with some giant bumblebees and hybrid Venus fly-traps, and then I went to Antarctica for a while. You wouldn't believe what I found down there."

"Maybe I would. I saw you and Billy Jeff on the Rick Rabbit show."

"Yes, well, anyway, I don't believe I've been over here to Cow Tech and Looseleaf House since just before the Matador College trip to Disneyland."

They finished lunch, Garble Tom having lost interest when he discovered that his hamburger was so raw it moored when he bit it. Darwin Millstone's not only moored, it oinked, clucked, and trumpeted like an elephant. He ate it anyway, saying, "I often wonder if we'd eat these things if we knew what was in them. The problem is, they're either this way, or they're overcooked. Look at Stockingless over there. I bet you thought his sandal soles were made out of a couple of old pieces of tire."

In the lounge as they walked past, the TV was running an advertisement for the evening movie, which tonight would be "True Fit," the movie which won Glenn Soup Bowl his Oscar for his portrayal of U.S. Marshal Boozier Dabburn. Then a com-

mercial appeared which showed a muscular but somewhat paunchy character who needed a shave, wearing dark glasses and a tasteless but expensive suit, saying, "Folks, Enzymon is really great stuff for getting your clothes clean. It's full of, uh, enzymes and good stuff. I myself have often been very pleased with the way it takes bloodstains off of things. The police haven't been too happy about this at times, but I can truthfully say that my record since that time in Chicago is clean thanks to Enzymon. Me and the boys like it so much that we decided to help promote it, and after a little convincing, the manufacturer agreed. So I think it would be a good thing for you, if you know what I mean, to get some Enzymon."

They stared at this until it was over, and Garble Tom thought to himself that he really had to write an article on social degeneracy for *The Straight Dope* magazine. In the hall they passed someone who looked familiar to Garble Tom. "Ah, Al, I was just looking for you," said Darwin Millstone. "Mr. Headweak wanted to see how you're going to hijack Cow Tech." "Turning to Garble Tom, he said, 'You remember J. Amalfi Blush, don't you? He wanted to hijack Matador College to Algeria, and you told him to come over to Dabless House. He wound up at Looseleaf House instead, and we made some improvements in his gadget, and now we're about ready to fly.'"

"His gadget?" said Garble Tom, with an uneasy feeling that he had missed something important.

"Yes, he has invented a gadget he calls the whirlcrazy, which is basically an antigravity device, and the bigger the thing you attach it to, the better it works. Up to a point, of course, but we've built several of them and put them in the steam tunnels, fixing them to look like part of the new campus electrical system that has been put in so they could tear down ancient, sagging Droop Hall. Given time to put them on your campus, he could have flown Matador College to Algeria, but we have bigger plans. Blark and Perchancey showed that if you put the groinflexion frequency higher, it will hold the air in very nicely. So, if you want to, come back about 1:30 tonight and watch us test it out. We're going to take a little spin around the solar system and maybe other places."

Garble Tom Headweak was back at 1:30 the next morning and was let into a storeroom in Looseleaf House which was

crammed with television sets, meters, dials and controls, oscilloscopes, and a lot of things which Garble Tom didn't recognize. "It's our control room," Darwin Millstone told him. "Some of this stuff we got from the Steal building, and then we have a friend at the Hughesless-Fractured Electronics Company who got us some useful stuff. Amalfi is going to pilot, because he had a whirlcrazy in his car."

"But what is going to happen?" said Garble Tom when Darwin Millstone stopped for breath.

"Well, when you turn on the whirlcrazy, it will form a more or less ellipsoidal shell around Cow Tech, going quite a way down into the ground, and flattened on the bottom, in case we want to land anywhere, and the whole thing will just go flying away. We hope very much that it will go fast enough that the Strategic Air Command will think we're just some kind of electronic malfunction in their radar. After all, a whole college and hundreds of acres of ground can't go flying out into space at hundreds of miles a second, now, can they? We're taking the whole place because we need a few things like the computers in the computer center, and the telescopes in the Robbesome Astrophysics Building. Ah, Al is ready."

