

JOIN THE  
CRUSADE  
FOR FREEDOM!

# CALIFORNIA TECH

California Institute of Technology

Thursday, October 5, 1950

WALLOP  
WHITTIER  
SATURDAY!

Volume LII.

No. 2

## First Rep To Be Chosen

Bob Davis' Marriage  
Leaves Position Open

The position of ASCIT First Representative is now open, because of the summer marriage of Bob Davis, who was elected to this office last spring. An election to fill the position will be held on Friday, Oct. 26, with the nominations scheduled for the assembly on Friday, Oct. 13. Any Junior or Senior interested in this post should see any board member for details.

The primary duty of the First Rep is to serve as the ASCIT social chairman. Among his other important duties are serving on the ASCIT Board of Directors and on the honor point committee.

The new First Rep will be in charge of the arrangements for the fall term ASCIT dance, which will be either a pre-Thanksgiving affair or a Christmas dance early in December.

## Whittier Pep Rally Friday

The year's first pep rally, for the Whittier game, will be held Friday at 11 during the regular assembly period in the pit on the north side of the Synchrotron Lab. The rally will be led by Leo Baggerly and will include a talk by Coach LaBrucherie, who will introduce the team. Free megaphones will be handed out to aid in the yell at the rally and at the game Saturday night. The new cheer leaders, Chuck Miller, Leon Vickman and Jim LaTourette, are going to try out some new yells. All the Frosh are urged to attend the rally and the big game at Whittier.

Let's make it a big turnout and show some of that spirit that we showed at the Frosh camp.

## New Faculty Hosted at Tea By DuBridges

New faculty members at Caltech and their wives were the guests of President and Mrs. DuBridge at a tea last Sunday from 4 to 6 at the DuBridge home.

### Wives Poured Tea

Wives of division chairmen and deans poured and included Mmes. Fred C. Lindvall, Chester Stock, Hallett D. Smith, Robert F. Bacher, Linus Pauling, Franklin Thomas, L. Winchester Jones, and Charles Newton.

Among those honored at the tea were a number from abroad who are currently at the Institute. These included Lord and

(Continued on Page 4)

## Brubeck Boys Bop Before Big Bunch

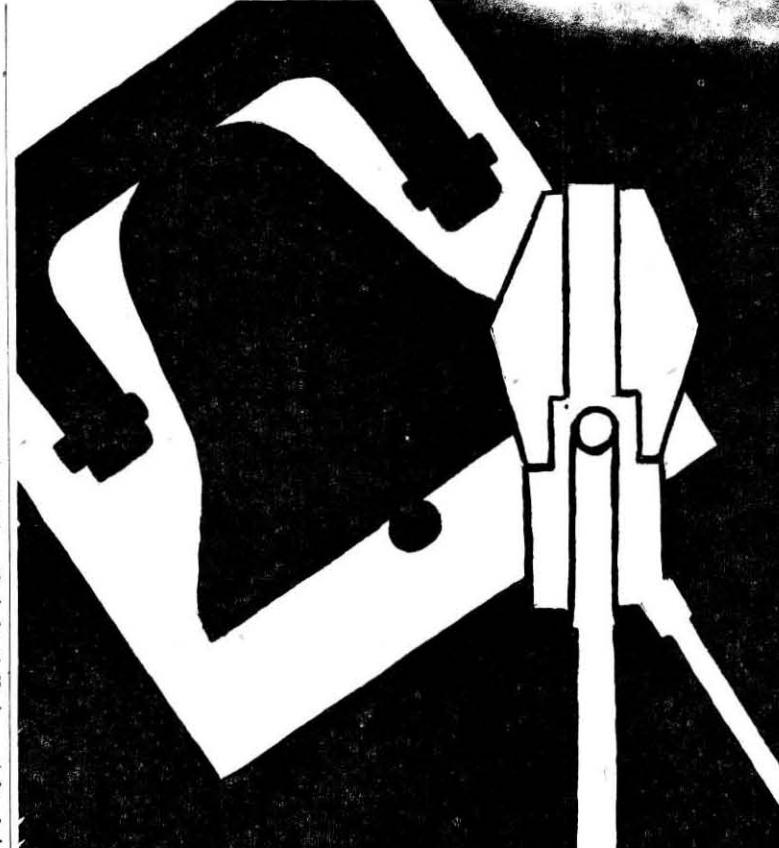
Dave Brubeck's new style of be-bop treated Techmen to their first assembly for the year, and a capacity crowd greeted the peppy trio. Brubeck and his boys displayed the talent that gained two of their records the Metronome award for the month. Metronome is one of the nation's foremost musical trade magazines.

### Combo

Culbertson's walls resounded with Brubeck at the piano, Ron Crotty at the bass, and Cal Tjader beating the drums, as they bounced through "Singing in the Rain," "Old Black Magic," "Lover," "Jeepers Creepers Where d'ja Get Those Peepers," and other arrangements of their own. Cal Tjader, drummer, was featured in several rhumbas.

## Campus Calendar

THURSDAY, OCTOBER 5  
12:10 Throop Club Meeting  
7:15 Board of Directors Meeting in Lower Fleming  
SATURDAY, OCTOBER 7  
8:00 Foothill Varsity at Whittier  
SUNDAY, OCTOBER 8  
7:30 Film Classic Series in Culbertson  
MONDAY, OCTOBER 9  
7:30 Film Classic Series in Culbertson  
WEDNESDAY, OCTOBER 11  
7:30 Orchestra Rehearsal in Culbertson



## argegi New Tech Grading Will Provide Finer Separation

A new system of grading has come to the Caltech campus, making use of plus and minus grades, giving the students right on the borderline between two grades a fairer evaluation.

The idea of changing grading methods is not new; in fact, it has been discussed for the last

25 years, ever since Dean Jones arrived on the campus. This plan was conceived last fall, the machinery being motivated by committee chairman Dr. Watson at meetings where faculty and grad students gave suggestions.

### More Grade Distinction

The purpose of the system is to give finer distinction in the grades, and has finally been adopted because it is believed it will give us, the students, a slightly better break. The groups it will help most are those borderline cases of 1.7-1.9 GPA and those near honor standing. The other students will remain mostly unaffected.

### GPA's to Be Raised

Dean Jones believes the average GPA will be raised slightly since many instructors give D grades to borderline C-D students because they don't want to give both the borderline C-B's and the C-D's the same grade of C. Now, under the new system, he can give the C-B man a C+ and the other a C-, rather than a D.

Dean Jones realizes this system will cause much more book work that might lead to inaccuracies, but if students get a better break, he says it will be worth it.

### Adopted from Past Experience

The future of the system will depend on the results of succeeding years, just as its adoption depended on statistics of past years which indicated there were more plus grades on record (as straight grades) than there were minus grades.

## YMCA "Retreat" This Weekend

The Emerald Bay home of Stan Johnson, "Y" Board member and former Techman, will be the scene of the "Y" retreat this Saturday and Sunday, Oct. 7 and 8.

The main topic for the informal discussions will be the determination of the degree of religious emphasis to be placed on "Y" programs for the coming year and of the scope of "Y" activities on this campus as related to religion in general.

### Religious Desires Expressed

Many persons have expressed a desire for greater religious emphasis in "Y" activities and the campus "Y" is anxious to hear the views of as many students as possible, according to Dick Libbey, "Y" president, so that "Y" programs may reflect the wishes of the majority of students.

