

The California Tech

California Institute of Technology

Volume LVIII

Pasadena, California, Thursday, January 10, 1957

Number 11

Field Service sends Olson, expert on Japanese culture

by Ford Haltzman

"A new culture is coming into being: western influence has displaced a great deal of the Japanese past, but it has not yet replaced it."

The foregoing comment was delivered, with a broad Harvard accent reminiscent of President Roosevelt, by Dr. Lawrence Olson, whose knowledge of Japan covers everything from the various types of geishas to the plight of the Japanese intellectual. Dr. Olson, who is acting under the auspices of the American University Field Staff, has recently returned from an eighteen months residence in Japan, where he studied the political, social and economic conditions existent.

U. S. policies

Dr. Olson went on to say that the intellectuals are very much disappointed with United States policies. We started out to democratize Japan, but subsequently we have turned our attention to rearmament and fear of Communism. This is not to say that Communism is on the rise; on the contrary, in Dr. Olson's opinion, the Communist movement in Japan is not so strong now as it was five years ago. However, there is a strong desire to become less dependent on the United States. According to Dr. Olson, Japan will not become anti-American, but, rather, pro-Japanese.

Japanese youth

"Younger people are less respectful toward the emperor, their attitude toward religion is changing—there is quite a good deal of juvenile delinquency." Dr. Olson continued by saying that the young Japanese are more interested in getting a job than they are in the affairs of the empire. The best jobs can be found with the government or with business, particularly business. All in all, Dr. Olson gave the impression that the younger generation in Japan is as confused as the younger generation in the United States. There is a time lag among fads, Elvis the pelvis was just starting to make inroads into Japanese peace and quiet when Dr. Olson left.

Techmen will have an opportunity to hear Dr. Olson discuss "Japanese-American Relations" next Monday at the Y Lunch Club.

In following weeks, three more representatives of AUFS will speak at Tech, including Edwin S. Munger, who will discuss Africa (south of the Sahara); Albert Ravensholt, Formosa and the Philippines; and Charles F. Gallagher, Northwest Africa.

Romeo, Romeo . . .

Gabino Romeo, popular student house chef, won't be driving his green Thunderbird for a little while. Last Friday, while helping neighbors remove Christmas ornaments, Gabino fell from a ladder, breaking six ribs.

Long an active participant in swimming and tennis, Gabino is not overly enjoying his enforced inactivity at the Alta Vista Hospital. Visitors and/or get-well cards will be greatly appreciated.



Dr. Lawrence Olson.

Faculty, students will discuss Caltech philosophy at Y camp

Operating under the assumption that in a serious college or university the teachers and students should discuss together the school's philosophy of education and should continuously re-evaluate the school's own practice of that philosophy, the YMCA is sponsoring a camp where students and faculty can attempt to accomplish this purpose.

Camp Hess Kramer, just north of the scorched Malibu section, will supply the informal and relaxed atmosphere for stimulating and swapping ideas. The 20 faculty members and 45 students who make up the camp will split into groups of ten for three two-hour discussions, beginning Friday night, January 18. On Saturday the discussion will be punctuated with tennis, and volleyball.

Typical questions

Typical questions to be posed before the group are: "Should a scientist feel any social obligation in choosing his field of research?", "Can we say anything specific about our curriculum?" and "Do students lose an abnormally large percentage of their enthusiasm here."

Techmen who wish to attend the Camp Kramer conference should make a \$3.00 reservation deposit in the Y office before January 14. Total cost for the weekend excursion will be \$9.50. For more complete information see Donna Newcomb in the Y office.

"Les Miserables" first of Y movies

The Y Film Series for this term will begin this Sunday at 7:30 with the showing of *Les Miserables*. Series tickets are on sale for \$1.25; single tickets, \$.45. There are four showings in the series.

Les Miserables is the story of the inequities of the social system of 19th Century France. Charles Laughton and Fredric March are the stars of this screening of the book by Victor Hugo.

Death of a Salesman will be shown on January 27 with no admission charge because it did not arrive in time for a scheduled showing last fall.

Other films in the series are Mr. Belvedere Goes to College, Symphonic Pastorale and The Medium.

Students will face increased housing rates in September

CALENDAR

- January
- Th. 17 Nominate Frosh Officers
- 18-19-20 Stud.-Faculty Retreat
- Th. 24 Elect Frosh Officers
- S. 26 Whittier Game & Dance
- February Charities Drive
- F. 1 Redlands Game & Dance
- M. 4 Begin Practice IH Sing
- Th. 7 Nominate ASCIT Officers
- F. 15 Newman Club Debate
- M. 18 Inter-House Sing
- 18-19-20 ASCIT Campaigns
- W. 20 Election Rally
- Th. 21 ASCIT Elections
- F. 22 ICC Dance at Ontario
- S. 23 Pomona Game & Dance
- Th. 28 Oppenheimer arrives
- March First ASCIT Formal at Bevelry-Hilton

Increased costs cause student houses to raise room and board for next year

New board and room rates will become effective in the student houses September, 1957.

