

California Institute of Technology
Thursday, January 15, 1948

Volume XLIX

No. 12

SAE-ASME Take Over Monday Aud, Talk on Oil Field Engineering Set

At next Monday's assembly, the Society of Automotive Engineers and the American Society of Mechanical Engineers will present Mr. Harold Marsh of General Petroleum Corporation who will talk on "Opportunities in Oil Field Engineering."

Mr. Marsh is a Tech alumnus, having obtained his degree in Mechanical Engineering in 1922.

After a year as a teaching fellow, he took a position with General Petroleum and has been with them ever since. At present, he is Chief Production Engineer, in which capacity he is in charge of production, engineering, equipment, research, and accident prevention in connection with well drilling and other operations of oil fields.

Employ Many Options

One point which Mr. Marsh will emphasize will be the fact that the oil fields have cause to employ many graduates other than ME's. There exists a need also for CE's, Chem E's, Physicists, and Chemists, to name but a few.

In addition to these remarks about opportunities in the oil fields, the speaker plans to tell about some of the problems and experiences connected with the extraction of petroleum. He will illustrate this part of the talk with Kodachrome slides.

Mr. Marsh is planning the prepared part of the talk to last no more than thirty minutes, so that the question period will be ample to cover all topics of interest to the audience.

The meeting will be held at 11 a.m., next Monday, in Room 206ME. Everyone on campus is welcome.

CONTRIBUTORS NOTE:

Copy deadline for The California Tech is 6:30 p.m. each Monday. Articles must be in by that time to insure publication.

CES Features Mackeown Talk

Over 100 students and Institute employees attended the meeting last Monday of the Consolidated Engineering Societies, when Dr. Mackeown of the Caltech faculty gave a brief lecture on "Patents." Dr. Mackeown drew upon his wide knowledge of this subject to give a brief resume of the history and current interpretation of the United States Patent Law. He concluded his talk by answering the questions asked by the audience.

The meeting was sponsored jointly by the Caltech student branches of the American Institute of Electrical Engineers and the Institute of Radio Engineers.

Films Scheduled For Chem Club Meet

The Caltech Chem Club has announced the showing of two films of interest to chemists at its next meeting, Monday, January 19. These pictures are "Iron and Steel," and "Sugar Processing and Handling," and all persons interested are welcome to attend. The meeting is at 4:30 p.m.

Any Chemistry majors interested in joining the Chem Club are urged to come to this meeting. The Club is a regular student chapter of the American Chemical Society, and members of the club are automatically junior members of the ACS.

Students are asked to take special notice of the change of time to 4:30 p.m.

Tech President Meets Students At "Y" Fireside

Nearly twenty Tech men were exposed to the facile wit of Dr. DuBridge Sunday night in the first "Y" Fireside of the Winter Term.

Chairman Comments

According to the Fireside chairman, "It's a raging crime that, although a plethora of Tech men usually show up for these weekly outings, they are invariably the same Tech men. Here is a terrific opportunity to learn first hand when we're going to get Tournament, why the Optics Lab isn't being turned into a Fleming Gym, what the latest Zwicky story reveals, and who has the largest family. (Dr. and Mrs. Neher hold the record so far with five!)

More Firesides Planned

Scheduled soon are Firesides at the homes of Dean Thomas, Dr. Stock, Dr. R. A. Millikan, members of the Board of Trustees, and various Pasadena civic and business personalities.

Tom Tracy's honest efforts to do good and plan all the minutiae of last week's firesides were largely successful, although some persons allege that preparations still could stand some improvement.