Garble Tom couldn't feel anything, although someone started playing a tape of Star Trek sound effects. "Dat dadah De deedle dee dee. 'Captain Kirk.' 'Yes, Mr. Spock.' 'There's something on my tricorder. I've never seen anything like it.' 'Yes, it looks like a pepperoni pizza with legs.'" Darwin Millstone said something like, "Kill'em, do we have to have that?" Nothing else seemed to be happening, so Garble Tom wandered into a nearby room where he could look out a window. He wasn't sure what he thought he was going to see, but he wasn't prepared to see the huge blue sign of the Unity Bank building and the rest of the night lights of Pasadecency hanging upside down at an odd angle about three thousand feet up (?). In the control room somebody said, "A little to the left for balance," and though he still couldn't feel anything, the lights of Pasadecency were whisked far away and vanished. The stars began to shine brighter than he had ever seen them, and then the sun rose behind the dusk of the rapidly shrinking earth. As they drew farther and farther away, faster and faster, the sun began to shrink.

[CONT. ?]

E10 Goes

Down the Tubes

by D. S. Clark

Students in the engineering option are required to take a two-unit course in "Technical Presentations" which involves making regular speeches. Each student has to decide to what sort of audience he is pretending to speak, and then he has to think up an appropriate topic and speech. Each speaker is introduced by another student who tells what kind of an audience is supposed to be present, and then introduces the topic and the speaker as though the imaginary audience were present. This speech was not given in that class.

Introducer: Uh, this is supposed to be a class of high school students at a National Science Foundation summer program in chemistry... The use of explosives is just growing and growing. Ingenuity in inventing new explosives and finding new uses for old ones is in great demand. Our speaker today has abundant experience with explosives. After he was thrown out of the Chemical Engineering program at Caltech, he went underground, and eventually became armaments coordinator for the Weathermen, and chief consultant to the Black Panthers' R and D program. His latest project, uh, this is ridiculous, well, he has been messing with a mountain in North Dakota until it sort of looks like Leon Trotsky. It is with mounting dismay that I inflict upon you, Mr. Dotley Nader.

Speaker: All right, kiddies, we're going to show you how to blow up your mummies and daddies. I don't think you would dream, until I told you, what you can do with old nitrogen iodide. You all know that if you mix very pure iodine crystals with highly concentrated ammonia, you get these little crystals that explode under their own weight when they get dry. Like this. [Pour. Mix. Filter. Drain. Dry.] Watch now. [Crickety-crack. Pop. Bang. Snap.] That's pure. And you've made it a little less pure so it doesn't go off until someone grabs the doornob you've put it on. But suppose you made it with that low-concentration household ammonia with the liquid soap in it? What would happen then? Well, it would be impure enough that you'd have to hit it pretty hard to make it go off. For another, the soap makes the crystals sticky enough that you can put them together into a mass like this one, which as you can see holds together pretty well, even

if I do have to hold it in both hands. Now you may well ask, how do I set such a thing off? Well, it's really easy. Just dig a hole in the top of the mass with a spoon, like this, and put a lot of wet, pure crystals into the hole, like this. Then you know that when the pure crystals dry, they will set themselves off, and the rest will go with it. It's a wonder what one or two of these will do. Before I used a couple of these on his nose, my statue of old Leon looked more like W. C. Fields. Well, I'll be seeing you, because I don't want to be around when these crystals get dry. You never know just when they'll go. The nice thing about one of these is that you really can't disarm them, because trying to scoop the pure crystals out is a good way to make them go off. Especially if you cover up the hole where they are. Like this. [Exit, stage left, obviously.]

Instructor: That's it?? Mr. Miller, this is the worst speech you have given yet. In addition to the absurdly patronizing tone which would make any high school class walk out on you, and the total lack of organization, that gooey mass of purple sand is the most unconvincing aid of pseudoreality I have seen in a long time.