Following the opening informal discussion in which each person will have an opportunity

## Tours Resumed by Student Guides

Student guided tours of the Caltech campus were resumed yesterday. Guides will be available at 11 a.m. and 3 p.m. Monday through Friday and at 11 a.m. on Saturday, in the Y lounge. Arrangements for special groups may be made through the Public Relations office.

## "Crusade for Freedom" Enlists CIT Aid This Week

### WHERE TO SIGN FREEDOM SCROLLS

**Undergraduates:** See the president of your house, or Throop Club. There will also be Freedom Scrolls and donation cans in Lower Throop, and in the Athenaeum.

**Graduates:** See undergraduate house members, or sign up in the Athenaeum or Lower Throop.

### DuBridge's Letter Triggers CIT

### Part in National Signup Campaign

With a letter to each Caltech student, faculty member, and employee, President L. A. DuBridge opened the institute's part in the nationwide Crusade for Freedom campaign early this week. Swinging into action immediately were more than two dozen committee members representing different departments and organizations in an effort to persuade all persons connected with Caltech to endorse the Crusade program by signing a scroll and, where possible, by making a contribution.

### Group Advertises Freedom

The Crusade for Freedom is a movement sponsored by the National Committee for a Free Europe with a stated purpose of beaming radio messages telling the story of freedom to lands behind the Iron Curtain.

Radio Free Europe began broadcasting from Germany in July of this year with programs in five languages to countries under Communist domination; it tells the peoples the truth about events in their own countries, and keeps alive the hope for freedom.

Launched by General Eisenhower in his Labor Day address, the Crusade for Freedom is the program to make the people of the United States conscious of the problem of communicating with nations behind the Iron Curtain and to obtain the moral and financial backing of every American citizen. Plans call for a separate radio station for each of the suppressed countries in the near future.

Dr. DuBridge's letter:

### Name Committees

Named to the executive committee for the Crusade were Professor Sorenson, Dean Thomas, Ulrich Merten, ASCIT president; George H. Hall, public relations director, and Wesley Hertenstein, superintendent of B & G.

Those representing our campus groups and departments on the general crusade committee are: Carl Anderson, physics; Henry Borsook, biology; Ira Bowen, Palomar Observatory; R. L. Daugherty, mechanical engineering; Louis Dunn, JPL; Glenn Greene, campus housing; Earl Hefner, Blacker; Dallas Peck, Fleming; Duane Neverman, Throop; Fred Wood, Dabney; Kent Stratton, Ricketts; George H. Hall, Institute publicity; Jerry Delson, Internations Association; Wesley Hershey, YMCA; K. A. Jacobson, management club; John Kirkwood, chemistry; Bob Kurland, California Tech; Tony Malanoski, Beavers; Wesley Hertenstein, B & G; Ulrich Merten, ASCIT; Clark B. Millikan, aeronautics; H. Z. Musselman, PE; R. P. Sharp, geology; Hallett Smith, humanities; Royal Sorenson, electrical engineering; Bob Stanaway, ASCIT publicity; George Tanham, student houses; Franklin Thomas, civil engineering; Ernest Watson, faculty; Bill Whitney, Tau Beta Pi.

### Scrolls Posted

Activities carried out by the committee include the posting of freedom scrolls throughout the campus. These scrolls, which all Institute personnel have been asked to sign, carry this Declaration of Freedom: "I believe in the sacredness and dignity of the individual. I believe that all men derive the right to freedom equally from God. I pledge to resist aggression and tyranny wherever they appear on earth."

Containers for voluntary contributions to the cause have also been distributed. Spokesmen emphasize that no donation is required in order to sign the scroll, but that individual contributions in the range of 15 cents to \$1 will do a great deal in spreading the message of freedom.

### Signatures Urged

October 17 has been set as the date when all scrolls should be completed and submitted to national headquarters. Committee members urge that anyone who has not yet signed one of the scrolls posted on campus do so immediately.

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### SAE to Tour ME Facilities Here

### OPPORTUNITIES

Help yourself by helping the Institute!—to gain experience in the journalistic field join the staff of the 1951 **Big-T!** See either John Boppert, Room 21 Blacker, or Barney Engholm, Room 36 Ricketts.

### Deans, Wheels Present

Among the distinguished people present at the tea were Dean Thomas, Dean Strong, Wes Hershey, and Ulrich Merten, ASCIT president. At about 5:30 the tea broke up and the girls were taken back home.

### M.C. Stan Groner presents beauty award to "Petunia" (alias Betita Barr).

### SAE to Tour ME Facilities Here

Latest developments in aeronautical and automotive engineering will be on display Monday, Oct. 9, at 11 a.m., when Dr. Peter Kyropoulos and other faculty members will conduct a tour of ME facilities on campus.

Features will include the new Oldsmobile 88 Rocket engine and a new Ford V-8 engine on display in the engines lab, and aeronautical developments such as jet and rocket engines, gas turbines, and turbo-superchargers.

### Future Tours Planned

This tour is sponsored by the SAE, and all interested are urged to attend. Following the tour, SAE Prexy John Nobles will explain the functions of the campus SAE group and the advantages of membership.

Participants will leave the campus Saturday afternoon at 1 p.m. and return Sunday by 3 p.m. Total cost, including transportation, will be \$3.50. Anyone wishing to sign up for the trip or desiring more information should see Wes Hershey at the "Y" office in Dabney basement this afternoon.

### Ideas Wanted

Anyone who is unable to make the trip but who has any ideas on the topic is urged to see Dick Libbey or any "Y" officer so that his ideas may be brought up in the discussion.

### Trip Starts in 206E

The tour next Monday will be of interest to everyone, especially engineering students and new students. Starting point is Room 206E at 11 a.m.

For further information about the tour or the SAE, see John Nobles R42 or Al Pitton (F58).  
(Continued on Page 6)

## The Truth Shall Make You Free

The Truth shall make you free. Appropriately enough, this is the motto of Caltech; appropriately, this might well be the motto for the present Crusade for Freedom now being conducted on campus.

You, who are even now being approached for a signature, may read elsewhere in the paper, and get from those who are supporting the campaign, more information—what is being attempted in this Crusade, what its purpose is, and who some of the people supporting it might be.

That is not what we're going to talk about in this editorial. We're going to tell you why we, after careful thought and some soul-searching, are supporting the Crusade.

And don't take for granted the support of all college newspapers for this drive. Some, among them the **UCLA Daily Bruin**, are not supporting the Crusade for Freedom. Why? We'll tell you why, and perhaps in answering those objections which have been raised to the Crusade for Freedom, we may give the reasons for our support.

First and foremost among the objections raised by those who oppose or who are indifferent to the Crusade, is "look at the people who're backing it—Giannini and John Francis Neylan, top instruments in imposing the loyalty oath on U.C.—just more tools of Hearst."

These people have earlier raised the best answer to this, themselves; many of them are liberals (whatever that may be), and, as a part of liberal policy, say that an idea should be judged on its own merits, and not upon its sponsors. They decry publicly the now common process of judging guilt by association; yet they themselves are doing this, if they don't judge the Freedom Crusade on its own merits.

To those who do profess themselves liberals, and who contradictorily enough judge a program by the names of those sponsoring it, it might be shown that men like Senator Douglas from Illinois, Lehman from New York, and Norman Thomas certainly could not be label reactionaries, and these men are among the backers of the Crusade.