The total increase in cost per year for students living and eating in the student houses will be \$91 if they are occupying a single or large double, or \$78 if occupying a small double.

The new rates will be figured on a daily basis as in the past.

Caltech goes to Model UN as "Cubans"

Caltech goes to the Model UN this year as Cuba. As Cubans, Caltech students will argue the Cuban point of view and in general will try to further their country's interests. The Model UN is a conference of western college students that is patterned after the United Nations.

This year's conference will be held at Stanford University from April 4 to 10.

The delegation will be selected by the ASCIT Board of Directors at its meeting Monday evening, January 14, at 7:30 in the Board Room. Those interested in becoming delegates should attend the Board meeting and explain why they would like to go.

Independent enterprise

The student houses are an independent enterprise of the Institute supported entirely by revenue from the houses. The last increase in student house rates was in September, 1951. Since then, labor and materials necessary for the upkeep of the houses has steadily risen. The rising cost of labor and of raw food has also caused the operating costs of the kitchen to increase.

House income

During this same period, however, there have been several factors which have increased the income for the operation of the houses. One is the increased demand for rooms in the houses.

Another factor is the increased number of conventions held at Caltech. The delegates often stay (Continued on page 3)

DuBridge embarking on trip for Ford group

Caltech President Lee A. DuBridge will leave Saturday with Mrs. DuBridge for a trip around the world. Under the auspices of the Ford Foundation, they will visit universities, engineering schools and scientific research centers.

The purpose of the trip is to exchange ideas with scientists, engineers and educators principally in the countries of Southwest Asia and to report to the Ford Foundation on the various activities in which they are interested or are supporting.

Itinerary

After brief stops in Honolulu and Manila, Dr. and Mrs. DuBridge will spend about ten days in Indonesia, then ten days in Burma, slightly over three weeks in India, and two weeks in West Pakistan. The visits to the Middle East countries will be determined by conditions which exist there at the time of their arrival. It is expected however, that they will spend two days in Teheran, a few days in Beirut, Lebanon, and several days in Istanbul. From that point on, their trip will be occupied by vacation and sightseeing in Greece and Italy. They will return home on the Queen Mary, leaving Cherbourg on April 18, arriving in New York April 23, and returning to Pasadena April 25.



A pom-pon is thrown to Dr. and Mrs. Lee A. DuBridge during show in their honor. Photo by Tom Harvey

Dr. DuBridge celebrates tenth anniversary as Tech president

Dr. Lee A. DuBridge's tenth anniversary as President of the Institute was marked shortly before Christmas vacation by two dinners, a musical comedy production, and a message from President Eisenhower.

On November 29, Dr. DuBridge received the following message: "Please give my greetings to the students, faculty, and Board of Trustees of the California Institute of Technology on the occasion of the tenth anniversary of the administration of their President, Dr. Lee Alvin DuBridge, scientist, educator and public servant. Dr. DuBridge has contributed repeatedly and significantly to the strength of the nation. I join his friends in wishing him many more years of service to his countrymen. Best wishes to you all. (Signed) Dwight D. Eisenhower." (Continued on page 3)

California Tech

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Letters to the Editor

To the Editor:
As it stands today the possibility of military service faces most of the undergraduates here at Caltech. Most of the students have undoubtedly already considered what their particular course of action is going to be. The purpose of this letter is to offer one more possibility for consideration.

I am now a graduated student in chemistry here at Caltech. Prior to coming here I served for 3 years as an officer with the U S Navy. Perhaps there are some of the undergraduates here at Caltech that would be interested in obtaining a commission as an Ensign in the U S Naval Reserve upon graduation. If so, a recent change in the method of selecting candidates for the Reserve Officer Candidate (ROC) program will be of interest to those students. It is now possible for any freshman, sophomore, or junior to apply for the ROC program prior to committing himself to the Naval Reserve. If selected, he will be expected to enlist in the Naval Reserve and make two summer cruises. Upon graduation he will receive a commission in the U S Naval Reserve and be obligated to serve for 3 years on active duty. Because of the change permitting selection prior to enlisting, I can now strongly recommend this program to any physically qualified

student interested in the Navy. The deadline for this year's applications is January 31. Anyone that is interested can get the facts on the program from me, or by calling the Naval Reserve Training Center in Pasadena. I can be found nearly

every afternoon making exotic compounds in my lab, 362 Creltin, and will be most happy to slow the march of science to talk to anyone that is interested in the ROC program.

