

Volume XLIX

California Institute of Technology
Thursday, December 4, 1947

No. 9

Caltech To Receive Navy Award At Friday Assembly

Millikan, DuBridge, Admiral Badger, Jones On Program

A commendation award for effective cooperation in training naval personnel during World War II will be presented to the California Institute of Technology Friday morning at an 11 o'clock assembly in Culbertson Hall by Rear Admiral Oscar C. Badger, USN, Commandant of the 11th Naval District.

The presentation on the campus of this award, which was made to the Institute during Navy Week, was arranged for members of the student body, faculty and others, and will be made to Dr. L. A. DuBridge, Caltech president. Also on the program will be Dr. R. A. Millikan, professor emeritus of physics and vice-president of the Board of Trustees who was head of the Institute during the war years.

Jones to Speak

Dean L. Winchester Jones will speak on the Navy training program as it was conducted at Caltech. Other Navy personnel who will be present at the ceremony will be Captain E. Robert Anderson, USNR, district public information officer for the 11th Naval District and Lt. Comdr. Freeman Lusk, USNR, supervisor of information for the Los Angeles City Board of Education.

Introductions will be made by Bruce Worcester, Caltech student body president.

The award is a bronze plaque with the following wording: "This mark of commendation is awarded to the California Institute of Technology for effective cooperation in training naval personnel during World War II. Navy V-12 Unit, Naval Training Schools (Aeronautical Engineering, Aeronautical Engineers). Signed James Forrestal, Secretary of the Navy."

Locomotive Model To Be Viewed On ASME-SAE Field Trip

The first field trip sponsored by the ASME and SAE will be made to visit an exhibition of a "quarter-size" scale working model of a modern steam locomotive, sponsored by the Timken Roller Bearing Company. This model is complete in every detail and is constructed so as to expose its working parts to direct observation.

A company representative will answer any questions concerning either the model, or the "cut out" full-scale bearings for railroad cars also on display.

Those interested in seeing this exhibition, which is in the Conference Room, Rodger Young Auditorium, 936 West Washington Blvd., Los Angeles, please assemble in front of the ME building at 1 p.m. tomorrow, Friday, December 5. Transportation will be arranged at this time.

Campus Calendar

THURSDAY, DECEMBER 4— Upper Class Luncheon Club at the Training Table, 12:00. Throop Club Meeting, 12:20. Orchestra Practice in Culbertson Hall, 7:30 p.m. Glee Club Rehearsal in Throop Club, 8:30 p.m.

FRIDAY, DECEMBER 5— Faculty Assembly, 11 a.m. Water Polo game, Caltech at Oxy, 4:30 p.m. Fleming Smoker.

SATURDAY, DECEMBER 6— Cross Country meet, Caltech vs. Redlands here, 10 a.m. Fall Interhouse Dance, 9 p.m.

SUNDAY, DECEMBER 7— Musical in Dabney Lounge, 7:30 p.m.

TUESDAY, DECEMBER 9— Newman Club in 205 Dabney, 4:15 p.m. All Catholic students invited. Band Rehearsal in Culbertson Hall, 7:30 p.m.

WEDNESDAY, DECEMBER 10— From Luncheon Club at the Training Table, 12:00. Dancing Class in Culbertson Hall, 7:30 p.m. Fencing Club, 15 Dabney, 7:30 p.m.

THURSDAY, DECEMBER 11— Upper Class Luncheon Club at the Training Table, 12:00. Throop Club Meeting, 12:20. Orchestra Practice in Culbertson Hall, 7:30 p.m. Glee Club Rehearsal in Throop Club, 8:30 p.m.

FRIDAY, DECEMBER 12— Student Assembly, 11 a.m. Fresh Basketball, Caltech vs. Chapman there.

SATURDAY, DECEMBER 13— Snaking for finals begins.

Term's Firesides End With Visit To Nobelist Anderson

Sunday, Dec. 7, Dr. Carl Anderson is having a group of Techmen over for the last Sunday Fireside of the term. This ends part one of a very successful program. Early next term Dr. Lee A. DuBridge and Dr. R. A. Millikan are starting out by taking on a team apiece.

Next term we are going farther afield and will try to persuade some local Pasadena ones with big mansion in San Marino and also pretty daughters, to begin inviting Techmen over on the same scheme as with faculty members.

We have called this plan a success. It has been, except for the participation of off-campus students who are apparently not interested in meeting faculty members or Prominent Pasadenaans. If off-campus men want to get in on any of these parties, we would like to have them drop into the "Y" office in Dabney Hall and indicate their interest. We will then make an effort to contact them next term for each Sunday's hosts.

World Government Topic Of Debate At Santa Barbara

The Santa Barbara debating meet will occur on Dec. 5 and 6, at which time the Caltech debaters will defend their excellent reputation with several teams, who will argue the question: "Resolved, that a Federal World Government Should Be Established."

Other Contests
The men will have the opportunity to compete in oratory, impromptu, and extemporaneous delivery. Irving Sulmeyer and John Heath have prepared orations for this purpose.

Final Polishing

With the teams having several courtesy meets to their credit, Dr. John Schutz, their coach, has been working with them this last week on the final task of smoothing out the results of their several weeks of effort.

Alumni To Hear Lieut. Governor

Lieut. Governor Goodwin J. Knight will address members of the California Institute of Technology Alumni Association Dec. 4 at a dinner meeting at the Pasadena Athletic Club. Alumni Association officials announced today. The dinner will begin at 7 p.m. and will be preceded by a fellowship hour from 6 to 7 p.m. Lt. Gov. Knight will speak shortly after 8 p.m.

Title of his address will be "America Comes of Age" and it will be a critical analysis of current national problems.

Also on the program will be Dr. F. C. Lindvall, chairman of Caltech's electrical and mechanical engineering division, who will speak on "Current Engineering Interests at the Institute."

Harvard Business School Dean To Be Here Friday

Assistant Dean Edmund W. Pugh of Harvard University Graduate School of Business Administration, will visit the Institute this Friday. He will be here for an interview with any men interested in the study of business administration following graduation. Arrangements have been made for Dean Pugh to meet with any interested men in Room 102 Dabney at 11 a.m. on Friday, Dec. 5. Dean Pugh will outline the nature of work done at the Harvard School of Business Administration and answer any questions.

Theme, Reading Announced For McKinney Prize

Ambitious Juniors will be pleased to learn that the English department announced today the theme and required reading for the McKinney Prize Contest to be held next spring. Two cash prizes will again be offered, of probably the same amount as last year, when they came to \$75 and \$50. "The Life of an Idealist" is the theme for this year.

The books to be read are: Ernest Hemingway's *For Whom the Bell Tolls*, Joseph Conrad's *Lord Jim*, and Eve Curie's *Madame Curie*.

Each contestant is expected to write an essay of about 1200 words, applying his interpretation of the books assigned to the announced theme. The essays will be due April 23, 1948. The writers of the four essays which seem to the English department to have most distinction will present their thoughts at an assembly in final competition for the two prizes.