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## Communism and the Oath

**Ed. Note:** This is one of a series of editorials designed to stir discussion and thought among Techmen about current world and national issues. It will be followed next week by an editorial of an opposite opinion in certain respects.

While a "battle of principle" rages on between the faculty and the regents of the University of California, thinking people of this country are examining the basic issues behind the Loyalty Oath question. Seldom before has security legislation been so violently flouted for "abridging freedom," "stifling the search for truth," or "contradicting conscience and constitutionality."

Judge Robert H. Jackson of the Supreme Court has pointed out that the Communist Party, unlike our orthodox domestic parties, seeks seizure of governmental power by a minority faction rather than through a free electorate, evidently by violent and undemocratic means. Every member of this party, one of the few in American history directly controlled by a foreign power, must pledge unconditional obedience to the various ramifications of Marxist-Leninist chicanery. Thus, reasons Mr. Jackson, the **acquittal of Communism cannot originate from constitutional arguments**, any more than a band of thieves could expect salvation through the Bill of Rights.

To preach by subtle and insidious means the "party line" and to acquire whatever disciples he can, is one of the sacred duties of the party member or fellow-traveler. What better hunting-ground could there be than the **college campus**, where students, who have not gained the intellectual maturity resulting from years of worldly experience and social interchange, can often be duped by a pre-meditated misrepresentation of the facts?

### Let's Have Facts!

"I would never fear Communism in America if all Communists were out in the open, peddling their wares in the market place of free speech and thought," avers J. Edgar Hoover. Here is the crux of the situation. Intellectual freedom implies that the facts on both sides are presented as impartially as possible, for examination—and consequent acceptance or rejection—by the seeker for truth. Do Communists give us the facts?

Would we countenance the professor of Social Psychology who, while discussing the Theory of Crime, cunningly suggested law-breaking as a profitable student occupation? Then why are we so lax with persons presenting an equally unethical and un-Christian doctrine?

Communists are trained to lie about their status, and for this very reason the Loyalty Oath cannot directly expose the party follower. But assuming a Communist recruit prefers signing the Oath rather than relinquishing his position, he incurs the risk of prosecution for perjury. Under our present laws this is often the only manner in which Communist activity can be controlled.

Although the University of California has suffered dearly for the action they have taken, we wonder whether the bloc of teachers led by Dr. Edward Tolman has taken the admirable course of action. Are they aiding the priceless freedoms of the nation by denouncing the Oath on the dubious grounds of its "unconstitutionality," or are they abetting the very power which would subjugate our government?

### Which Is Best?

Rather than making the fight against the evils of Stalinism unpopular in the public eye, we believe they could better serve their country by retaining their offices through acceptance of the Oath of Loyalty to these United States and the freedom they represent.

At this time of national emergency all of us should be willing and waiting to make what sacrifices we can; pitiless publicity and unremitting alertness to the presence of malicious influences from within the country will contribute to our fight for a free world without.

—Barney Engholm.

## Secretary's Report

In this report I have several important ASCIT dates for you to remember. Write them down now, so you won't forget.

OCTOBER 7—Whittier football game at Whittier.

OCTOBER 13—Nomination of candidates for ASCIT First Representative at the regular assembly.

OCTOBER 19—PAJAMARINO (note this is on a Thursday night).

OCTOBER 21—Oxy football game at Oxy . . . FOLLOWED BY OXY-TECH DANCE AT OXY—FREE!!

OCTOBER 26—Election of ASCIT First Representative.

NOVEMBER 7—MUDEO.

NOVEMBER 18—ASCIT Thanksgiving Formal.

### FIRST REP WANTED

In another section of this newspaper you will find more about the ASCIT First Rep. election, but if you are interested in directing social activities and are either a Junior or Senior, see me or any other member of the ASCIT Board of Directors.

Remember that all members of the student body are invited to attend Board meetings held at 7:15 P.M. in the Board room located in Lower Fleming on Thursday nights.

Respectfully submitted,

Stan Groner.

## Does This Nut Fit Your Bolt?

by the Monkey Wrench

The Freshmen have by this time found out that we don't keep any weird creatures in the basements and that such creatures as do live there come out for air once in a while. Most of them are on display over at the Athenaeum at least once during the day getting fed. Some of them eat twice or even three times a day. As a whole, the only difference about anybody here is that he goes to Tech.

### Ask Questions, Frosh

After Camp Radford and whatever was supposed to be going on there, anything in the way of a welcome to the Freshmen would be redundant. Having been there once myself, I can well sympathize with the latest group of victims. The only thing wrong with the place is too much of a good thing. I was so stuffed with information about Tech that I didn't know where to start. The most obvious suggestion to Frosh that this point is to encourage questions. Most aspects of your stay here were covered at Radford. If you feel the need of anything else but don't know where to locate it, poke around a little.

### Spiritual Life Emphasized

A very important activity which is generally overlooked around here is one's church and religious life. On campus are several groups which seek to meet one's needs in this respect. Some of the denominations represented in Pasadena have contact groups on campus. One group, the Caltech Christian Fellowship, meets on campus regularly. Several churches but only one purpose is represented. They try to study the Bible to see what it says and how it applies to people today. Bring yourself and your ideas along to 210 Dabney on Tuesdays and Thursday at 12:30.

### Love That Ice-Plant!

At this point I should like to incur the wrath of the powers that be by conducting an impartial poll. Since anyone who has been here for more than a few weeks is bound to be prejudiced, the only ones who may participate are freshmen. This will be very simple. Kindly examine the raunchy blue-brown stuff in front of Throop Hall, commonly known as ice-plant, and then feast your eyes on the lovely green grass growing between Arms and Kerckhoff. Indicate your preference on a suitable piece of paper and turn it in to Mr. Wesley Hertenstein.

## CAMPUS

"What! out of senseless Nothing to provoke  
A conscious something . . ." Rubaiyat, LXXVIII

It is with a heavy heart that the Beak now once more sets pen to paper, and commences a long year of endearing himself to his despicable readers. Torn between the specters of the draft boards and of the impending June 9th, the Beak's heart at first lacked its usual zest, but upon casting a baleful stare at the half of our class we are in, and upon realizing that 4 percent of all wives smoke in bed, our ebbing strength returned. We thereupon donned a jaunty foulard bow, stuck a feather in our hatband and one in our throat, and, a cunning smile embellishing our richly tanned visage, we once more begin our unintelligible column, secure in the knowledge of our anonymity, and of the breathless millions that hang upon our every word. Take heed!

### Strike One

The first thing that struck the Beak's attention upon returning to the campus was the large number of new secretaries. Ambling towards the Greasy, we were momentarily stunned by the sight of a young voluptuous, slender and poised in a white seersucker dress, the tight bodice cunningly trimmed in rick-

## Whether Pigs Have Wings . . .

the Carpenter by The Walrus and

### GENESIS: Ph-la

Freshman Peter Jernigan and his roommate walked through the Ricketts-Fleming portico and headed down the olive-walk. Peter was conscious of keeping up a casual conversation with his companion, but his mind was elsewhere. He looked at his watch. Quarter to eight. Get there early the first day. Mt. Wilson on his right stood out clear and firm. A fine, brisk morning. He shivered. Let's see . . . first week of college . . . study hard, fifty hours a week but no more, be alert in class, football in the afternoons, get enough sleep . . . don't be a "snake" though, get to know people. Sex? At least once a week. That blond at the tea dance . . . from San Marino . . . hmmm.