Speaker: Actually, [Snicker, snicker.] it's an aid of reality. This is the kind of speech you only give once unless you are very care...

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Parking Regulations

1. Parking on campus is restricted to Institute personnel, students, their guests, and those having business with the Institute. Caltech parking lots may be regularly used only by vehicles marked with a Caltech parking decal (issued by the Safety and Security Office).

2. Assigned parking spaces are available for members of the voting faculty, equivalent visiting faculty, division administrative officers with total division responsibility and reporting directly to a division chairman, administrative officers reporting directly to the President or to a vice president, resident associates of the undergraduate student houses, and graduate and undergraduate students living on the campus. The fee for an assigned space shall be charged whenever an individual requests a change in his assigned space to another location.

3. A parking space assigned to an individual is for his exclusive use between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday. An assignee may permit another individual to use his space by obtaining a permit from division or department secretaries, provided the permit is completed and displayed on the windshield.

4. The lot on the east side of Holliston Street is available only to graduate and undergraduate students and is assigned on a twenty-four hour basis.

5. Overnight parking is permitted only for assigned vehicles in their respective stalls, or by special permit obtained from the Safety and Security Office. Students residing on campus may obtain a permit to park their car for extended periods in a specially marked parking area.

6. Automobiles, motorcycles, and motor scooters may be parked in places that are specifically designated for parking. Unmarked driveways may not be used for parking between the

hours of 7:00 a.m. and 5:00 p.m., Monday through Friday.

7. Washing of cars is permitted only at the south end of the Athletic Field (Tournament Park), in the location specifically designated for this purpose.

8. Repair work on cars is permitted on campus only at the student garage or its immediate vicinity, located at the north east corner of the East Holliston parking lot.

9. Any motor vehicle parked in one position for more than 15 days, whether or not operable, will be presumed to have been abandoned by the owner and will be disposed of at the Institute's option. This rule will not apply to resident student cars which display an overnight parking permit and are parked in the special overnight parking area. The Safety and Security Office may issue long term parking permits in certain special cases.

10. The parking area south of the Athenaeum is reserved between the hours of 10:00 a.m. and 8:00 p.m., Monday through Friday, for the exclusive use of Athenaeum members and their guests.

11. Boats, trailers, or other non-motor vehicles may not be parked on the campus, unless registered with the Safety and Security Office and marked with an appropriate decal.

12. Parking in such manner that a vehicle occupies more than one stall infringes upon the parking privilege of others and is not permitted.

13. Green zones are reserved for one hour parking for Institute visitors, between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday. Visitor parking permits for more than one hour may be obtained from division or department offices. Such one-day permits must be displayed in the windshield of the parked vehicle.

14. Yellow loading zones are restricted to use for actually loading or unloading a vehicle, and for a maximum of 30 minutes, between the hours of 7:00 a.m. and 5:00 p.m., Mon-

Frosh: Learn How Not to Be So Obnoxious

On Tuesday, Jan. 9th at 7:00 p.m. in the health center lounge, there will be a *Demonstration in Assertion Training* by Dr. Manuel Smith, a member of the UCLA faculty and the LA County Dept. of Mental Health and by Dr. Bruce Leckart, a member of the San Diego State College faculty and the LA County Dept. of Mental Health. Assertion Training is to develop confidence in yourself and speak out and have others hear what you're saying and respond to your desires. A six week course of training will begin a week later on Tuesday, Jan. 16th—pending a minimum student commitment of 15 persons willing to invest \$15.00. Drs. Smith and Leckart will demonstrate simple successful methods of improving communication and dealing with others. Their approach is relaxed and humorous but effective. Co-sponsored by the Caltech Y and Young Health Center.

day through Friday. Yellow zones are primarily intended for use by commercial delivery vehicles.

15. Red zones are unavailable for parking at any time. Red zones must be kept clear for fire or other emergency access or for urgent safety reasons.