This contest was established in 1946 by Samuel P. McKinney, M.D., a graduate of Rensselaer Polytechnic Institute, in memory of his mother, Mrs. Mary A. Earl McKinney. The purpose is to cultivate interest in good reading, writing, and speaking. The contest is limited to members of the Junior class.

Taubate Banquet To Highlight Initiation

Caltech's twenty-six new Taubates are nearing the half-way point of their initiation period.

As a part of their initiation the fledgling Taubates will put on a skit at the initiation banquet to be held tomorrow night. It has been requested that this skit be as humorous as possible.

The new members may be seen about the campus, busily engaged in the polishing of the small brass Tau Beta Pi bents which have been entrusted to their care. This is a real task, since the foundry which casts them seems to work on the theory that Caltech will take anything.

These men are also busy preparing an essay on the proper way to utilize the student poll which is now being planned. This poll will be conducted in an effort to determine why some instructors seem to be better than others.

AIEE, IRE Sponsor Lecture On Gaging

The well-attended CES meeting last Monday featured Roland Sink, chief engineer of the Consolidated Engineering Corporation of Pasadena, who spoke on "Electronic Methods of Gaging." His interesting lecture, illustrated by slides, was supplemented by a short talk given by W. T. Young, sales engineer of the same corporation. He gave a few examples of the applications of the measuring equipment previously described. The CES meeting was sponsored jointly by the Institute of Radio Engineers and the American Institute of Electrical Engineers.

Five Houses Stage Annual Interhouse Dance Saturday

Y Forum Broadens With Talk On Art

Departing from the Politics-or-Sex routine of former years, the Caltech "Y" Forum Committee is presenting Mr. David Scott, Lecturer in art at Scripps College, in a Seminar on Modern Art, Monday evening at 7:30 in 119 K.

Mr. Scott's discussion will be richly seasoned with slides and on-the-spot sketches. He will speak of the secrets of cubism, impressionism, realism, and surrealism.

Mr. Scott, Harvard graduate, has a tremendous background for Monday's Forum. He is a member of the California Water Color Society, has exhibited nationally with the New York and Philadelphia Water Color Societies, and was on the Art Staff of the Riverside Art Center. His undergraduate career included editorship of the Harvard Lampoon.

In the past two years at Scripps, David Scott has achieved an enviable reputation for fascinating, enthusiastic lectures.

Carl Price, Forum Chairman, speaks of next Monday night's presentation as a prelude. If sufficient interest is shown for this demonstration, future forums on modern and classic music, ballet, ceramics, and drama may be planned.

It has been suggested that if any Tech man finds himself on the short end of conversation while dating an art major, this is the perfect opportunity for making points.

Varsity Club Fall Banquet Monday

An annual affair which hasn't been forgotten by any of those who were there last year comes around again December 8, next Monday.

At 6:30 down at Brookside Park, there is being served the biggest and best steak dinner that we've seen since before the war.

As those same men will tell you, the evening will be further highlighted by the presence of leading sports figures from this area and by a few rather fine stories by some of the more prominent men around campus.

The occasion, if you have not already guessed, is the Fall Athletic Banquet. Those invited are: any student for the flat cost of the dinner-\$1.75 and members of the fall teams for 75c. Fathers and friends of the team are welcome at the regular price. Any man who wishes to go should see Stan Barnes in Fleming by 1:00 p.m. Thursday since reservations must be made.

This is the evening of the presentation of the fall athletic awards which include freshman and varsity awards in football, water polo and cross country. Also on the list of awards is

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Gala Decorations Feature Biggest Social Function Of Fall Term

Five Orchestras, Informal Attire, 9 to 1 Hours Highlight Last Affair Before Finals

The Interhouse Dance, biggest social function of the Fall Term, occurs Saturday night at 9:00. The Baptism of all Social Chairmen is one of the finest affairs of the year. Each of the five houses procures an orchestra, refreshments, sundry decorations; and launches a supreme effort to outdo the other houses in a carnival atmosphere.

The competition will be keen, and all the houses have some very fine entertainment planned.

Informal

The dress will be informal, which means heels and party dresses for the girls and suits for the men. The dance lasts from 9:00 to 1:00. If you don't like what they're playing at one house, circulate, that's the idea. All five orchestras will have an intermission at the same time; this phenomenon has not yet been successfully explained. Usually before long, all the couples are found in the darkest corners of the lounges. This year they say that there will be no necessity for this as all the lounges will be dark enough.

High Water and ?

Blacker House features Nappy Lamarre's band with that sensational drummer, Ray Bauduc. The theme of Blacker's decorations has not yet been announced.

Dabney House has Al Gasper's really smooth band. Their theme is in the making and oscillates between Hell and high water.

Beer and Dungeon

Fleming House will build their Balinese Bar theme around the music of Hal Loman and his

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Math Society

Meets At Tech

The 430th meeting of the American Mathematical Society was held at Caltech on Saturday, Nov. 29.

Prof. D. H. Lehmer of the University of California at Berkeley delivered the principal address on "Electronic Aids to the Theory of Numbers." Prof. Lehmer is eminently qualified to discuss the applications of electronics to certain number theoretic problems since he himself has constructed several mechanical and electrical devices for computing the prime factors of numbers.

Papers on Applied Math

In addition to papers in pure mathematics there were such papers as the following in applied mathematics: Dr. C. Longzos of Boeing Aircraft Company, "Differentiation of a Fourier Series," and "Evaluation of an Integral Occurring in a Fluctuation Problem of Cosmic Ray Showers" and Prof. S. A. Schaef of the University of California on "Notes on Non-Linear Heat Conduction."

Interview Schedule

DEC. 8

BUREAU OF RECLAMATION, comprising States of Arizona, Southern California and Southern Nevada. Civil Service, Mechanical, Civil, and Electrical Engineers.

DEC. 8

NAVAL RESEARCH LABORATORIES (Naval Ordnance Test Station at Pasadena and Inyokern, Naval Electronics Lab. at San Diego, and the U. S. Naval Air Missile Test Center at Point Magu, California). Discuss examination for P-1 rating for Chemists, Mechanical Engineers, Electrical Engineers, Aerodynamicists, Physicists and Mathematicians. Graduate students interested in higher ratings will also be interviewed.

DEC. 10

Discussion on INTERVIEW TECHNIQUE by H. F. Peterson—206 Dabney Hall, 7:30 P.M.—All men interested in job application should be present.

DEC. 9, 10, 11, 12

STANDARD OIL CO. OF CALIF.—RESTRICTED—Geologists, Paleontologists, Physicists, Chemists, Chemical, Mechanical, Electrical and Civil Engineers. Seniors and Grad. students.

DEC. 10, 11, 12

ARABIAN-AMERICAN OIL CO. (Arabia)—RESTRICTED—Geologists, Paleontologists, Physicists, Chemists, Chemical, Mechanical, Electrical, and Civil Engineers. Seniors and Grad. students.

JAN. 19

MINNEAPOLIS MINING & MANUFACTURING CO. (St. Paul, Minn.)—OPEN—Chemists, Chemical Engineers, Physicists, Seniors and Grad. students.