Nearing Throop he paused to check the blue card, Ph-la—M8—306B. "Se ya', Bill," to his roommate as they parted company. Things should work out pretty well; all it takes is a little organization. He glanced up at Apollo and self-consciously avert-

## BREWINS

rack braid. She gave us a burning look, but our innate craving for nitrogenous waste products soon gaining the upper hand again, we entered the Greasy, playground of the Tech gourmet.

Alas, we were soon to be stunned again. Casting around a baleful stare, we beheld coffee cups of Lilliputian dimensions. Filling one from the micro-burts provided, and replenishing our pipe with that mixture of sun-dried burley and evergreen cones so popular of late with Al Capp, we parked our posterior. Beginning to discuss the moral bankruptcy of postwar English society with a biophysicist suffering from distemper, we soon tired of that subject, and, our attention drifting, we could not help but overhear miscellaneous bits of Tech gossip flying through the air. This, with his customary emotional maturity and felicity of phrase, is what the Beak now has to proffer.

### Foreigners Legion

The adventures of Techmen the legion. Fleming's Pete Pauling journeyed all the way across the big waters in quest of experiences hitherto unimaginable by Havelock Ellis or Kraft-Ebing. His Wanderjahre, alas, were productive of strange fruit and it was a disillusioned Pauling that sadly shook the dust of Vienna from his feet. Moreover,

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the University of London refused to accept his previous training, and it is thus that Pete will be in our midst for another year. Other European wayfarers were Ted Polk, Pharaoh Matzner, who reportedly did his best to rival the attainments of his sovereign.

### Baited Breath

The Beak experienced the most (Continued on Page 3)

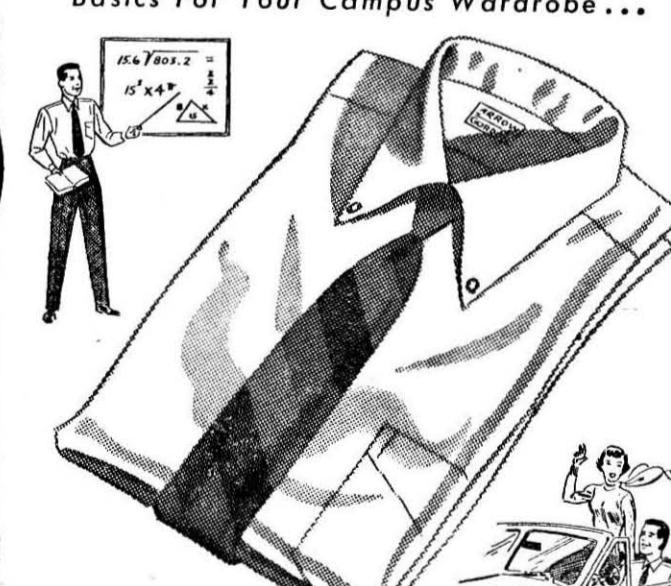
Peter flipped the pages to Chapter I. **Linear Motion.** Couldn't be too bad. After all, got 98 on that high school physics final. He passed his white card forward. "The grading system in this course will be . . ." A stir of eagerness swept over the class and pencils scribbled in unison. For the first time Peter surveyed the men about him. Decent-looking bunch, but that look of radiant intellect on their faces made him slightly uneasy . . . still, the obvious newness of those yellow slide-rule cases throughout the class was a bit reassuring.

\* \* \*

"I assume that most of you gentlemen are familiar with a fundamental principle of the differential calculus." There was a ripple of nervous laughter. What's all this? The instructor began writing equations on the blackboard and the clean white sheet of paper on the clipboard was soon filled. "From this it is obvious that the acceleration is equal to the second derivative of the displacement vector with respect to time." Peter recalled the simple statement in his high school physics book, "**a equals v over t.**" No time to worry about that; more equa-

(Continued on Page 6)

### Basics For Your Campus Wardrobe . . .



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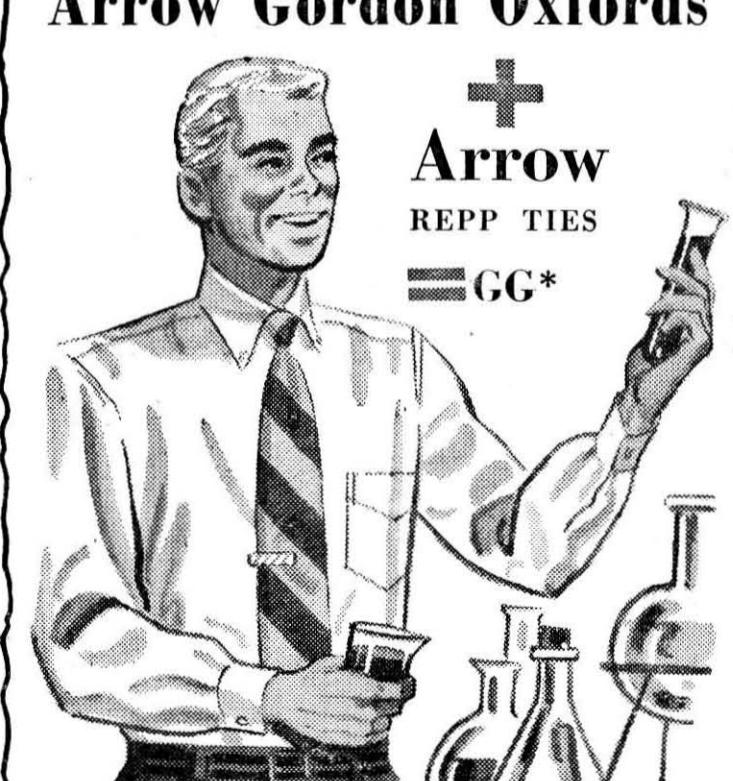
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## ARROW SHIRTS & TIES

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## Internations Association Gives Activities Clue

Last Friday the Inter-Nations Association held a dance and informal reception for all interested persons in the Athenaeum.

The Inter-Nations Association of Caltech was formed in 1945 by a group of students and their friends in the community "to promote better relations and cultural understanding among all nations, especially through the medium of those foreign persons in the community, and to assist visitors and students from other countries. The INA is a local organization and was formed to fill a definite need."

### Tuesday Meetings

Every Tuesday, in an informal group, INA members and their friends meet in Room 26, T-2, at 5 p.m. Tea and cookies are served. It has become the custom after tea to have dinner together, either at a restaurant, or, by co-operative efforts, at some member's home. Record dances, Halloween parties, and New Year's Eve parties are established features on the INA calendar.

INA members are invited into private homes for parties given by people in the Pasadena community, such as last year's suc-

### NEW FACULTY

(Continued from Page 1)

Lady Rothschild, University of Cambridge, England; Mr. and Mrs. Sydney Chapman, Commonwealth Observatory, Canberra, Australia; Mr. and Mrs. Anton Lang, McGill University, Canada; Mr. and Mrs. J. L. Leemann, Zurich, Switzerland; Mr. and Mrs. Jean Mauron, Baden, Switzerland; Mr. and Mrs. R. A. Pasternak, Fuglebjerg, Denmark; and Mr. Massimo Simonetta, Polytechnic Institute of Milan, Italy.

### New Profs Honored

Dr. R. P. Feynman, Professor of Theoretical Physics, was among the newly appointed professors who were honored. Others with professorial appointments who attended with their wives include D. C. Elliott, Assistant Professor History; S. S. Penner, Assistant Professor of Jet Propulsion; D. S. Wood, Assistant Professor of Mechanical Engineering, and T. M. Apostol, Assistant Professor of Mathematics.