16. Non-observance of the prescribed conditions for on-campus parking will be the basis for a first warning. Further instances will be cited. Any citation may be appealed (see below). Information relating to any warning or citation is expunged from the Institute's records one year from the date of issue.

17. (a) The President of the Institute will appoint three members to the Parking Board: One representative each from the faculty, administration, and staff employees. In addition, the Graduate Student Council and ASCIT will each appoint one student member. The President will appoint one of the above as Chairman of the Parking Board.

(b) The Parking Board will consider and act upon the appeal of any citation issued, provided the appeal has been filed at the Office of the Director of Business Services within five working days after the citation. The Parking Board is required to meet within thirty calendar days of the date of the appeal. The decision of the Parking Board is final.

Minus 60?

Modern Biology Expose

In previous years, Bi 129 has been a course on selected topics in biophysics, directed primarily to biology graduate students. This year it will be offered in a new form to a different audience under the subtitle: "Introduction to Biology for Physical Scientists."

The purpose of the course will be to expose interested physical scientists and engineers to modern biology, both for breadth in their scientific education and to encourage possible contributions later to biophysical research. The course will survey the major fields of molecular genetics, biochemistry and neurophysiology, presupposing an undergraduate preparation in physics, mathematics and introductory chemistry.

Enrollment will be open to non-biology graduate students and seniors. Others may enroll only with permission. Auditors are welcome. Classes at T, Th:10 — for more information contact Ed Lipson, ext. 1957.

IN MEMORIAM

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Rest in Peace

News Brief

Continued from Page One
ment the SS credit will be restored to Ec 110 and Ec 132. This means the courses will get divisional credit but without an (H).

Philharmonic to Offer \$2.00 Student Tickets

The Los Angeles Philharmonic will continue their low \$2.00 student rates again this season. Students will be offered the best-available remaining seats 90 minutes prior to each concert upon presentation of student identification at the Philharmonic Box Office.

This \$2.00 price is one of the most generous student ticket policies in the city, competitive with that offered by any of the town's movie theaters, drama groups, and ballet or musical organizations, and appreciably lower than most. This student ticket policy is in effect at all Los Angeles Philharmonic concerts for which tickets are still available, including the Saturday evening *Celebrity Pops* and the new *Celebrity Recitals* series. Performance times for Philharmonic concerts this season are evenings at 8:30 p.m., Friday afternoons at 1:30 p.m., and Sunday afternoon at 3:00 p.m. For further information, call the Music Center's Philharmonic Box Office 15 626-7211.

Drop Day Results Almost In

The results of the faculty drop day vote should be known shortly, since the mail ballots—which were due last Friday—have been counted. A recount of the balloting and approval of the results is all that remains to be done. If the measure passes, it will probably take effect this term, since there was no delay clause included. That would put the day on March 2, instead of February 9.

Civil Engineering Course Offered

The Division of Engineering and Applied Science, in inferior conjunction with the Physical Plant Department, announced the formation of a new course for this term. Pending approval by the Curriculum Committee and the Faculty Board, the new course will be called CE 69 (Principles of Sidewalk Supervision).

This novel course offers flexible units (up to 40), and is open to all students, faculty, administration, and staff. The principles of construction and its inverse will be explored experimentally and theoretically.

Interested students should apply in room 8, Throop Hall. If nobody is in, try room 400.

Bridge Club On Wednesdays

The Caltech Bridge Club will meet every Wednesday at 7:30 p.m. in clubroom 1, Winnett Center. For further information call Gary Frankel (792-2952).

Three —

Continued from Page One
while to unfasten it), and to ride down again via crane, with the tree safely between them. It got the tree a lot of publicity, but didn't make much sense, since all they did was hit Throop a few times for the cameras and then stop for the day.

However, before the workers left for the four-day Christmas holiday, they thoughtfully restored the tree to its rightful niche. The tree was not braced as well, and the heavy gusts during the past week reduced it to a horizontal position. Its reign ended at 2:01 p.m. yesterday, as the entire cupola, tree and all, dropped down the north side of the remains of Throop. *Sic Transit Gloria Mundi.*

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New Moon Theory

While the moon is made of more primitive stuff than the main part of the earth, it is probably slightly younger, according to Dr. Don L. Anderson, director of the Seismo Lab.