MARCH 22-26

STANDARD OIL OF CALIF.—RESTRICTED—Geologists, Paleontologists, Physicists, Chemists, Chemical, Mechanical, Electrical, and Civil Engineers. Seniors and Grad. students.

Meeting jointly, Monday, Dec. 8, at 11:00 a.m. in 206 ME, the ASME and SAE will hear Mr. Harry Boller of Boller & Chivers Engineering Firm. This promises to be a very worthwhile meeting and everyone, regardless of membership in either of the societies, is urged to attend. Since Mr. Boller, an alumnus of Caltech, will be describing in detail the actual work done by a private engineering concern, this meeting should be of considerable interest to every future engineer.

The California Tech

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THE SQUARES' CIRCLE

LACK OF SUPPORT, NOISE, SUFFICIENT YELLS DECRIED

Gentlemen:

I attended the Pepperdine game last Saturday and the situation was depressing. I am not referring to the final score of the game. Our team was greatly overmatched, and many of us experienced a sensation of great pride, as our team put up the fight that it did, knowing that the chances of scoring were almost nil.

Lack of Rooters Discouraging

Several weeks ago Mr. Saltzman remarked in his column that there is nothing so discouraging to a team as playing on foreign territory when 90 per cent of the spectators are against them. He stated that it helps a lot if the team knows that we're there with them.

At the Pepperdine game we were there. But did anyone else know it? Hell no! Pepperdine's rooting section was bringing the house down with their organized yells. Their yells were loud, encouraging, and long. And so what do our bright, valiant, active, ingenious, clever cheerleaders come up with? You know, if you were there. They would announce those wonderful, one-syllable, two-second cheers, such as "fight," "go," or "rah," said one time and one time only. No one could get together on them because the opposition was making so much noise that we couldn't hear what the yell was, and by the time we did find out, it was all over. This situation is just as discouraging to those who want to yell as it is to the team. This cannot be helped much since we don't have any good yells.

Noisemakers Not Very Noisy

Oh yes, someone had a cowbell tied to his big toe which he and some other joker had a siren stooped to rattle once in a while, (mechanical) which he wound up occasionally. However I think he was afraid it might wear out if he used it too much.

Some Suggestions

The cheerleaders, I think, are doing the best they can with the yells they have. The crux is this: the yells are terrible. They're dead, ex is all right but we need more yells like it—yells that are longer, yells that everyone can get in on even if they miss the first few words.

My suggestion is this: Let's get some new yells. None of those that sound like a funeral

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OPEN LETTER TO THE EDITOR OF THE "BIG T"

There has been a tendency, on the part of the "Big T" staff, to underrate the stamina of the off-campus men. Suggestions have been made that these men be excluded from the 1948 annual, presumably on the assumption that they do not wish to participate in extracurricular activities. Else why don't they live in the student houses?

Many Have Good Reasons

I should like to point out that there are many students who cannot live on campus because of family reasons, because they cannot afford it, or simply because they are complying with the Institute's request to ease congestion. Many of these men take a vigorous part in student activities; among them are many office-holders and lettermen whose participation in these activities constitutes a considerable drain on their time. Quite a few choose not to become members of Throop Club again either for financial reasons, or because they feel that the Club does not provide \$10 worth of entertainment, etc., per year.

A Suggestion for the "Big T"

In view of the factors outlined above, I should like to urge that the "Big T" again resume its practice of subdividing the annual into classes rather than houses. We are having enough difficulties getting people to join Throop Club without introducing intimidation and coercion, which takes the form of referring to our fellow off-campus men as Barbarians, an unjustified designation which no amount of facetious comment can remove.

K. L. M., A Throop Club Member.

Dear K.L.M.:

Thanks for your letter. First of all, there will be no Barbarians in this year's annual. The Throop Club men, AND the off-campus men each will have a section complete with snapshots and individual pictures. Last year the "Big T" was hard put to find pictures to use in the off-campus section. We will be very grateful if anyone can submit snaps for use in these sections.

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(Continued on Page 6)

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whether

• PIES HAVE WINGS

By the Walrus and the Carpenter

We can't help but feel a little unhappy about the way certain newspapers and newsmagazines are giving undue credit to the University of Chicago for having fostered the imaginative minds of our old friends Hibbs and Walford (who recently swelled a quarter-dollar into some 7500 at the roulette tables in Reno). As we recall, their much-publicized system for beating roulette was hashed out in detail right here within the sacred confines of our hallowed walls and not in the Windy City at all.

Of course, it may be that the boys calculated (with the same sagacity that astounded Reno) that the publicity might do them more good if directed at the school of their present studies; or it may be that Tech has been getting more than its share of newsprint this month. However it may be, we decided that our readers should get the straight, unbiased dope on these two ex-

Techmen, their gambling system, the Reno Coup and any repercussions that may have arisen.

* * *

So we packed our Special Events & Big Deals reporter off on a plane for Reno with instructions to: (a) check the system (we thought that if Hibbs and Walford could start on two-bits, so could he); (b) take readings on the Reno reaction to all this fuss; and (c) try to part with the charm of Nevada in time to make the Tech deadline.

As his plane soared off through the smog early Wednesday morning we found ourselves with a Thanksgiving recess before us and nothing to do but waste away the time with a bevy of Scripps squirrels—which, of course, would never do. But gambling . . . yes! We had the bug now, and with the essence of the H & W System well in mind, how could we lose? As we suddenly realized that Califor-

nia is not precisely what you would call a croupier's haven, an especially bright young Dorseyanite proved her worth by suggesting that we try the Jai Alai games across the border. Almost before the drone of the Reno plane was lost to our ears, we were off on our merry way to Tijuana, Baja California, land of the . . . well, you know.

* * *

The change in Tijuana in the past five years has been wrought by a frightening pace of feverish activity: they've finished paving the one paved thoroughfare, they've gone over to a blazing neon economy and just incidentally they've renovated the big Jai Alai building.

As we passed through the glass doors and entered the foyer, we were impressed (as we always are in Mexico) with the preponderance of peculiar looking people and we were no little bit depressed at the sight of a deserted row of betting windows. The frantic pace we had expected was missing and, of course, the H & W System was out, for it had been designed to cope with a spinning wheel rather than a pari-mutuel. Even our old Caliente "long shot" system proved inappropriate, for as we sat through the first few games, it was with disgusting regularity that the favorites managed to win.

* * *

Although we were momentarily fascinated with the speed and technique of the game, the optional level of the place was so low that we were soon disenchanted — the mere contemplation of the ant-like activity on the court below began to pall. To be brief, we spent the balance of the evening investigating the cerveza situation in the local cantina.

Several days (and numerous cervezas) later we were at the airport to meet our Reno reporter, hoping against all our natural suspicions that at least he would have gotten the straight stuff on the H & W System. But alas, it seems that he had felt obliged to instruct each and every Reno bartender in the intricate preparation of a fabulous concoction known as the "Tiger-in-a-Taxi"—in itself a full week-end's endeavor.