Visiting professors who attended with their wives included Professors B. L. Crawford, Jr., and R. M. Keefer.

### Additional Guests

New instructors, research fellows and their wives who were guests include: R. A. Alberty, Bernard Axelrod, Otto Bastiansen, Robert Casamajor, Richard E. Cline, George C. Dacey, E. P. Darley, D. L. Douglas, H. A. Dye, S. Eldridge Jr., Heinz Ellersieck, Kazim Ergin, Harold R. Garner, E. A. Goldsmith, Felix L. Haas, Edgar Heilbronner, E. Herzog, C. P. Hsu, A. C. Ingersoll, H. A. Itano, Victor A. Lewinson, P. H. Lowy, R. E. Marsh, Douglas Maynard, Thomas C. Nelson, Roger Newman, Donald Norris, Alfred Novak, E. A. Phillips, J. H. Pinckard, Alexander Rich, R. C. C. St. George Jr., Matthew Sands, T. C. Sheng, J. S. Stamm, M. L. Stehsel, Y-C. Tang, J. G. Teasdals, D. W. Thomas, D. L. Thomsen Jr., A. V. Tollestrup, B. S. J. Wostmann, and Misses K. Zarudnaya, Marguerite M. P. Vogt, and F. Charlotte Green.

## Three Get Hughes Aero Fellowships

Three winners of Howard Hughes Fellowships in Creative Aeronautics, established to aid in the training of outstanding research engineers and physicists at the California Institute of Technology, were recently announced by Dr. Lee A. DuBridge, Caltech president.

The fellowships were awarded to Arthur E. Bryson, Jr., 24, Temple City, Calif.; Warren E. Mathews, 28, Pasadena, Calif., and Norman M. Wolcott, 21, Westwood, Calif. Each will receive a grant from the fund established by the industrialist, aviator and motion picture producer to cover tuition and other expenses and will also receive a salary from Hughes Aircraft Company for work done in connection with study at the Institute.

Dr. DuBridge said that the Fellowship program, combining advanced theoretical training at the California Institute of Technology with industrial tutorial training at Hughes Aircraft Company, Culver City, Calif., was developed last year by Howard Hughes and Caltech in recognition of the growing need for creative research men—ones who can apply scientific and industrial techniques in the solution of increasingly complex technological problems.

In the naval architect and engineering fields, the civil service grade and pay status covered is from GS-5 to GS-11, inclusive, with pay ranges from \$3100 to \$6400 a year possible.

Draftsmen will be employed in the GS-1 to GS-6 bracket inclusively with a yearly pay range from \$2200 to \$4200.

Those employed will be given emergency indefinite appointment with Federal privileges of

(Continued on Page 6)

## CIT Rocket Tested By JPL and Army

A preview of things to come in the field of guided-missile development in this country was witnessed by Army Ordnance and California Institute of Technology Jet Propulsion Laboratory scientists at White Sands Proving Ground recently.

The Army's fifth model of its ORDCIT, first large experimental missile to be wholly U.S. designed, was fired. Controlled by an autopilot, the 44-foot rocket followed its course at some 2,000 miles per hour. It struck well within the desired range of accuracy.

### Experimental Only

Powered by an acid-aniline motor which develops 1,200 horsepower per pound of weight, the big prototype missile is capable of carrying a considerable payload for a distance in excess of 100 miles.

Both Army Ordnance officials and Dr. Louis G. Dunn, director of the Caltech Jet Laboratory, emphasized the fact that ORDCIT is strictly an experimental missile, designed and developed for the specific purpose of studying and evaluating the problems of controlled rockets. "ORDCIT is not a military tactical weapon. It is an experimental test vehicle which is being used to study and evaluate the problems which arise in the design and development of guided missiles. A large body of valuable information has been obtained since the first ORDCIT was fired in May of 1947," Dr. Dunn said.

### More Horses

As an example he cited the fact that the motor in the first ORDCIT developed 200 horsepower per pound of weight as compared to 1,200 horsepower per pound for the current model—a gain of 600 per cent in horsepower per pound in efficiency. Comparable improvements have been made in the automatic pilot which guides the missile.

"Improvements which now appear possible will enable us to double the performance of the ORDCIT with the same propellant load," Dr. Dunn said. He added that improvements in the airframe design of the rocket since the first one have also been comparable to those in the motor and guiding mechanism.

Development of such a missile as the ORDCIT actually began at the Caltech Laboratory back in 1943 when the Army Ordnance Department asked the Institute to take on such a project. It is one of three series of missiles which have been developed a step at a time. First was the PRIVATE series, a smaller rocket with a relatively short range and powered with a solid propellant motor. Its principal purpose was to gain new knowledge of exterior ballistics of missiles. Next came the WAC CORPORAL series. The first of this series was fired in 1946 to an altitude of about 140,000 feet. This was the biggest missile this country had built and fired at that time.

### Up, Up, and Away

In February, 1949, a later model of the WAC CORPORAL was used as the second stage of this country's first large two-stage rocket. Mounted in the nose of a German V-2 and fired when the V-2 had reached its maximum altitude, the WAC reached a height of 250 miles—the highest any man-made rocket has ever gone.

It was the success with the PRIVATE and WAC CORPORAL series that led to the third, the ORDCIT, which is now undergoing tests.

Although the speed of the ORDCIT in the recent test was approximately 2,000 miles per hour (3,000 feet per second), it can attain much higher velocity, officials said. The missile is relatively slim as compared, for example, to the German V-2, having a diameter of only about 30 inches. Maximum diameter of the V-2 was 65 inches.

## Caltech Fellowship Starts New Year

Next week the Caltech Christian Fellowship will begin a new series of studies in the Gospel by Mark. The entire campus is invited to participate in bringing questions and comments to these informal discussions. They will be held on Tuesdays and Thursdays at 12:30 to 12:55 in 210 Dabney.

## Graduate Record Exam To Be Given

Tests of the Graduate Record Examination, required of applicants for admission to a number of graduate schools, will be administered at examination centers throughout the country four times in the coming year, Educational Testing Service has announced. During 1949-1950 nearly 13,000 students took the GRE in partial fulfillment of admission requirements of graduate schools which prescribed it.