Clay M. Sharts

Increased room and board fees offer chance to gripe

by Vince Taylor

I will risk my reputation as a prophet to declare that I see a period of great contentment ahead for the students of Caltech. The cause does not lie in the weather, for of late it has been rather gloomy. Nor is it because finals are over, for midterms are only four weeks away, and if events follow their usual course, the contentment will continue long after these saddening affairs. The sign which prompted this prediction is clear for all to behold. Turn to the front page. Read the headline; then the truth will become clear to you. Yes, now you may all lean back, relax, and gripe, gripe, gripe.

I have no intention of reprimanding people simply because they wish to enjoy themselves. Rather, because I believe in Justice, Freedom, and The American Way of Life, I want to present additional material so that all may gripe more learnedly and lucidly. First, let us look at the food situation. Here is a fertile field for attack. They serve us rare delicacies fit only for the refuse heap, and then they have the audacity to increase the rates. But, this is not the real criminal outrage. Listen, these are FACTS. I received them straight from George Green, the Comptroller. The student houses spend only 50% of the money received for board on food. The rest they spend on outrageous labor costs and gimmicks for the help's convenience. Compare that with the percentage spent by such

really economical and enjoyable places to eat such as cafeterias. They actually spend a full 40% on food! It should be the duty of the students to demand that Caltech match that figure or alter the feeding system.

Not only board rates are going up, but room rates too. How the administration can possibly find any rationalization which will relieve their conscience of the guilt they must feel I do not know. In a survey which was made before the raise was determined it was clearly shown that this raise would put our rates above the bottom of the scale at other colleges. Add this to the fact that at most other colleges the students don't have to put up with being provided with sheets, pillowcases, and towels and you have a clear case for action.

COLORADO
Walt Disney's
"Westward Ho the Wagons"
and
"Disneyland, U.S.A."

UPTOWN
Deborah Kerr John Kerr
"TEA AND SYMPATHY"
and
Anita Ekberg
"ZARAK"

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Kirk Douglas
"LUST FOR LIFE"
and
"SILENT WORLD"

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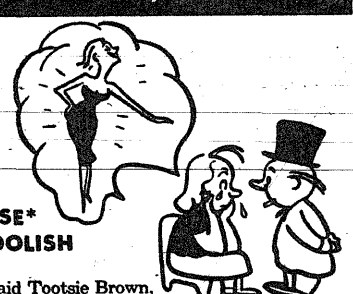
- Aeronautical Engineering
- Mechanical Engineering
- Civil Engineering
- Mathematics
- Physics
- Electrical Engineering

Interviews will be held on January 10th and 11th

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*550 goes to ANN BLACKMAR, Bowling Green State University for her Chester Field poem.
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Campus Brewins

Blacker Boys Blasted

The Beak's Honor Roll was swelled with many new names—mainly from Blackmer, where eight troops left this vale of woe. Those who win a gold star for flunking cold are Sarno, Smith and Ger the Bear. None of the others were worth a damn, not excepting Velman, who has been made an honest man. The passing of Klep is met with sadness by the Beak as another source of Brewins material, i. e., churlish behavior, departs. Next term, this column will be replaced by a new column, *Tips in Frosh Chem*, by Broad Restroom.

Horsy House Heap Hetero!

Flemingo Pres. Blivot Whitlet left his space at the pari-mutuel window long enough to post an announcement from the Pocatello Monthly (best little paper in the West) about his engagement to a lovely and far-sighted young lady.

Knolsome Knapp Knegated

Phlegm Knapp fared nowhere near as well, having been abandoned by a small but lush doll for a Buttocks Co. parking lot attendant. She did, however, give him a small memento—a slight dose of the mono. Capping it, he cleverly blew it on a backshift. Jag gearboxes cost \$150 used.

(Continued on page 5)

Economist to lecture here

Dr. John Kenneth Galbraith, Professor of Economics at Harvard University, will give a series of three Haynes Foundation Lectures on "Economic Values" in Dabney Hall Lounge on January 15, 17, and 21. The first lecture, given at 8:15 Tuesday evening, is titled "Equality and Social Nostalgia"; the second, Thursday, "The Preoccupation with Production"; the third, Monday, "New Values and Social Balance."

Dr. Galbraith is the author of *American Capitalism: The Concept of Countervailing Power*.

DuBRIDGE

(Continued from page 1)

That night, the Trustees gave an informal dinner in Dr. DuBridge's honor at the California Club.