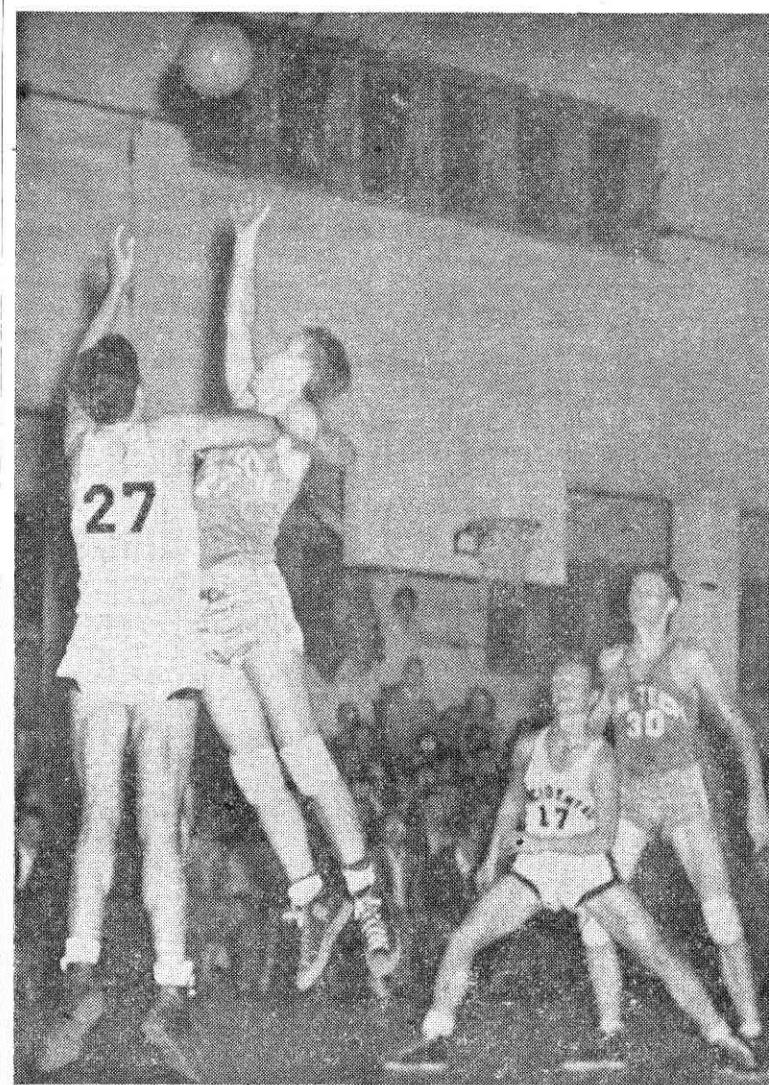
For the next few Firesides uninitiated men will be given preference on the sign-up lists, according to the chairman.

Glee Club Picture To Be Taken Tonight

This week the Glee Club is meeting in Dabney lounge. The change of meeting place is to afford a better background for the picture of the Glee Club which is to appear in this year's Big T.

Last week's meeting brought forward many new members, who will augment the power of this chorus. The club is looking forward to a number of exchange assemblies with other schools.

BEAVER SOARS



CRUCIAL JUMP—Ted Bowen, Beaver forward, leaves his feet in an effort to get the ball during last Friday's game. Guard Bob Stokely waits for the tip. Bevos won, 57-54.

Cagers Face Redlands Friday Night

League Leading Beavers Set To Drop Bulldogs

By Len Herzog

With a 57-54 surprise victory over the powerful Occidental Tigers behind them, Caltech's league co-leading varsity basketballers will square off against the aggregation from Redlands University tomorrow night at the Pasadena Armory.

The Bevos are undefeated in Conference play, however last Saturday lost to the always powerful Pepperdine amateurs in a hard-fought contest that saw the Engineers leading by six points at half time.

Politics, Culture Set for "Y" Forum

Next Monday's "Y" Forum will feature Martin Hall, noted journalist and speaker, who will discuss the varied problem of Russian-American relations. The forum will be held Monday evening, January 19, at 7:30 in 119 Kerkhoff.

Martin Hall is a native of Germany and an American citizen by naturalization. He received his education in German universities and has traveled widely in Europe and Russia writing for German, French and English papers. He thus obtained first-hand knowledge of the rise of Nazism and Fascism. After Hitler came to power he joined the Underground and later escaped to the United States, where he has become a prominent lecturer.

Cultural Forum

One week from Monday, January 26, the "Y" will conduct another expedition into Music and Art in what promises to be the most fascinating lecture to date. Arnold des Plantes, Dutch artist, will exhibit four paintings, over 14 years in the making, interpreting the music of Bach, Beethoven, Tschaikowsky, and



Martin Hall

In their last two games the Beaver Casabamen have demonstrated considerably more power than the pre-season dopespers had figured them for. Their win over the Tigers, who are practically invincible in their own diminutive gym, was impressive. It may have been partially due to the strenuous workouts which the team received in three contests with the powerful Los Angeles Police Force five, which this year boasts many ex-college and AAU stars.