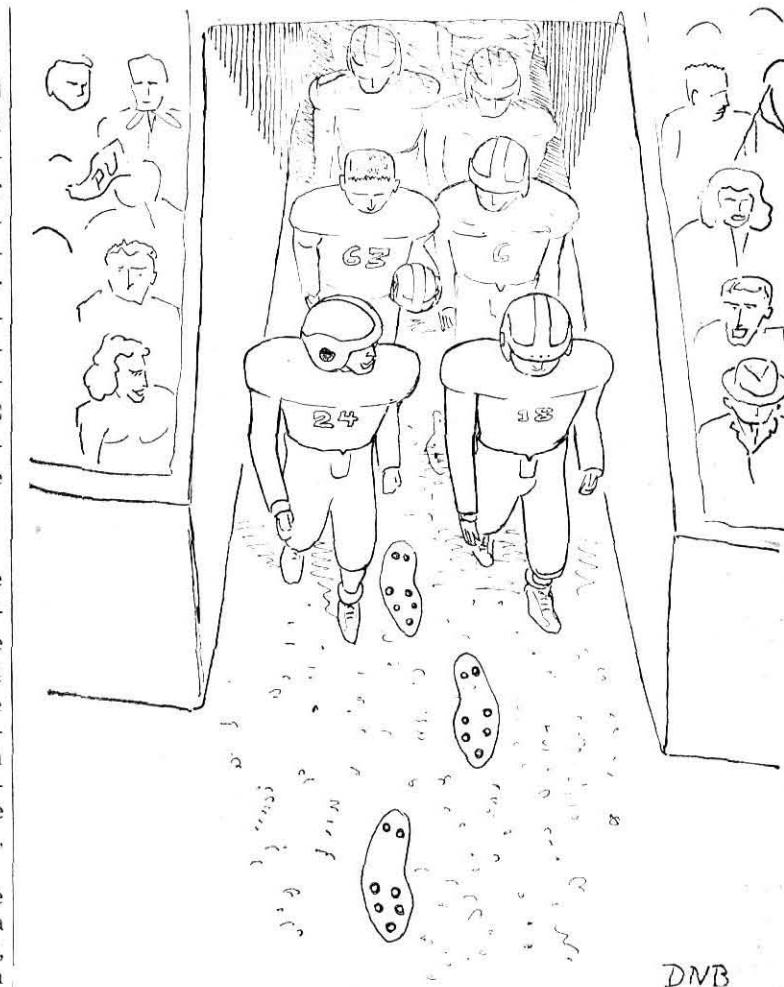
### Fall Exams

This fall candidates may take the GRE on Friday and Saturday, Oct. 27 and 28; in 1951, the dates are Feb. 2 and 3, May 4 and 5, Aug. 3 and 4. Since the GRE is not required by all graduate schools, ETS advises each student to inquire of his prospective school whether or not he is expected to take the test and, if so, on which dates.

The GRE tests offered in these nationwide programs include a test of general scholastic ability, tests of general achievement in six broad fields of undergraduate study, and advanced level tests of achievement in various subject matter fields. According to ETS, candidates are permitted several options among these tests.

### Info Provided

Application forms and a Bulletin of Information, which provides details of registration and administration, as well as sample questions, may be obtained from advisers or directly from Educational Testing Service, P.O. Box 592, Princeton, N.J., or P.O. Box 9896, Los Feliz Station, Los Angeles 27, Calif. A completed application must reach the ETS office at least two weeks before the date of the administration for which the candidate is applying.



**"YES, I GUESS THEY CAME OUT OF THIS PORTAL--WHY?"**

## On Laundry Day

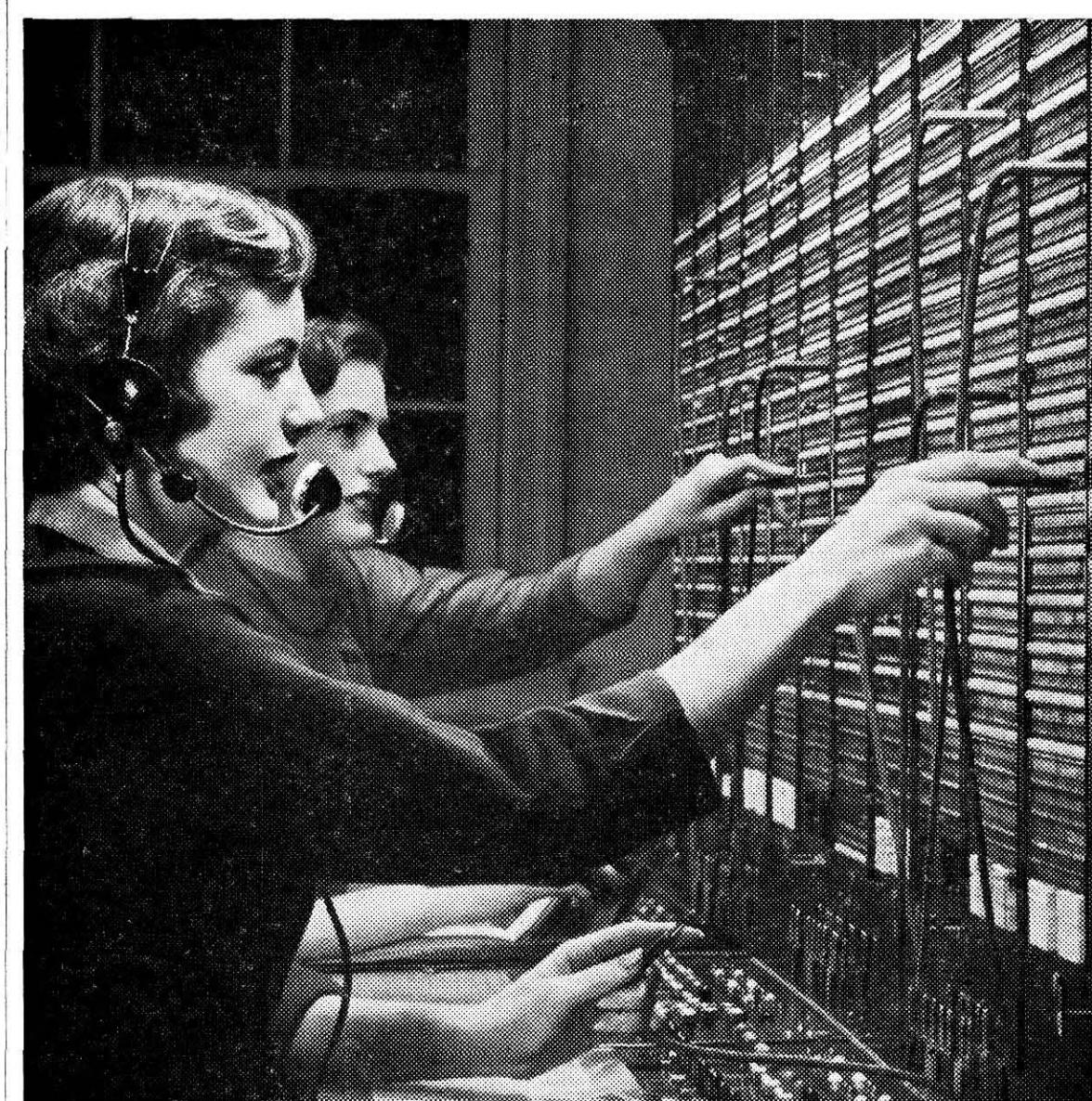
### LOOK FOR ONE OF THESE MEN

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BELL TELEPHONE SYSTEM



## Puget Sound To Offer Employment

College graduates, post-graduates and students majoring in engineering will be interested to know that a considerable number of vacancies in the professional field exists here in the Puget Sound Naval Shipyard.

Immediate employment of qualified men and women is available in the following classifications—naval architects; marine, mechanical, electrical, electronics and ordnance engineers. Openings for draftsmen of various grades also exist.

In the naval architect and engineering fields, the civil service grade and pay status covered is from GS-5 to GS-11, inclusive, with pay ranges from \$3100 to \$6400 a year possible.

Draftsmen will be employed in the GS-1 to GS-6 bracket inclusively with a yearly pay range from \$2200 to \$4200.

Those employed will be given emergency indefinite appointment with Federal privileges of

(Continued on Page 6)

# San Francisco Too Tough For Beavers

## Gator's Show Surprising Strength In Defeating the Engineers

Last Friday the fighting Beavers lost their second game of the season to a brand new San Francisco State team by 36-7. Although the "Gators" had a more powerful squad than the Santa Barbara Gauchos, the Engineers played a much better game than in the previous week.