The faculty dinner, held on Dec. 7 at the Athenaeum, was also in honor of Dr. DuBridge's anniversary. Afterward, the faculty and their wives staged a musical comedy called *Who Is This Guy DuBridge* in Cuibertson Hall. The script, written by Mr. Edward Hutchings and Dr. J. Kent Clark with music composed by Mr. Elliot Davis, a Pasadena attorney, humorously depicted the meeting of the Board of Trustees at which Dr. DuBridge was chosen President. A recording of the performance will soon be on sale at the bookstore.

STUDENT HOUSES

(Continued from page 1)

in the student houses, thus the greater number of delegates has resulted in increasing the total income. A third factor has been the steady increase of non-residents eating in the houses.

The increase in total income due to these three factors has been sufficient since 1951 to meet the rising cost of operation of the student houses. However, the final effect of these rising costs is that in 1956-57 the operating expenses of the student houses will exceed the total income. The increase in rates is necessary to align operating expenses with total income.

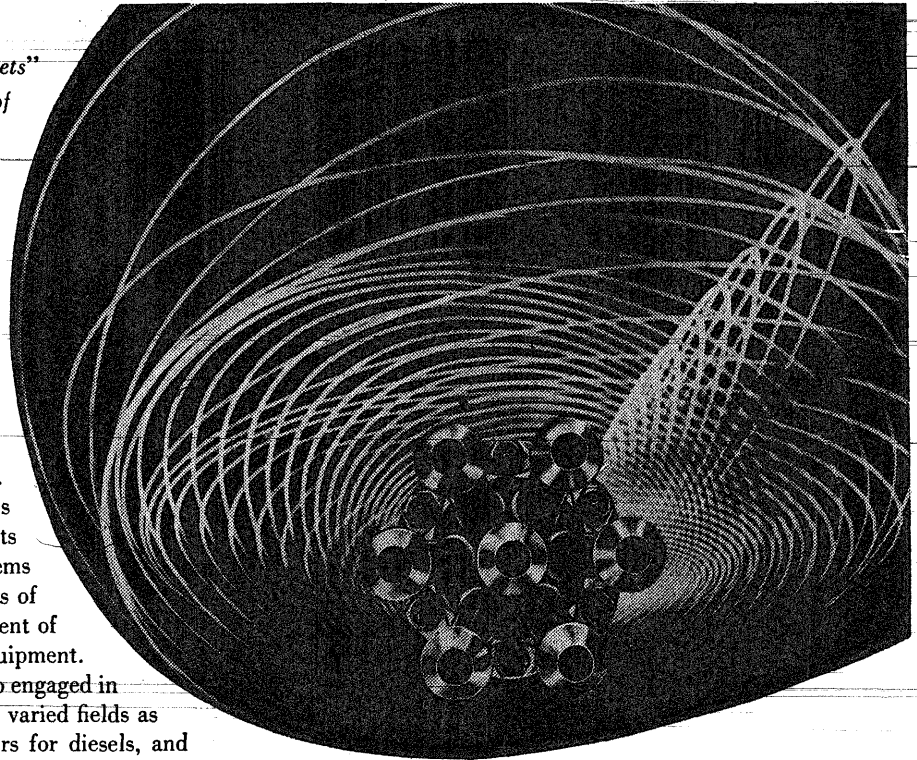
AiResearch jet pump "shoots air bullets" to increase efficiency of refrigeration units

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The parent company, founded in 1936, has grown from three persons to nearly 10,000 scientists, engineers and production specialists. From the AiResearch laboratories have come the pioneer developments in aircraft components and systems which have pushed back the barriers of speed and altitude. Today, 90 per cent of the free world's aircraft carry this equipment.

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Auxiliary power units and control systems for

various types of missiles.
Jet engine and rotating machinery design and analysis involving combustion, turbomachinery, gas dynamics, thermodynamics and aerodynamics.
Preliminary design from analytical and theoretical considerations for high-level technical work in aerodynamics, stress analysis, thermodynamics, heat transfer, nuclear power and mathematics.