* * *

His contact with Reno's gambling facilities began when he found himself face to face with a very stubborn dollar slot machine. It seems he worked up a personal grudge with that machine—to the point where it became a matter of honor; in the end he was victorious, thank

Hibbs, Walford Visit Tech; Give Dabney "Scoop" On System

by Len Herzog

Al Hibbs and Roy Walford, Techmen - make - good - at - Reno combination which has been featured extensively in the nation's press the last few weeks, were guests of Dabney house yesterday noon, and conducted an impromptu seminar on their "system" in the lounge after lunch. Hibbs is an ex-Dabney-ite, while Walford was a member of Fleming. They are now attending the University of Chicago, when not otherwise employed.

Pays Off

The "system" has paid off to the extent of \$7000 so far, although several times the pair was \$13,000 ahead. In his remarks to friends in the house after lunch, however, Hibbs stated that the losing streak was predictable under the system and part of a controllable cycle, and that he and Roy had merely stopped at that point and not "quit," as was reported in the press.

Hibbs and Walford are now engaged in studying charts and data obtained in their Reno experiment, and plan to incorporate their deductions into the system before returning to the tables.

They may take a swing south of the border before returning to the Reno gaming tables, at which time they may test a system, now in the process of formulation, on "21." Both Hibbs and Walford were working on theoretical considerations alone when they headed for Reno, as neither had ever played before.

Techmen Perspective

Dabneymen were unable to squeeze many of the particulars of the "system" out of Hibbs, who said that while he could practically tell all to many persons, he was afraid to drop even a good clue to the perceptive Techmen. He gave Prof. Dilworth of the Mathematics Department a large share of the credit for his Mathematical development here.

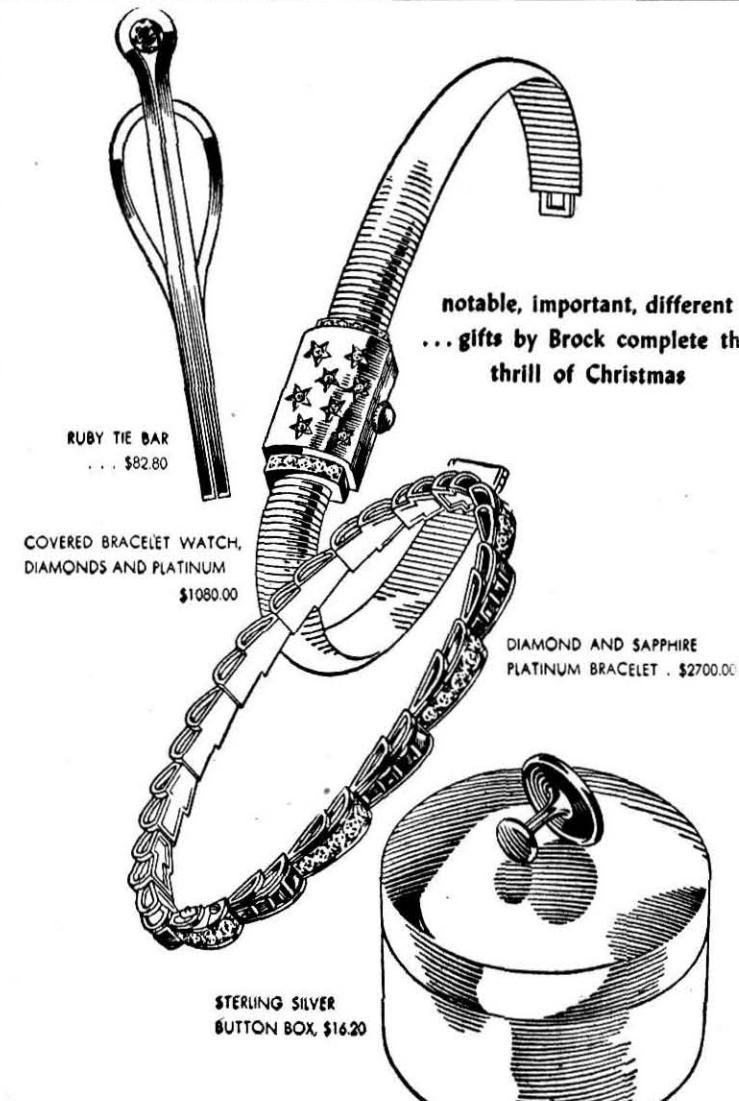
The "system" was started by a \$5 bet—Walford betting Hibbs he couldn't develop a system. Both became interested in the (Continued on Page 6)

heaven, and got the pot . . . but only after depositing 132 cartons.

He claims to have questioned wheels.

quite a large number of people (bartenders) about our friends Hibbs and Walford, but each time he would get only as far as the word "system," at which point he would hear the impassioned outburst:

"There ain't no such thing!"



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TECTIVITIES

Zoning Variance...

Alumni Doings...

The Pasadena Board of City Directors visited Caltech and vicinity last Tuesday to obtain on-the-spot information concerning the controversial request for a zoning variance to permit Caltech to construct a plant laboratory on the corner of San Pasqual and Michigan, where the Institute Biology Department Greenhouses are located at present.

It had been thought by most officers of the Institute that the matter had been settled; the Zoning Commission had approved a petition for variance signed by many interested property owners near the proposed site, but apparently a new wave of protests by property owners has caused the Board to reopen investigation of the question.

At Stewart Suggestion

The trip was made at the suggestion of City Director A. L. Stewart, who declared:

"It makes no difference whether it is Caltech or the humblest citizen of the community, we must establish a definite policy on land use. We must let the public know what zone they are living in and the protections guaranteed by that zone."

Following their inspection tour, the Board was expected to give further consideration to the matter this afternoon.

Additional protests were received from O. K. Fiedler, president of the San Pasqual area property owner's association, Mrs. Emma L. Schlosser, 1132 Constance Street, and C. L. Came, 360 South Holliston Avenue.

She: I'm Suzette, the Oriental dancer.
He: Shake.

FRED A. HOUGH, 1924, has recently been promoted to vice-president of the Southern Counties Gas Company. He will also continue in his present capacity as executive engineer and a director of the company.

GLENN CHAMBERLAN, 1931, is now with Bechtel Corp., in Louisiana, Missouri, as senior engineer, and is in charge of the Electronic and Dynamic Department. Bechtel Corp. is operated by the Bureau of Mines.

LOUIS H. GOSS, 1933, former city engineer of Monterey Park, became city engineer at Redondo Beach, November 1. Goss was as assistant engineer for South Pasadena and engineer-manager of Brawley before serving as city engineer of Monterey Park. During the war he served in the Army Engineer office in Los Angeles.

J. KOHL, 1940, is now teaching a U.C. Extension Division course at Berkeley in Process Instrumentation.

DR. JOSEPH F. MANILDI, 1940, has recently received two appointments: to the staff of University of California Extension; and to an assistant professorship of engineering on the Los Angeles Campus of the University. Previously he served for some years as director of research and chief engineer for the G. M. Giannini & Co., Inc., directing a research program connected with jet propulsion engines.