### Flashy

The state offensive featured plenty of wide open play. Quarterback Sam Devito flipped the ball twice for scores. In the first quarter he tossed one into the end zone for the first score. Later from the 32 yard line, he completed another for six points.

### Smith

San Francisco's halfback Rudy Smith thrilled the fans with his long distance open field running. His two spectacular 50 yard dashes were both good for scores. The only other touchdown resulted from a sustained ground drive.

### Score

Caltech's lone tally came halfway through the third quarter. The Beavers drove from their own 18 to the "Gator's" 8 where they lost the ball on downs. San Francisco returned to their own 37, when the Beavers recovered a fumble. Halfback Jack Walker then went 37 yards over tackle for the score.

The last score of the game, a safety, occurred when the wearied and thinly reinforced Beavers were driven back 40 yards by 4 costly fumbles.

Coach LaBrucherie felt that the team played better ball in spots than last week, but still needed plenty of work, before the Whittier game on Saturday. Statistics:

### S. F. Caltech

Yards rushing	247	152
Yards lost rushing	39	79
Net yds. rushing	218	73

(Continued on Page 6)

### BUTTIN' IN

—By BUTLER

By next week the Interhouse trophy race will be in full swing, complete with the traditional betting of sundees. But, as usual, IH sports will not fulfill their function, as is so necessary in small colleges, to train men for future competition on the varsity.

For three years I have watched intramural sports contribute almost nothing to Tech's intercollegiate athletic program. But if this state of affairs could be changed, I feel confident that Tech's usually mediocre showing in the SCIC would take a large turn for the better.

Every coach at Tech will always bemoan the fact that he does not have any depth. And, furthermore, they will say that depth on any squad is what generally produces victories.

Other colleges can import this necessary depth, but Tech has to build up material from inexperienced men. And the only way to develop such material is through IH sports.

### How?

How is this to be done? First, more and complete publicity on IH sports. Secondly, and in this I feel the secret to a successful intramural program rests; a choosing of an All-House team, which can compete with other

(Continued on Page 6)

## Water Polo Season Opens X-Country Outlook Good

For the first but not the last time this season, the Beaver water-polo squad broke the ice in the PCC pool preparatory to starting their first workout of the year last Monday.

Although there was no coach for the opening session, Athletic Director Hal Musselman promised to locate one soon. Until then, Manager Dave Rathje and Dick Libby will direct the practice.

An unofficial league containing Caltech, Oxy, SC Frosh, UCLA Frosh, Los Angeles CC and East Los Angeles JC has been formed with a single round-robin schedule. Other games, with Muir, Loyola and PCC will be played

### PIGSKIN PROGNOSTICATIONS

GAME	ATHLETIC DEPARTMENT	SPORTS STAFF
California Penn	Coach LaBrucherie	Hal Musselman
California 14	Tie	California 7
San Jose St. Santa Clara 14	Santa Clara 7	Santa Clara 6
Oklahoma Texas A&M 20	Oklahoma 7	Oklahoma 20
Nebraska Minnesota 14	Tie	Tie
Tennessee Duke	Tennessee 7	Duke 14
		Duke 7
		Tennessee 3

### PASADENA BOWLING COURTS

970 East Colorado  
Headquarters of Caltech Bowlers  
Open 11 a.m. to 1 a.m. SY. 3-1341  
Special Student Rate before 6 P.M.  
except Saturday, Sunday, and Holidays  
20c Per Line

### CAMPUS BARBER SHOP

In Old Dorm  
Also Agent for  
LAUNDRY & DRY CLEANING

## Caltech, Whittier Usher In SCIC Season

The Beavers and Poets get the jump on the conference rivals by opening the SCIC season at Whittier's Hadley Field. Whittier is a definite favorite after handing the Pacific Fleet Submarine a 20-6 beating, while Tech

took a shellacking from San Francisco State 35-7.

### Bumps

Bert LaBrucherie's lads are nursing light bumps suffered from last week's tussle. "Babe" Karasawa, the Beavers' outstanding back, is suffering from a charley horse. While Woody, Peck, and Reed make up the rest of the injury list, Quarterback Alan Marshall comes off and on the playing line up.

### Record

And besides, the Beavers have the poorest down-the-years record against the Poets than any other Conference rival. The series stands at 19 wins for Whittier, 3 for Tech, and 3 ties.

### Football

Coaches Ed Preisler and Manuel Bass, working with the Eager Beavers on the pigskin squad, hope to field a winning team come Saturday, Oct. 14. Only about half the aspirants have had experience, but all show plenty of fight and spirit. The line will be heavier than usual.

### Cross-Country

Practice so far has been in the fundamentals, with the line working out on the blocking dummies and practicing tackling. The team has learned most of its plays, and will soon start scrimmaging in preparation for that first game with the Whittier Frosh on October 14th. Let's have a big Frosh turnout for that game to cheer the team to victory.

### Cross-Country

The Frosh cross-country team looks promising with six or eight experienced runners turning out. Dual meets will be held with all conference schools, and to climax the season there will be the all-conference meet. There is some chance that the Caltech Frosh will be crowned champs of the conference if the team develops as well as it has started.

(Continued on Page 6)

### Ice Skating

Daily 2:30 to 5, 7:45 to 10:45  
Sat. & Sun. Morn. 10 to 12:30

#### Skates for Rent Instructions

#### Beginners Welcome

### Pasadena Winter Gardens

171 South Arroyo Pkwy.  
SY. 2-3331 RY. 1-6066

Two Self Service Laundries  
LAKE AVE. WASH OUT  
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remarkable Aero-metric Ink System. A sound  
investment in writing pleasure.

\$13.50

(No F.E. Tax)

Pen and Pencil Set \$19.75

Pen and Pencil Set \$19

**BEBOP**

(Continued from Page 3)  
Jackson outfits, influenced this new school.

**Present-Day Bop**

All of which brings us up

**CAMPUS BREWINS**

(Continued from Page 3)

conversation of the escorts louder and louder. After much anguish, twelve o'clock at last reappeared. Unnerved, the Beak staggered out into the fresh air, accompanied by what sounded like a sigh of relief from within.

**No More Laps Tonight**

Dazed, he somehow made his way back to the Great White Wall, just in time to see Kurland and an innocent frosh (uninitiated Scrippswise), depositing themselves and their dates at West Gate in a valiant effort to make the one o'clock deadline. Starting at breakneck speed, the two Ivorytowerines were soon lost in the smog. Never one to be caught pursuing a woman at night ("I can get my cross-country in other ways"), Kurland stopped short of the gate (still West Gate), waved a debonair "Well, goodnight," and drove away, leaving us stunned and speechless by the wayside.

Even now the Beak remains stunned and speechless, and as the moon is slowly rising over the gables of the Athenaeum, we can scarcely think of anything further to awaken the reader, and will therefore retire ourselves.

**PIGS HAVE WINGS**

(Continued from Page 2)  
tions and little arrows were covering the board. Peter raised his hand to ask a question, but a fellow in the first row beat him to it. The class tittered insultingly and Peter was glad he had been spared. More notes. A bell rang. Assignment for tomorrow: eight problems. A second bell.

Gathering his books, freshman Peter Jernigan rose and walked out into the dark hall. As he lit his cigarette, a slow, quiet panic crept up with him . . . So this is Tech!