INTERVIEWS on CAMPUS... Fri., Jan. 11

B.S.—M.S.—Ph.D. CANDIDATES

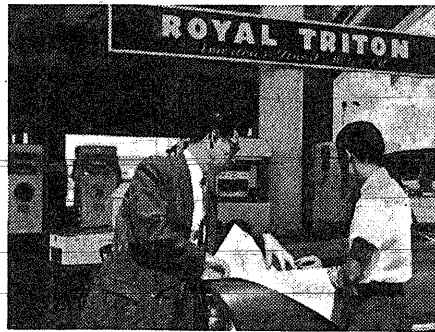
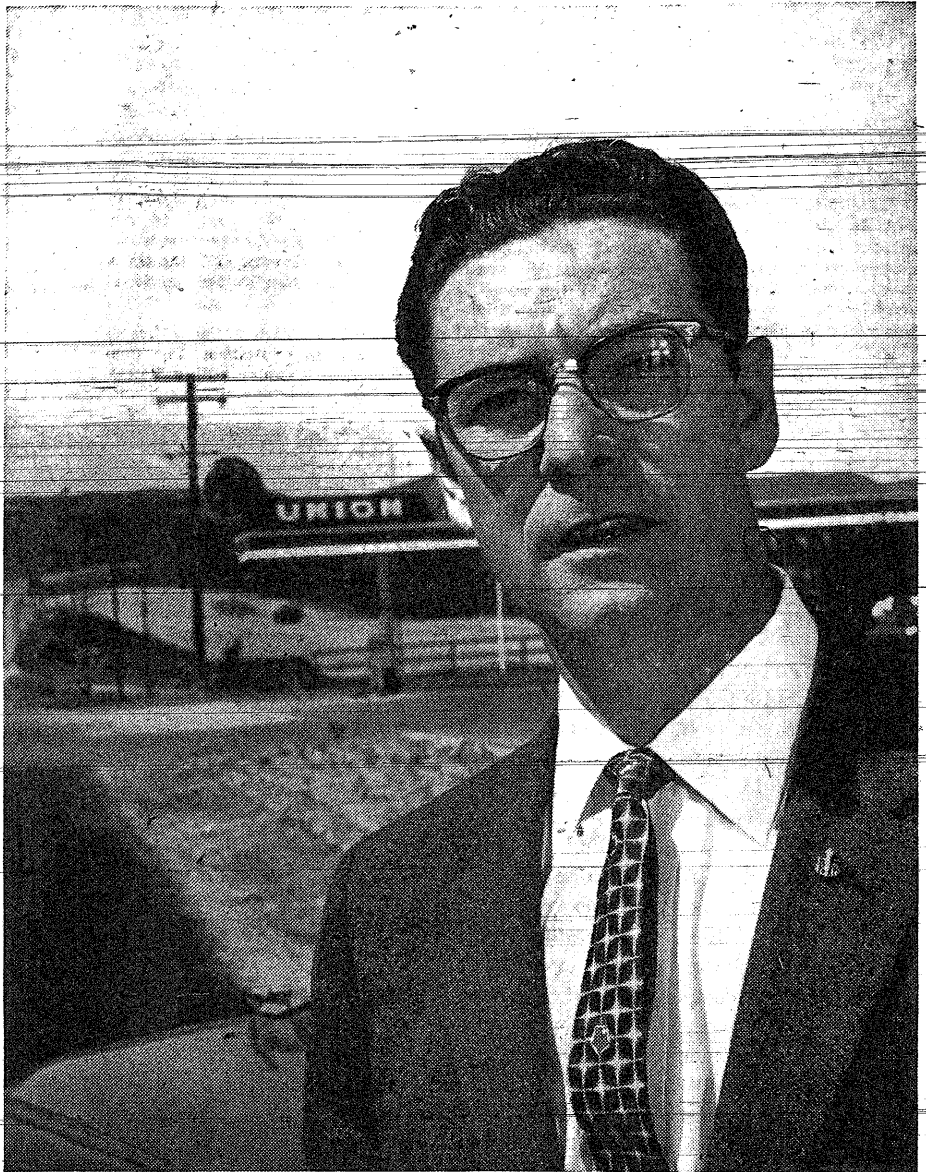
Allen Ely

Or how much highway in a gallon of gasoline?

“ASK A PERSON what he pays for a gallon of gasoline and even if he remembers correctly, his answer is usually wrong.

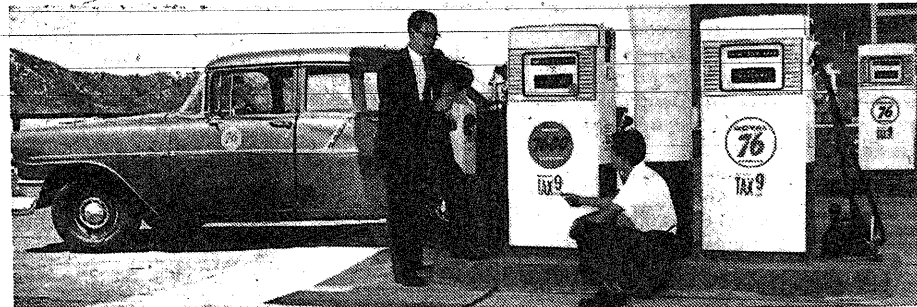
“Because nine times out of ten the price he quotes includes the tax.