W. T. HOLSER, 1942, lecturer in geology at Columbia University, spent the summer months near Philipsburg, Montana, doing geological field work under a special research grant from Columbia University. The investi-

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Millikan Speaks...

Dr. Robert A. Millikan, professor emeritus of physics, will speak on "The Jubilee of the Electron" at Friday's demonstration lecture.

Friday Evening Demonstration Lectures were resumed in November. This series, which has been made available to the public for the past 20 years, with the exception of interruption during the war, is again held in Room 201, Norman Bridge Laboratory of Physics at 7:30 p.m. This season's lecturers will deal with recent developments in the fields of physics, chemistry, astronomy, mathematics, biology, geology, paleontology, meteorology, aeronautics, hydraulics and engineering.

"Blood and Heridity" will be discussed by Dr. R. D. Owen, on December 12.

• THE FRONT BURNER

By Walt Davison

BALLET RUSSE AT PHILHARMONIC TO GIVE PERFORMANCES THURSDAY THROUGH SATURDAY

The Ballet Russe de Monte Carlo, which boasts Alexandra Danilova, will end its winter season at the Los Angeles Philharmonic Auditorium Saturday evening, with an accompanying orchestra superior to last year's, particularly in the string sections.

Following a policy started two seasons ago, the Ballet Russe has been dropping more of the older, established ballets in favor of contemporary works, to the extent that half of its repertoire is now new. As many established ballets are worthy of continuance in preference to modern works that often prove immature, this policy has led to shakiness.

(Continued in Column 6)

With the long Thanksgiving week-end over, things are getting back to normal with everyone further behind than ever. For most Techmen just the idea of four free, unencumbered days was adequate cause for Thanksgiving. Reports of activities are still trickling in while some of the students are still trickling in.

Speaking of trickles, it seems that Chester Anderson attended a party in Laguna where things flowed in more than just a trickle. Laguna is a town known chiefly for its seaside debauchery. Anderson is quite happy there.

A Queen at the Green

On Thanksgiving Eve, Marion Rinehart and Frank Evans stopped in at the Green Terrace for a little culture. They made out reasonably, as they did not leave empty-handed. These days at Tech it is getting to be just about a draw between Scripps and the Green.

While we are on the subject of who is going with whom, we

• CAMPUS BREWINS

were interested to note at a recent Beaver meeting that Warren Marshall asked Dave Warren what house his girl lived in. Dave replied, "Blacker," then blushed and tried to change it to Browning. Too late; the damage was done. All the Blacker men are now going about eyeing each other suspiciously. Some people just have odd taste.

Week-end in the Woods

Dean Johnson has an unusual way of justifying his actions. He publicly announced that he was going up to the Ski Hut to build an outhouse, whereas, Dean actually took along a very desirable and charming girl with whom he is frequently seen closer to civilization. What a romantic scene that must have been; two young people by moonlight with a background of stately pines amid a snowy wonderland — building an outhouse. Some people have no souls.

From Out of Nowhere

Tom Stix was the recipient of an unusual letter this last week. It was anonymous and postmarked Altadena. We quote from one part:

"The girl who dances closely to Bob Stokely has lost something every time she has gone out with him." Further down the letter also says:

"If anyone finds a pearl necklace and a lipstick brush, would they please return them to the editor of this column?"

She is apparently referring to this column. We would like to meet her. Shame on you, Bob.

Ball Bearing

Al Eschner has done it again. After losing Ginger to her old boy friend who had matrimonial intentions, he goes out and cops another queen — this one's body graces the pages of various mags for New Departure Ball Bearings. They also manufacture Brakes, so don't go too fast this time, Al.

Dick Bennett had a very en-

joyable week-end, having been invited to a house party at La Jolla by a Scripps girl that he had dated once before. Women certainly go after what they want these days.

joyable week-end, having been invited to a house party at La Jolla by a Scripps girl that he had dated once before. Women certainly go after what they want these days.

Bob's Itch

Bob Barracough, known to his friends as "washbasin," is limping around school after a BIG week-end skiing. Among the hundreds of women there were the Larner girls. Bob is now suffering from the "Larner" itch. Patsy said she was 20 and younger than her sis, but Senor Navarro knows better.

Ed Mitchell receives our Award for the Week. While driving down the Arroyo Seco, a "black sedan" careened off one car and smashed into Ed's, demolishing both. On investigating, the car that hit Mitch was found to be covered with bloodstains. The driver was wanted by the L.A. police for knifing several women. As a result of this heroic action, Mitchell is in desperate need of a ride to Oxy for the I. House.

Cold Motor

This next item concerns Dabney's impromptu record dance last Sat. night. Looking over my reporter's remarks, I realize they won't pass the censor, so not much more will be said. There was something about darkness and Fullerton's unconscious body, and then Frank Wolf. He and Bill Smyth double dated.

About midnight, Frank announced he was driving his gal up to Larry & Carl's. One hour later they reappeared at the dance. Smitty went out to take his gal home. However, the engine of Wolf's car was so cold that poor Bill had a rough time — starting the engine, that is. We know Frank Wolf!

At Throop Club's Punch Party last Sat. night, Bob Cobb did it again. Taking heed of last week's lesson, he made sure that everyone not only knew his date's name but also that it is spelled FRANCES GRASS.

If Walt Pfeiffer's efforts at the fireplace were any indication he must have been a whiz as a boy sprout. Never before was a fire constructed and caressed with such loving care. Walt, you know, is a very loving fellow. At odd intervals thruout the night his Arkansas accent could be heard attesting the fact that "Our team is red hot."

Old Man Ross was seen operating in the seclusion of his full sixteen cylinders with a chic blonde. This particular Ross doesn't even bother to mumble. Must be something about the name that affects the vocal cords.

(Continued from Column 2) gation is concerned with contact metamorphic effects around the Philipsburg batholith and related intrusive, and the magnetite iron deposits associated with these contact effects. Holser was assisted by J. W. ALLINGHAM,

ADOLFO J. ATENCIO, 1947, Argentine naval officer, is studying plant layout and overhaul base operation in Pacific Airmotive Corporation's new Burbank aircraft overhaul facility. These studies are to be used as the basis for setting a similar type of operation in Argentina. Lt. Atencio is a graduate of the University of Buenos Aires in Civil Engineering. Following his work at Pacific Airmotive, he will be stationed at Bahia Blanca, Argentine Naval Base.

CARL RASMUSSEN, 1947, is now employed at North American Aircraft, in Inglewood, Calif.

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Q; Forrest Allinder, T; Bob Funk, H; Don Hibbard, E; Don Baker, H; Rolf Sinclair, Manager; Leigh Sherriffs, Manager. **Front Row**—Bain Dayman, H; Larry Dahm, G; Dick Schuster, G; Byron Karzas, T; John Gerpheide, C; John Kariotis, E; Louis Grant, Q; Bill Boutelle, F; Dick Cornelius, E; Chuck Norman, H; Fred Darms, G; Edsel Worrell, G; Mason Anderson, Coach.