Dogs Dropped

Redlands' hoopsters, tabbed as a team to beat at the start of the season, have been dropped in both their league encounters so far. The Whittier Poets, last year's "wonder team," walloped them 60-45, although the game was within five points all the way up until the last few minutes of play, and the Bulldogs were also vanquished by the Oxy outfit.

They may come into their own in Friday's game, but the Beavers are due for a comeback too after their Inglewood misfortune. If the Beavers had not yet made their Eagle Rock showing, the game would rate strictly as a tossup; but on the basis of their Oxy win, the Techmen rate a slight edge, especially since they will be playing on their home floor.

Leading the Bulldog squad will be Rosenberger and Parker at forwards, Leonard at center and Bell and Raine at guards. Rosenberger is high scorer for the team so far, hitting about 14 points in each previous tilt.

All home games this season, pending the construction of the new Caltech gymnasium in Tournament Park, will be played at the Pasadena Armory, as they have been for the last several years. The Armory is located on the West side of Pasadena on Raymond Ave, about two blocks north of Colorado Blvd. Seating capacity is rather limited, and consequently, those who arrive

(Continued on Page 6)

Interview Schedule

JAN. 16 — Tone Air Conditioning Co—Carrier—Des Moines, Iowa—Mr. Milton C. Towner—Open Interview—Mechanical Engineers, Senior and Grad. students.

JAN. 26 — Minnesota Mining & Manufacturing Co, St. Paul, Minn.—Open Interview—Both Senior and Grad. students in Chemistry, Chemical Engineering and Physics.

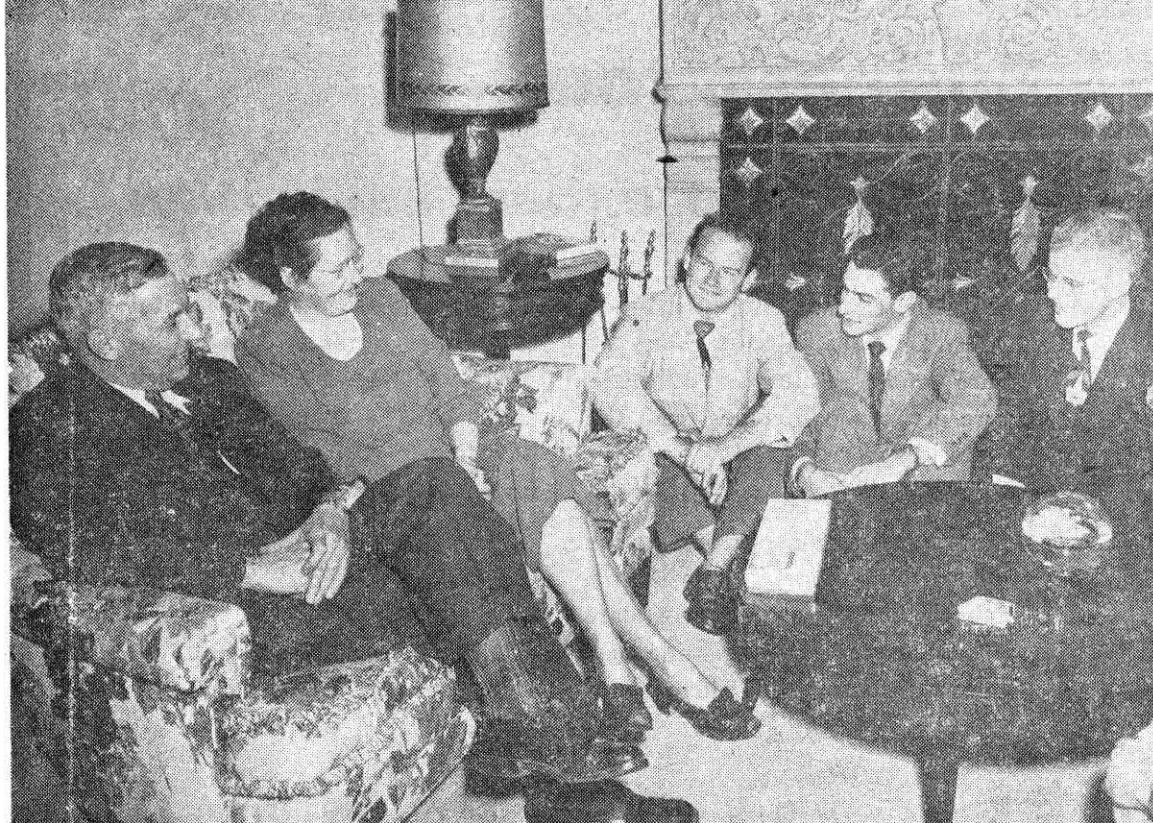
JAN. 27 AND 28—The Procter & Gamble Manufacturing Co, Long Beach, Calif.—Mr. Mills S. Hodge and Mr. Watt—Open Interview for upper half of class scholastically, personality, extra curricular activities. Senior and Grad. students in MS, ChE, ACh, EE, CE, Ch, Ph.