“Gasoline, you see, is one of the few things we buy where the tax is lumped-in with the total cost of the product.



“Don’t misunderstand me. That tax helps build the highways this country needs, and certainly we are in favor of it.

“But since by law we have to collect it—and many motorists figure it’s part of our profit—it doesn’t make the dealer’s or our selling job any



“ASK A PERSON WHAT HE PAYS FOR A GALLON OF GASOLINE... HIS ANSWER IS USUALLY WRONG.”

easier. Especially since the federal tax on gasoline went up another cent last July.

“That means direct state and federal taxes now average 8.8c per gallon. In some states it is even as high as 10c.

“We get only a few cents more than that at the refinery for a gallon of gasoline. But the tax is still cheap if it buys the best highway system in the world.

“Next time you get your bill for filling up, though, just remember that at least 8.8c per gallon is the cost of roads, not gasoline.”

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For while the cost of everything else has tripled and quadrupled in the past 20 years, we’re getting only a few cents more for gasoline.

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Socialites in action Friday

Dabney's social program this weekend will include a "Rainy Day" party Friday night and a Bowling Party Saturday night. Both events will be followed by open house.

Friday night Fleming will have an exchange with Mudd-Blaisdell Hall of Pomona College. Saturday night they will have a joint square dance with Throop Club at 8 p.m.

"Who knows?" is the Friday evening program listed by Ricketts. Saturday they will have an exchange. Blacker will have a theater party at the Pasadena Playhouse Saturday night.

Under a new program starting this term, the dances following home league games will be sponsored by the various classes under the auspices of ASCIT. The sponsoring class chooses the location of the dance. The first of these dances will be sponsored by the junior class and will follow the Whittier game on January 26.

CAMPUS BREWINS

(Continued from page 3)

Mental Midgets Manufacture Maxims

E. Krabbel—"Animals like me."

B. Barnido—"I went out with FIVE girls this vacation. One was real cute."

E. Park—"!!!"

V. Taylor—"I like to go to Bob's after a show, don't you, Deb? —Oh, uh, Hi, Sara—Sara, this is Debbie, Debbie, Sara—"

Dance class to cha cha, samba on Wednesdays

ASCIT dance classes will be held again this term starting on Wednesday, January 16 at 7:30 for beginners and 8:30 for advanced students. Eight lessons will be given this term. Two dollars for the series or 35 cents per class. The instructor will be Leon Partin, Pasadena dance instructor. The beginners will learn the swing, mambo, cha cha, samba, and the rhumba. The advanced class will study the jitterbug, polka, tango, samba, and the rhumba.

The profits from the classes will be used for refreshments, announced Keith Brown, Chairman. The girls are from PCC, Westridge, and San Marino.

Anyone interested in the classes should attend the meeting next Wednesday.

Paine to lead Bible studies

The Caltech Christian Fellowship has planned a series of meetings on how to study the Bible. The meetings will be held from 12:30 to 1:30 in 202 Dabney each Friday afternoon. The meetings, which will help students read the Scriptures more profitably, will be led by Dwight Paine, a student at the Fuller Seminary. Mr. Paine also majored in mathematics at the University.

Danforth Foundation gives Caltech YMCA \$2400 to bring theological students here

The Caltech YMCA has received a gift of \$2400 from the Danforth Foundation of St. Louis, to be used during the next year to support a program of religious activities, on the Institute campus.

The Danforth Foundation was established in 1927 by Mr. and Mrs. William H. Danforth of St. Louis, to serve the educational needs of young men and women with emphasis upon the cultural and spiritual aspects of education.

Students to visit

Most of the Danforth gift, Institute officials said, will be spent to bring a half-dozen outstanding American theological students of differing faiths to the campus for a week's visit this coming February. During their stay they will live with Caltech students in the student dormitories, become acquainted with the viewpoint of a prominent scientific and engineering school, and, in a series of informal meetings, explore religious questions of mutual concern with Caltech undergraduates,

graduate students and members of the faculty.

Two religious programs

Also included in the Danforth gift to Caltech are funds to cover two additional religious programs. The first will make it possible to bring an outstanding theologian to the campus to discuss religious questions with the students. The second will support a cooperative inter-church program of religious meetings, under the joint sponsorship of the Caltech YMCA and neighborhood churches for Caltech and other college undergraduates and graduate students in the Pasadena area between the ages, roughly, of 18 and 25. Plans are underway to put all of these programs into operation before the close of the present academic year.

The chief criteria governing the selection of theological students who will be invited to visit the Caltech campus are that they shall be outstanding student leaders, possess interesting personalities as well as intellects, and that they shall be

vitaly interested in discussing religious questions with Caltech students on a thoughtful, intellectual level.