"The moon was formed in the geologically short time of 2000 years or less and melted during or shortly after its formation," he declared. "Its initial heat plus that added by the decay of radioactive elements permitted it to remain volcanically active for a billion years after its birth and implies that the deep interior is still hot."

Dr. Anderson's theory is based on three things: 1. On the composition of the moon's surface as revealed by Apollo lunar samples. 2. On the fact that the earth is denser than the moon. 3. On the widely accepted theory that the planets and their satellites were condensed out of a rotating disk of very hot gas.

As the glowing gas slowly cooled, the chemical elements in it gradually condensed into a solid form. The particles were brought together by motions in the dust and began accreting.

The chemical elements did not all condense out of the gas together because they condense at different temperatures. "The moon formed from those minerals that were the first to condense out of the hot solar nebula while the sun was still in its infancy," he added. "These high temperature materials are rich in aluminum, calcium and titanium and such elements as uranium, thorium, barium, zirconium, and the rare earths."

Moon Shortchanged

"The moon did not receive its fair share of iron and the volatile compounds because the gas nebula was blown away before it became cool enough to condense these materials in the vicinity of

the moon.

"Moon-like bodies were probably abundant in the early solar system and formed the nuclei upon which later condensates accreted to form the planets. The interiors of the earth and the other inner planets are composed mostly of later condensates and lower temperature minerals, although their original nuclei would be moon-like."

Dippy Moon

The young moon, theorized the Caltech scientist, did not orbit around the sun in the center of the dust-rich gaseous disk as did the earth and other planets. Its orbit carried it above and below the dense part of the disk so that it dipped into the disk only twice a year.

"As the moon grew, its orbit gradually leveled off into the plane where the dust was thickest," the geophysicist said. "Since the moon's orbit and the earth's orbit crossed, the moon would eventually be captured by the earth."

"The moon, which has higher concentrations of radioactive minerals than the earth, was born hot," he noted. "Later it was reheated by its radioactive minerals so that its surface melted again about 3.9 billion years ago, as lunar samples indicate."

"The moon's interior should be very hot now," Dr. Anderson stated. "The reason is that it has no volcanoes to serve as safety valves to relieve itself of this heat. The interior may, in fact, be molten or partially molten today."

Thick-Skinned Moon

He estimated that the moon's cold outer shell (lithosphere) is at least 120 miles thick, compared with about 20 miles for the earth's. Magma cannot escape through such a thick and cold outer shell, although it did escape when the outer shell was thinner.