**Ed. Note:** This article has always seemed so appropriate at this time of year that we are glad to reprint it by request—ours. It was printed in our freshman year in the Oct. 16, 1947 California Tech, and as we thought then, the man who wrote it has been through the mill. And to upperclassmen—well, it's fun to reminisce.

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Near Lake

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KNOLL**

Cleaners  
and Laundry

**ONE  
DAY**

**Cleaning  
Service**  
AT REQUEST  
NO EXTRA CHARGE

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LAUNDRY**

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Next Door to  
Caltech Barber Shop

quickly and sketchily to the present-day situation of bop. The absolute purist has suffered; Lenny Tristano and his trio worked publicly about three weeks of last year. The commercialist has profited. Buddy De Franco, Venturo, and especially George Shearing have cashed in. In between we have a somewhat muddled idiom in various stages of acceptance. It was partially the purists who killed bop, or gave it the name it has today, with their cold, impartial attitude and performances. Although Gillespie, Powell, Roach, and especially Tristano are regarded as the vanguard of the field, Mary Lou Williams and others have stated that they have music too advanced even to be heard at the present time. And all bop is not good. Very little of that you will hear—perhaps 10 percent—is worth listening to. The rest is not worth the trouble.

**Dave Brubeck Trio**

This brings us to the Dave Brubeck trio (Ron Crotty, Cal Tjader) which played Tech last Friday morning. It would be rather unfair to judge the group by a half-hour's performance at 11 in the morning when, in this business, you don't get to bed until 4 a.m.

However, there are a few things worthy of notice. If we were to call this bop, we should call it bop with icing. And the icing sold it. That is why so many people liked the performance. Like Shearing, Brubeck plays the melody several times straight in order to give listeners something to hold on to in the ride through bopland, where he interprets the theme. This interpretation varied in spots from brilliance in clarity, idea and phrasing to overflowing with notes signifying nothing. Brubeck does not consider himself a bop man with a bop crew. He admits he is a commercialist. However, he has obviously been influenced by bop and plays a good share of it. And on this his musical quality must be judged.

**THE TRUTH SHALL MAKE YOU FREE (Cont.)**

The second objection raised to the Crusade by the self-professed liberal is "How about spreading a little bit of that Freedom stuff here at home, boys? Look at the loyalty oaths, people being tried for slander, losing jobs, friends. Let's clear that up first."

We might answer that there is at present, to our mind, a Red scare, with its consequent hysteria and injustice. However this does not deter from the fact that there is in the world at present a struggle between ideologies.

One way, we believe, of ridding the U.S. of the more harmful, destructive, and purposeless aspects of this struggle—the present Red hysteria—is by putting our effort into a constructive attempt to show the peoples of the world that the democratic way, we shall hold; and to show the peoples of the world what this way is.

Let us hope that the propaganda will be constructive that will be beamed out by these, soon to be erected, Free Europe Radios; and that it will tell those behind the barrier of the present struggle what democracy can and will do for them.

You see, now, Wars cannot actually be won with atom-bombs; but only, ultimately, with ideas and ideals.

**FREEDOM CRUSADE**

(Continued from Page 1)

ately. First two signatures from Caltech came from President DuBridge and Professor Sorensen. Estimate of the total number of signatures to be obtained here is 1500 to 1700.

**Dedicate Freedom Bell**

Climaxing the campaign on United Nations Day, Oct. 24, will be the dedication of the Freedom Bell in Berlin. The bell is of solid bronze and stands eight feet high. Its design shows a laurel of peace around the top; below are five figures representing five races of man. The lower bears the inscription: "That this World, under God, shall have a new birth of Freedom"—a paraphrase from Lincoln.

The radio transmissions which this drive is backing are part of the effort to counter the anti-democratic propaganda disseminated by Communist Russia. In an effort to minimize the coverage of Radio Free Europe, the Russians are using nearly a 100 stations to jam the frequency used for the freedom programs. Although the jamming is partly successful in keeping our message from Russia proper, the jamming transmitters are effectively prevented from being used for additional Soviet propaganda.

**FROSH SPORTS ROUNDUP**

(Continued from Page 5)

Monday saw about 10 Frosh aspirants for the water polo team at the PCC plunge. Experience was almost nil, but the swimmers could become a winning team. Dick Libbey, acting as coach, put the Frosh through a session of passing and dribbling (the ball) that seemed to show good possibilities.

Frosh who have not yet signed up for any of the teams are urged to come on out if they have any athletic ability at all, but at least they should root for the teams at all their meets.

**S. FRANCISCO TOO MUCH**

(Continued from Page 5)

Yds. passing	136	82
Total net yds.	354	155
Passes intercepted	0	1
Lost ball on fumbles	1	1
Punt average	43.2	39.4
Yds. penalized	40	25

State	Pos.	
Dick Payne	LE	Robert Moore
Gene Anderson	L.T.	Gene Muehlberger
John DeGennaro	LG	Noel Reed
Dick Amondoli	C	Dave Hanna
Don Clare	RG	Dallas Peck
Paul Oliver	RT	Dick Fuller
Elmer Gallegos	RE	Tom Jansens
Sam DeVito	Q	Alan Marshall
Bob Keropian	LH	Dick Karasawa
Rudy Smith	RH	Jack Walker
Walt Jourdan	F	Hal Woody

**Help, Criticism Wanted**

Repeated call for all people interested in writing for the Tech now being issued. Also please hand in criticisms, suggestions, advice, original work to one of the staff or put in the Tech box in lower Throop.

**HUGHES FELLOWSHIPS**

(Continued from Page 4)  
a Philadelphia paper mill and in 1948 joined United Aircraft Corp., Hartford, Conn., as an aeronautical research engineer specializing in wind tunnel operation. He began graduate study toward an advanced degree in aeronautics at Caltech last year. He lives with his wife and son at 2050 Emperor Avenue, Temple City, Calif.

**BUTTIN' IN**

(Continued from Page 5)  
All-Fraternity or House teams in SCIC.

Of course, this is a program which would require time to get started. But I am sure that if properly approached, the other colleges in this conference would be receptive to such a program. All schools concerned would reap equal advantages from such a program. And, furthermore, give a lot more men an opportunity to compete on a more formal basis than offered by intramural sports.

This is my idea on how to give Tech sports a shot in the arm. Let me hear your ideas. The Beavers are always sneered at by the local fans. Maybe with a imagination and push we can change our traditional position as underdogs.

Can't say too much about football, the season looks pretty rough from here. But hats off to Bert and his boys who get out there and plug every Saturday!

Had a pleasant surprise this morning. Miriam, the Athletic Office's tantalizing red-head, passed chocolates. I know everyone offers their congratulations to Miriam and fiance, Clay Englar.

With the gridiron season now two weeks under way, it is time to take a gander at the PCC race. After watching SC choke under Iowa's potent line, I pick "Pappy" Waldorf and his Golden Bears to repeat.

Let's have everyone down at Whittier for the Beavers' first conference game. See you there!

**PUGET SOUND**

(Continued from Page 4)  
26-days-a-year vacation with pay and a 15-day-a-year sick leave, also with pay. Both government and private housing is available in Bremerton.

A representative of Puget Sound Naval Shipyard will visit Caltech within the near future for the purpose of interviewing and selecting qualified applicants for these positions.

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ALL THE STARS SAY...

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