Brandow, Hershey in charge

The Danforth program will be supervised by Y President Balrd Brandow, and Wes Hershey, executive secretary of the YMCA. Assisting them is a faculty committee consisting of Professors Al Ingersoll and Harold Wayland of the engineering division, and Beach Langston and Dan Piper from the Humanities division.

Danforth Fellows

The Danforth Foundation also inaugurated a program of graduate fellowships in 1951, and since the first class was appointed in May, 1952, Caltech has had at least two Danforth Fellows each year working towards their graduate degree. For the current 1956-57 year, the Danforth Fellows are David Bing Yue Chang, Seattle, Washington; James King, Columbus, Georgia; and Richard Kanne Sloan, Pasadena, California.

DON'T MISS THIS DATE..

ON CAMPUS
FRIDAY
JAN.
18th



JUNE GRADUATES

A General Motors Representative will be on hand to answer your questions about job opportunities with GM

January 14 and 15

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Tech faces Oxy in SCC opener

Coach Carl Shy's varsity hoopsters open the 1956-57 SCC season tomorrow as the Beavers travel to Occidental to face a tough Tiger five. The Bengals are defending co-champions in the conference, but their conference record to date this season consists of a loss to Redlands, 1956 co-titlists along with Oxy.

Fed Tiffany, hotshot forward, is the man the Beavers will have to contain if they have thoughts of victory. Tiffany has rewritten the record books in his sojourn at Occidental, and is rated as one of the top players on the Pacific coast, despite his relatively short stature. Tiffany stands 5 ft. 11 in., and he teams with Howard Safer, 5 ft. 11 in. junior, to give the Bengals a potent backcourt combination.

Occidental has three big men for rebounding strength and a close-in scoring punch. Al McQueen, 6 ft. 4 in., Bob Parsons, 6 ft. 3 in., and 6 ft. 6 in. center Bill Inlose give Occidental a distinct height advantage over the Beavers. Jack Rankin, Gordon Lindsay, and Gary Kertson are capable reserves for the Tigers.

Caltech will be seeking its first conference win in over two years, as the Beavers have been winless in SCC competition since the days of Fred Anson and Co. Caltech will look to center Larry Krause to provide much of its scoring punch. Krause stands 6 ft. 1 1/2 in., but is endowed with tremendous spring, enabling him to outjump many taller opponents.

Captain Jim Welsh and Fred

Broncos top Caltech five

Caltech varsity basketballers dropped their 23th consecutive game Saturday, as the Beaver hoopsters lost to a red-hot Cal Poly five, 73-35, on the Mt. San Antonio JC court. Caltech trailed at halftime, 35-18.

The Beavers' slow starting offense never got a chance to get rolling, as the alert Broncos broke up several Caltech passing attempts. A decided superiority in rebounding enabled Cal Poly to control the ball.

Larry Kraus was high point man for Caltech with 13 points, and Harry Patapoff added eight points. The Beaver frosh salvaged the preliminary game with a 56-45 overtime win.

The Sports Corner

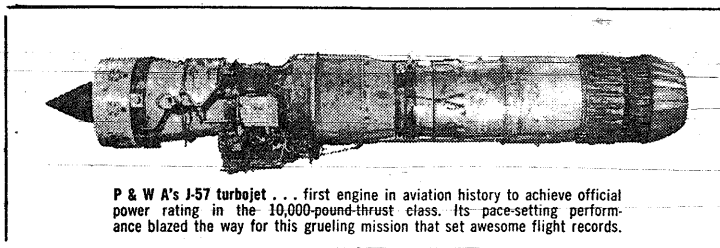
by Dick Van Kirk

By this time most people realize that Caltech's basketball team is no group of world-beaters, and consequently interest among the student body is at a very low level. Along with the decrease in student interest has developed a lack of respect of the members of the team as players in their own right. The other members of the student body seem to forget that these are the best basketball players to be found around this school, and any derogatory remarks made by a Caltech student only reflect in turn on his own ineptness. Think about it.

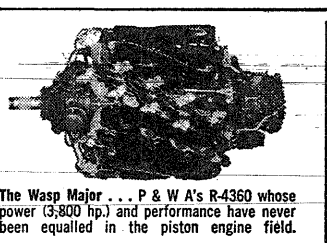
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A popular misconception among observers at Caltech basketball games is that the players have a unanimous lack of hustle and desire to win. This misconception stems from an ignorance on the part of the spectators of Caltech's basic offensive pattern, which is a slow-starting offensive calling for all five players to be set in position before any offensive play starts. If these hecklers would come out to the gymnasium some afternoon and watch the intensive drills the Beavers go through, they might realize that the Beaver hoopsters are a group of dedicated athletes with a real desire to win a few games this season.