Hibbard, Bass, Named To All-Star Conference Football Eleven

Don Hibbard, junior Caltech end, and Manuel Bass, all-Coast Beaver tackle, have been named to the Southern California Conference All-Conference team, it was announced Wednesday.

Hibbard has been noted all year for his stellar defensive play as well as offensive prowess. He is in fast company on

Tech Dumps Muir In Practice Tilt

The Tech Casabamen started off the season last Monday by downing the Muir College Mustangs, 42-35, in a practice game at Muir.

The team showed up fairly well for so early in the season. The Engineers led all the way and were never in danger, while last year the Mustangs easily whipped practically the same Tech team in two tilts.

A newcomer to the squad this year, Hal Tyson, showed up exceptionally well, especially with some flashy ball-handling. Converted forward Jay Montgomery looked good in his new guard role.

New Shy Strategy

Coach Shy has come up with some new offensive strategy this

(Continued on Page 6)

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Compton Wins, 6-5, As Last Moment Goal Thwarts Tech Rally

Monday last, the Merrick Men journeyed to Compton for a return engagement, hoping to avenge an earlier loss. As in the second UCLA game, fouling slowed the game to a snail's pace, marring playing and getting several men ejected. By the final whistle 44 peccadilloes had been committed by the opposition and a somewhat lesser number by Tech.

The boys led through the first quarter, 2-1, on scores by Palmer and B. Waters, but Compton came back in the next stanza to tie it up on Garrett's two as "Butterfly" Bill slammed another home for Tech. With the end of half-time, Compton went into the lead; the score stood 4-3 going into the final period. Tech pulled even with a couple of shots by Eschner and Palmer, while the Comptites toseled in

one. It looked as if the game would go into overtime until, with six seconds to go, Edmunds tossed in the winning point to end the game, 6-5 Compton.

The following day brought no rest to the weary, as San Jose State College brought an unheralded aggregation to administer one of the worst defeats that Tech has taken this year. In contrast to the previous games, these boys played a fast and clean game. Few fouls were called and it wasn't because the ref wasn't watching.

The visitors got off to a fast start with four goals in the first quarter, continuing with three in the second stanza and slowing down to score two and one in the last periods. Tech, off balance from an unexpectedly fast game, improved as the game moved along—scoring one in the

(Continued on Page 6)

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*Hal W.
McIntyre*

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I've smoked
them for
years!

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And here's another great record—

More people are smoking CAMELS than ever before!

Frosh Sport Roundup

—By Earl Hefner

Relatively overlooked in Frosh sport circles in the din of football and basketball activity, the Freshman cross-country lads have been doing a notable job in meets thus far this season. Paced by "Rapid Robert" Cobb, the Frosh easily won a dual meet with the Pomona Frosh two weeks ago, and have figured prominently in varsity meets.

The amazing Mr. Cobb not only won the Pomona meet and took third in the varsity Compton get-together, but also won all three of the interhouse cross-country meets this fall. Despite his fine showing, Throop Club, which he represented, was unable to place enough men to win.

Bright Prospects

Prospects for cross-country next fall are very bright for the Beaver runners as they will lose very few of the present varsity squad and will be reinforced by this year's crop of Frosh.

Turning to the hoop team, it is extremely encouraging to watch Coach Preisler's green casabamen practice nightly. In the short period of three weeks his hopefuls have gradually been developing into a well-balanced and spiritual organization.

Sincere Spirit of Team

Speaking of the fine spirit of the aggregation, an incident occurred just before the Thanksgiving holidays which is indicative of team fellowship and friendliness. One of the men on the squad had \$50 stolen from his clothes during practice. The members of the team got together and contributed \$1 apiece until almost half of the loss was repaid. A very sincere gesture on the part of the Frosh team!

Scrimmage games have been scheduled this afternoon and next Tuesday with the Muir Colts and PCC Bullpups, respectively, and although the games will give Preisler an idea of just what kind of team he has, it is still too early in the season to definitely judge the team as to what it may do in conference competition.

Beaver • Sports •

Redlands, Oxy, Pomona Here Saturday For Cross Country

**Marshall, Peterson Head Tech Team
Beavers Favored for Easy Second Place,**

Saturday morning at 10 a.m. in Tournament Park the opportunity will be presented to witness a Beaver team in action that has actually won most of its contests. At that time the Conference 4-mile meet will be held with Redlands, Occidental and Pomona.

It is a well-known fact that Beaver teams have won but few intercollegiate athletic contests this season, but Tech cross-country team has provided a substantial share of these victories by defeating three of the four opponents.

Redlands Favored

Favored to win this tangle of toil and tribulation are the Redlands Bulldogs who apparently have a perennial supply of leather-lunged runners. The Tech harriers, however, have a good chance of taking runner-up position in the meet, having defeated both Oxy and Pomona and Coach Bud Carroll is priming his boys for the best possible performance.

Techmen in Good Shape

A number of Beavers should be ready to show their heels to the opposition on Saturday morn-

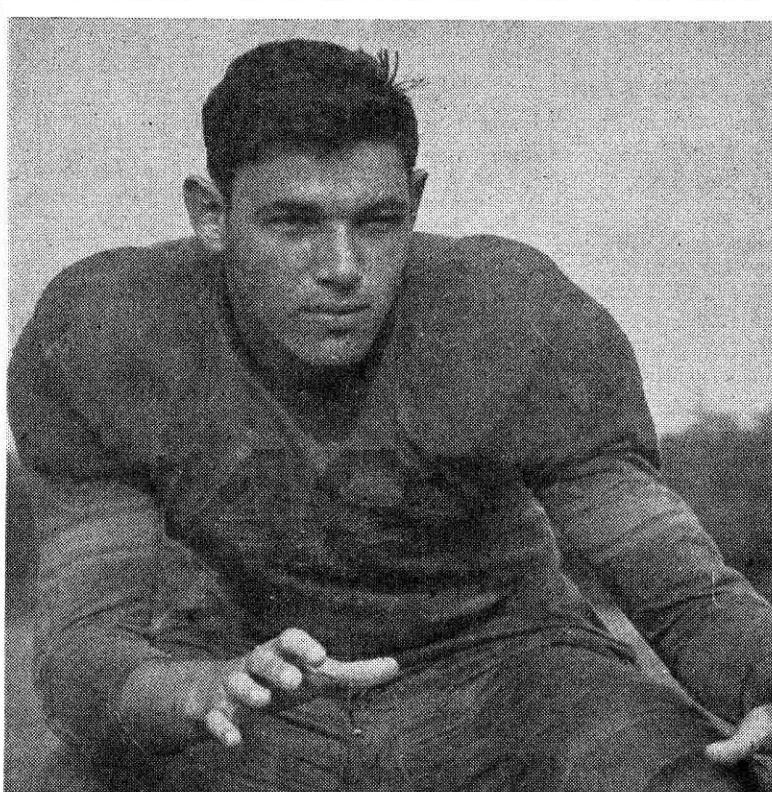
(Continued on Page 6)

ing. Jack Marshall has two first places to his credit this season and ought to provide the Bulldogs a good cause for concern. Don Peterson has consistently been Tech's second man and should turn in a creditable performance. Reaching form after a late start, Doug Brown shows promise of placing high on the list.