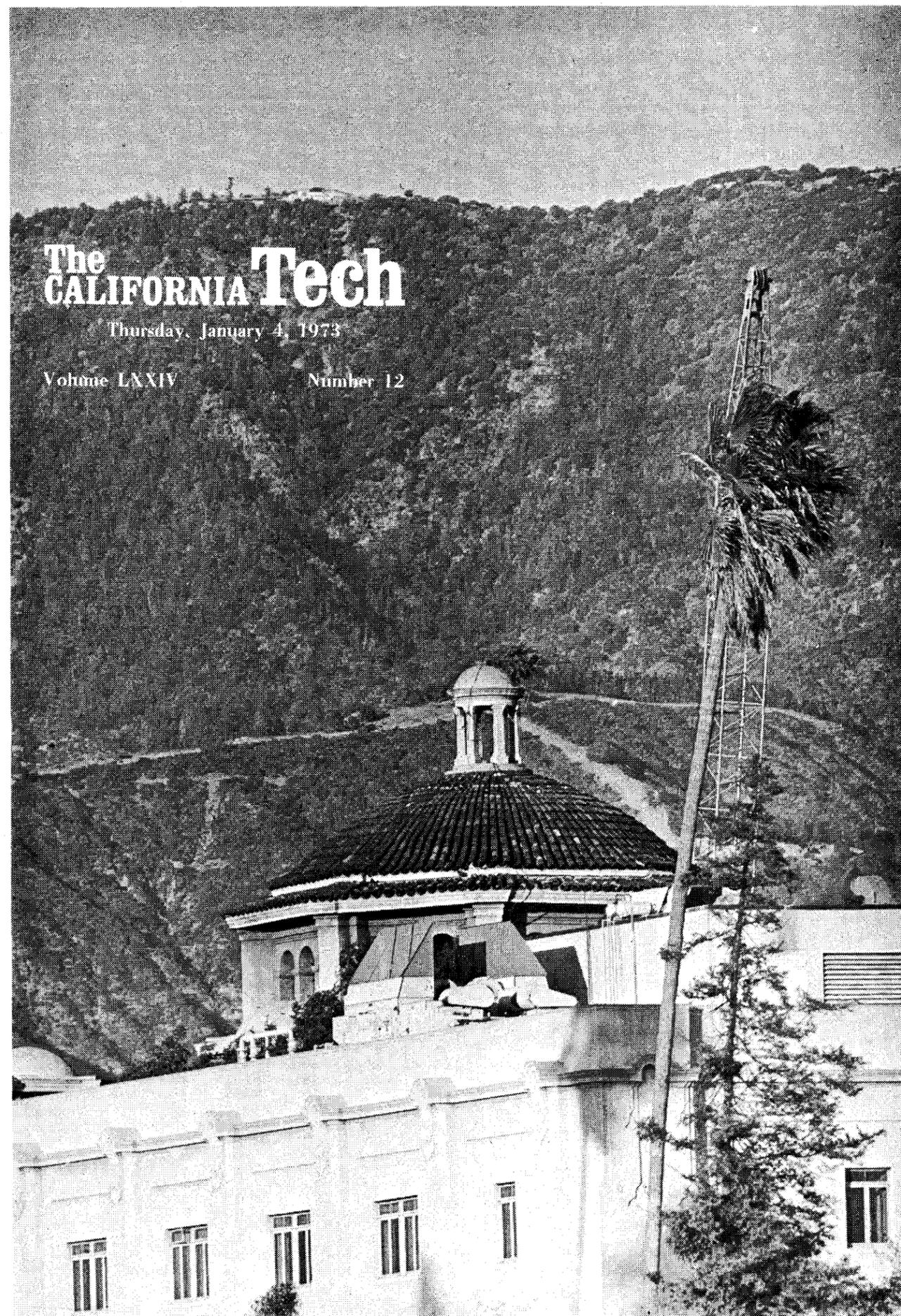
"The thick lunar lithosphere prevents continental drifting as we have on earth. The moon should have few, and only small, moonquakes."

Some of Dr. Anderson's research was sponsored by the National Aeronautics and Space Administration.

Smooty Memorial Sports Menu

<i>Friday, January 5</i>		
4:00 p.m.	Swimming	Cal State Los Angeles Home
<i>Saturday, January 6</i>		
2:00 p.m.	Swimming	S.C.I.A.C. Relays at Whittier
6:30 p.m.	JV Basketball	Pomona-Pitzer Away
8:15 p.m.	Varsity Basketball	Pomona-Pitzer Away
<i>Thursday, January 11</i>		
4:00 p.m.	Wrestling	UC Riverside, Pasadena at Pasadena
<i>Friday, January 12</i>		
4:00 p.m.	Swimming	Whittier Home
6:30 p.m.	JV Basketball	L.A. Baptist College Home
8:15 p.m.	Varsity Basketball	L.A. Baptist College Home
<i>Saturday, January 13</i>		
Caltech Invitational Wrestling Tournament		
1:00 p.m.	Fencing	UC Santa Barbara, CSU Northridge at UC Santa Barbara
6:30 p.m.	JV Basketball	Whittier Away
8:15 p.m.	Varsity Basketball	Whittier Away

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