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Chapman takes easy win over outmanned Beavers

Chapman College's Panther basketball squad visited Caltech Tuesday and went away with the win over the Caltech five. Posting a 31-18 halftime lead, Chapman wore down the determined Beavers with a steady stream of substitutes and kept control of the game.

Caltech showed a big improvement over its performance in the Cal Poly game of last week. The ball-hawking Beavers kept themselves in the game throughout the first ten minutes of play by dint of sheer hustle. The two-platooning of Coach Don Perkins' Panthers began to tell late in the first half, as Chapman pulled away from an 11-10 lead at the ten-minute mark to their thirteen point spread at halftime.

An inability to control offensive rebounds combined with a poor night at the free throw line to limit the Caltech score to a seasonal low. The Beavers hit only four of twelve free throw attempts, and Chapman's Dave Smith, Bob Hamilton, and Marv Decker took charge of the Caltech backboard.

The game pointed up the need for a "big scorer" for the Beaver five. The scoring was well distributed among the five starters, but the total of each player was low indeed. Fred Newman and Larry Kraus had six points each to gain "high point" honors for Caltech, Jim Welsh had five points and Howard Bloomberg and Dick Van Kirk contributed four each. The entire point output of the starting five was twenty-five points.

Art Bias of Chapman rang up 19 points for the Panthers to lead their scoring. Decker and Hamblin scored eleven and ten points, respectively, and Jim Williams tallied nine.

The starting five for Caltech played the first three quarters without substitutes. In the fourth quarter Coach Carl Shy

sent in a second five to finish the game. Ray Magdaleno and Glenn Converse distinguished themselves in this period with their hustling ball hawking tactics.

BOX SCORE					
Caltech	fg	ft	pf	tp	
Bloomberg, F	2	0	1	4	
Van Kirk, F	2	0	2	4	
Kraus, C	3	0	2	6	
Welsh, G	2	1	1	5	
Newman, G	2	2	1	6	
McClure, F	1	0	0	2	
Converse, F	1	1	2	3	
Rauch, C	0	0	1	0	
Bass, G	0	0	0	0	
Patapoff, G	0	0	1	0	
Magdaleno, G	1	0	0	2	
Totals	14	4	11	32	

Chapman	fg	ft	pf	tp	
Smith, F	0	0	1	0	
McCarter, F	1	0	1	2	
Hamblin, C	4	2	0	10	
Bias, G	8	3	1	19	
Decker, G	4	3	2	11	
Casperson, F	2	0	1	4	
Fields, F	0	0	0	0	
Williams, C	4	1	0	9	
Arnold, G	3	1	1	7	
Graham, G	0	1	2	1	
Totals	26	11	9	63	

Halftime score, Caltech 18, Chapman 31.

Tech thinclads start workouts

Coach Bert LaBrucherie's track and field team members began workouts this week in preparation for the 1957 season. Bolstered by ten returning lettermen and a group of promising sophomores, the Beaver thinclads hope to improve on their fourth place finish in last year's conference meet and dual meet schedule.

Standouts from last season returning for another year of competition include sprinter John Lukesh, half-miler Mike Rusch, and hurdler-broad jumper Dick Van Kirk. Other returning lettermen are Reed Saunders, Gordon Barienbrock, Chuck Luke, Dan Wulff, Marty Tangora, Forrest Cleveland, Ed Krehbiel, and Bob Norton.

Four members of last year's frosh squad are expected to be of particular help to the Caltech cause this season. Vic Johnson, Tony Leonard, and Bill McClure all set frosh records in their respective events last year, and Ron Forbess proved a tireless performer in the 220 and quar-

ter mile races. Claude Fiddler, holder of the conference meet record in the two-mile run, has been assigned the job of coaching Beaver distance runners this season.

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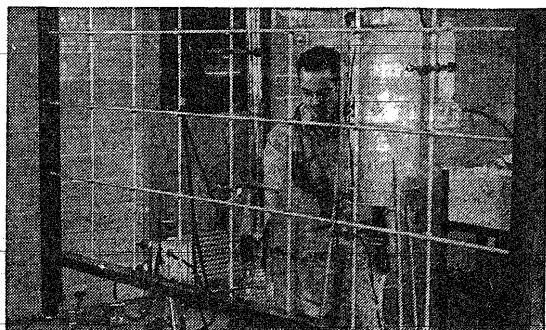
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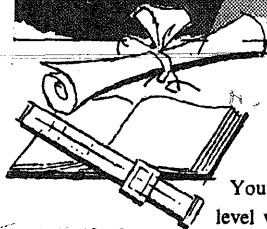




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