Mike Sellen and Larry Nobles have been supplying the Bevos with those runner-up points which are so necessary in gaining a cross-country victory. Carl Anderson, Dick Spellman, Bob Abell, Don Asquith and Erle

(Continued on Page 6)

ALL - COAST



MANUEL BASS, rugged tackle named on first string U.P. Little All-Pacific Coast Team.

Bass, Wozniak Nominated To Little All-Pacific Coast Team

Manuel "Tex" Bass, stellar Caltech tackle, has been named a member of the United Press "Little All-Pacific Coast" football team.

Jerry Wozniak, triple-threat Tech half, was given honorable mention on the same listing.

Bass also was named to the INS All-Coast, All-College third team, released recently.

Playing as he did on a team that finished at the bottom of its league, Bass's honor is all the more singular, since he was the only player in the Southern California Conference named to the first string. The only other local player to draw first team praise was Darwin Horn, Pepperdine's much-publicized and high-scoring fullback.

Concussion Hurts

Wozniak probably would have finished higher had he played in the Beavers' last two games, against Redlands and Pepperdine, but he received a concussion on the second play of the Bulldog contest and was out the rest of the season.

College of the Pacific headed the first team with four men. Quarterback Ed LeBaron, billed as "a 17-year-old genius of the T formation," End John Rhode, Guard Bob Francischini, and

Half Bruce Orvis were the COP contingent named. No other team was represented by more than one player.

SCIC players making the second team include Guard Dillon of Whittier and End Flowers of Redlands.

Winning Elevens

College of the Pacific, which predominated in the team, had one of its most successful seasons this year, losing only once, 20-21, to powerful Santa Clara.

Southern Oregon, whose star back, Chuck deAutremont, was also included, is undefeated in two years of play. The Oregonians placed five other men on the second team and honorable mention lists.

Complete team listings follow.

FIRST TEAM	
Rader (Willamette)	End
Bass (Caltech)	Tackle
Brown (San Diego State)	Guard
Pifferini (San Jose State)	Center
Francischini (C.O.P.)	Guard
Hunt (Cal Aggies)	Tackle
Rohde (C.O.P.)	End
LeBaron (C.O.P.)	Back
De Autremont (So. Oregon)	Back
Horn (Pepperdine)	Back
Orvis (C.O.P.)	Back

SECOND TEAM

Gatin (So. Oregon)	End
Donovan (Willamette)	Tackle
Dillon (Whittier)	Guard
Deandrea (Pacific Lutheran)	Center
Martin (Chico State)	Guard
Curry (San Diego State)	Tackle
Flowers (Redlands)	End
Parton (San Jose State)	Back
Guyot (Pacific Lutheran)	Back
Tucker (Whitworth)	Back
Jackson (San Jose State)	Back
Honorable Mention: Ends—Edwards, Southern Oregon; Hoffman, Fresno State; Whitworth; Lewis, Occidental Guards; Kipar, Pepperdine; Baly, Occidental; Root, San Francisco State; Centers-Chandler, Whittier; Vericola, Humboldt State; Backs—Carscart, Santa Barbara State; McBee, San Francisco State; Nederman, Cal Aggies; McCall, Pomona; Wozniak, Caltech; Runner, Redlands; andrea, Southern Oregon; Bell, Pepperdine; Smith, Southern Oregon; B. Hick, C.O.P.	

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Basketball Season Opens With Game Set For Friday

Seven Returning Players Form Core Of Casaba Team

Rushing to make up for lost time, Coach Shy's boys have been running through some heavy workouts down at the local icebox in preparation for the first annual Redlands Basketball Invitational Tournament. This meet is something new and consists of a non-conference play-off of teams around Southern California.

Captain Harry Moore of last year's squad has left a hole in the varsity line-up but Coach Shy has hopes of shaping up a championship team around the old squad members.

Back from last year's varsity are guards Bill Cox, Jay Montgomery, Jack Ottestad and Bob Stokeley. Tagged for the forward slots this year are Don Furth, Ted Bowen and Bill Rumer. Paul Saltman and Manual Bass will be back in the center spot.

Hopefuls up from the Jayvees and new men in school include Howell Tyson, Art Bruington, Jim Holditch, Joe Williams, Thad Vreeland and Don Greenwood.

In the scrimmage against Muir last Monday the Varsity drew first blood from the West Campus lads to the tune of 42-35. Fine teamwork was displayed despite the short practice the boys have had so far this year.

The Beavers' first game in the Redlands tournament will be against either Pasadena College or Redlands on Friday, Dec. 5.

Tournament Schedule

Whittier	Bye	Whittier
Chapman	Bye	Chapman
Oxy	Bye	Oxy
Loyola	Bye	Loyola
Pomona	Bye	Pomona
Caltech	Bye	Cal Poly
Pasadena	Bye	La Verne
Redlands	Bye	Pasadena
		Caltech

1948 Varsity Basketball

Fri. Dec. 12—Chapman
Fri. Jan. 9—Occidental*
Sat. Jan. 10—Pepperdine H*
Fri. Jan. 16—Redlands H*
Sat. Jan. 24—Chapman H
Fri. Jan. 30—Occidental H*
Sat. Jan. 31—Loyola
Fri. Feb. 6—Redlands*
Tue. Feb. 10—Whittier H*
Fri. Feb. 13—Pomona*
Fri. Feb. 20—Whittier*
Fri. Feb. 27—Pomona H*
Sat. Feb. 28—Loyola

H—Home game.

*—Conference game.

Lamb, Druliner In Tennis Exhibition

The Athletic Department announced today that an exhibition tennis match will be played on the Tournament Park courts next Monday, December 8, at 3:30 p.m.

Featured match of the day will pit tennis coach Johnny Lamb against George Druliner of Santa Monica, recognized as one of the Southland's finest players.

There will be a preliminary exhibition event for which the slate is not complete at press time. George Ball will be one of the men.

All Caltech personnel—students, graduates, faculty, and employees, are invited to attend.

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AIEE, IRE To Visit Radio Corporation

The American Institute of Electrical Engineers and the Institute of Radio Engineers plan a joint trip to Hoffman Radio Corporation, 3761 South Hill Street, Los Angeles. The visit will take place next Monday, December 8, 1947. Students planning to attend will meet in Tournament Park at 12:45 p.m.

The trip will include a conducted tour through the plant and the engineering department of a concern manufacturing commercial radio, FM and television equipment. Resident engineers will be on hand to explain present-day manufacturing techniques.

REDLANDS, OXY, POMONA

(Continued from Page 5)
Brown will also be attempting to upset the dope bucket.

Frosh in Preliminary Affair

Preceding the varsity meet, the conference freshman teams will compete in a three-mile run. The Baby Flattails stand a good chance of winning the affair as they bested the Pomona frosh in their lone competitive meet of the season, while the Sagechicks in turn defeated the Redlands froshmen in a previous meet. Tech, Pomona and Redlands are the only schools fielding frosh teams.

Bob Cobb shows promise of leading the Beaver aggregation, while Walt Edwards, Rich Smyth, Ray Bowerman, Bob Kurland, Charlie Steese and Ritchey Newman will all be striving for a Tech victory.

LACK OF NOISE

(Continued from Page 2)
hymn, i.e., "Roll on You Beavers." If everyone will think about it we might find a genius or two who has a knack for dreaming up good cheers and screams. And if we can't originate new ones, then let's borrow some. The team obviously has the spirit, let's show our spirit with some decent yells.

Kendall Famularo.

INTERHOUSE DANCE

(Continued from Page 1)
band.

Ricketts House has Ray Dietrich's band in the midst of a low ceiled dungeon arrangement complete with torture chamber.

Prehistoric

Throop Club offers a prehistoric atmosphere with Max Bickley and his band giving some very fine music.

Refreshments at all the houses will be punch and cookies. If you haven't got your date yet, get on the phone right now. This promises to be a dance you'll never forget.

The CALTECH MUSICALE

PROGRAM FOR SUNDAY, DECEMBER 7, 1947

MOZART—The Magic Flute Overture
REUBKE—Sonata for Organ in C Minor
On the 94th Psalm
IBERT—Divertissement
— Intermission —
DEBUSSY—Iberia
MILHAUD—La Creation du Monde



"My demands are a two-hour week on my homework—and a pack and a half of Dentyne Chewing Gum for overtime."

"Fact is, Pop, it'll even be a treat to study overtime—for a bonus of swell, nifty-tasting Dentyne Chewing Gum! And don't forget, Dentyne helps keep my teeth white, too."

Dentyne Gum—Made Only By Adams

HIBBS, WALFORD VISIT

(Continued from Page 2)
problem, and the project snowballed to its present nationally-publicized dimensions.

"Run This Up for Me . . ."

Fan mail has been pouring in to the two at a rapid rate, with letters ranging from people who just "are interested in your system. Send it to me," or send money with instructions such as "Run this to \$20,000 and I will pay you 20%," to persons who need their mortgages paid off, and one lady in northern California who would like the boys to put her young daughter through college. Hibbs expressed a desire to investigate this proposition further.

The boys have a manuscript covering their adventure in the process of preparation. It is scheduled to appear in one of the national magazines.

Chicago Scholars

Technicians, who have often heard themselves described as eccentric, and who knew Hibbs in his undergraduate days, were amused when he described the scholars of University of Chicago, which admits by test and has no age minimum, as "emotional three year olds with thirty year old intelligence. Of course, they are iconoclasts. Also, they are completely unable to laugh."

Classes at the University, he said, gave one the urge to "run home and down a pint, quick."

Fly to Moon

Hibbs was feature editor of the California Tech, and threw the Javelin on the track squad. He will be remembered from Navy-Tech days as the man they were talking about when the cry "Hibbs to the Pool" used to ring in the student houses.

He graduated in physics, coming to Tech "because I wanted to fly to the Moon."

Certain rocket-minded members of the Tech faculty claim they could do just that, if they had \$400,000. Maybe Al's new occupation isn't too far removed from his old goal after all.

VARSITY CLUB

(Continued from Page 1)
the Wheaton Trophy, awarded to the football player of the year on the basis of scholarship, sportsmanship, and moral influence. Each man is rated by every other man on the team for sportsmanship and moral influence. When these factors are averaged with the man's grade points for the last three terms, the holder of the Wheaton Trophy is determined. This year's winner is still the darkest secret to be held in Hustlin' Hal's Inner Sanctum since 1912.

Toastmaster for the evening will be Dr. Stock from the Geology department with Dr. DuBridge and Frank Bull, local Sportscaster, being the main Toastmaster for the evening will be Dr. Stock from the Geology department with Dr. DuBridge and Frank Bull, local Sportscaster, being the main

OPEN LETTER

(Continued from Page 2)

You misunderstood the deal about leaving out the off-campus section. This was only because no one was signing up for the pictures. By the way, this is still the case—we hardly have enough pictures now to fill four pages and we intended to use 10.

Editor, "Big T."

COMPTON WINS

(Continued from Page 4)
second period and another in the last, finishing on the short end, 10-2.

Tuesday, the boys travel to Oxy for revenge and Thursday night the Fullerton Invitation Tourney starts—Tech opposing Glendale C.C. If Glendale succumbs, Fullerton will probably

HIBBARD, BASS NAMED

(Continued from Page 4)

Strauss at quarter, Jerry Wozniak at half, and Doug MacLean at full were the men selected. Redlands Chuhck Hackelman was the fourth member of the backfield, but, off their showings in the Bulldog tilt, the selection committee could just have easily included Glenn Chaffee for an all-Beaver backfield. The Beavers position in the league standings is probably the only reason they did not, and also may explain why Wozniak, already named to the Little all-Coast squad is found on the second eleven.

furnish Friday's opposition for the afternoon. Win or lose the second game, Tech plays again Friday evening against an unknown adversary.

Selections were made at a meeting of coaches and graduate managers at Redlands Monday night.

Selections follow:

E—DON HIBBARD	(Caltech).....	180
E—Stan Flowers	(Redlands).....	195
T—MANUEL BASS	(Caltech).....	210
T—Dick Cooper (Occidental).....	185	
G—Roy Baly (Oxy).....	175	
G—Al Fair (Oxy).....	170	
C—Charles Armstrong (Oxy).....	205	
G—John McCall (Pomona).....	190	
H—John Trump (Oxy).....	190	
H—Ted Runner (Redlands).....	195	
H—Buck Jarigan (Whittier).....	185	
SECOND TEAM—		
E—Dean Collins (Pomona).....	165	
E—Homer Richards (Redlands).....	190	
T—Elton Shafer (Pomona).....	215	
T—Earl Ryerson (Whittier).....	190	
G—Mac Hammond (Whittier).....	170	
G—Bill Payne (Whittier).....	240	
G—Ken Chandler (Whittier).....	190	
O—MILT STRAUSS	(Caltech).....	185
H—JERRY WOZNIAK	(Caltech).....	185
H—Charles Hackelman (Redlands).....	178	
F—DOUG MAC LEAN	(Caltech).....	180

TECH DUMPS MUIR

(Continued from Page 4)
year, which promises to be effective when practice irons out the weak points. The old standbys, Saltman, Furth, Cox, Bowens, Bass and Stokely played their usual brand of "head up" ball.

The Muir crackerbox turned out to be part of the great outdoors on two sides, and substitutes were seen by some to shake the snow and ice off themselves when called from the bench.

A better evaluation of the team's potentialities will be possible after this week end, when the Beaver hoopsters travel to Redlands to participate in the Redlands Invitational Tournament, in which most of the conference schools are entered along with prominent independents.

The CALTECH MUSICALE

PROGRAM FOR SUNDAY, DECEMBER 7, 1947

MOZART—The Magic Flute Overture
REUBKE—Sonata for Organ in C Minor
On the 94th Psalm
IBERT—Divertissement
— Intermission —
DEBUSSY—Iberia
MILHAUD—La Creation du Monde

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