FEB. 10—Ethyl Corp., Research Laboratories, Detroit, Mich.—Mr. Faller—Grad. & Senior students in Chemical and Mechanical Engineering in upper 20 per cent of class scholastically and who are interested in internal combustion engines and fuels.

MAR. 1 AND 2—E. I. Du Pont de Nemours Co, Wilmington, Delaware—J. W. Reynard. PhD's in Chemistry, ChE, Ph. and few good MS men interested in eastern employment. Open interview.

For further information concerning any of the above interviews, or other job information, contact the placement office.

FIRESIDE PROGRAM ENTERS SECOND TERM



TECHMEN MEET PRESIDENT—An informal moment during last week's fireside at the home of Dr. and Mrs. Lee A. DuBridge is shown above. The evening was climaxed by listening to the Hawthorne-Mittenbach broadcast, which proves how informal it was. Left to right: Charles Shaw, Byron Karzas, Carl Price, Dr. and Mrs. DuBridge.

Special Notice

All varsity baseball candidates meet in New Athletic Office Friday, January 16, at 11 a.m.

Varsity Baseball Coach
E. T. PREISLER

The California Tech

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EPHEMERAE

A few words in regard to Caltech's varsity basketball aggregation, 1948 edition, are probably in order here since the Goon is no doubt too modest to throw too much space in that direction in his column.

Off their 57-54 win against Oxy in the Tiger gym, the Bevos must be counted among the favorites for the SCIC crown. Oxy did quite well in the Redlands Invitational Tourney, losing to defending champion Whittier by only one point. Both the Tiger and Poet quintets are high-scoring combinations and there was considerable doubt, in their first few starts, whether the Beavers, although on a par in most respects, would be able to generate 55 to 70 point-a-game power. The Oxy tilt shows that they can do it, since the Tigers have near-perfected, through the years, an impregnable defense on their own crackerbox court.

The Engineers will need to do this from now on out, though, in order to subdue the high scoring Poets and Tigers in the conference race, not to mention what can happen in the Sagehen and Bulldog contests if they "let up."

Juggled

Coach Shy has juggled the lineup this year, putting long Bob Stokeley at guard along with Jay Montgomery to help out Bill Cox, and thus he has been able to get a much more equitable output of power from all positions.

Both the Beaver varsity and Frosh teams deserve a lot of credit for their fine spirit under very adverse conditions this year. Both teams have to travel considerable distances away from campus in order to practice; the Techbabes in particular have been going back and forth like a ping-pong ball, practicing in six different places already. Needless to say, locker facilities are not what they should be. And of course the \$\$ run up in the course of a season for gas to get to and from practice every day comes right out of the players' pockets. The fellows who come out every day and get knocked around, then give up their Friday and Saturday nights

just to sit on the bench . . . in case, deserve your support and mine for their loyalty to the school and the game, even as much as the regulars.

Frostbite

The Armory isn't very big or very warm, but if enough people cram in for these home games, maybe that will heat the place up enough so the players can participate without getting frostbite.

Support at the "away" games, however, is even more important—even a small section of loyal rooters is a big help in a game where the whole place is crammed with supporters of the other team.

Coast

Enough of SCIC basketball . . . on the Coast scene, apparently the Southern Division title has already been given to the powerful Cal contingent of Chuck Hanger, Andy Wolfe, and Co. by the local sports scribes. But don't count the Bruins, S.C., or even Stanford out just yet. The Stanfords already have a surprising pre-season win over Oregon State, last year's PCC champions, and OSC in turn defeated the Oakland Bittners, the AAU outfit that just stopped the Phillips Oilers win streak after it had run 32 games.

It will probably be a drag-out fight in the Northern division, too. Idaho, which barely edged Brigham Young for third in the recent L.A. Invitational Championships, with their 6 foot 9 center Jack Phoenix, has already upset Oregon State, and always strong Oregon U. can be counted on to throw things into at least a three-way race.

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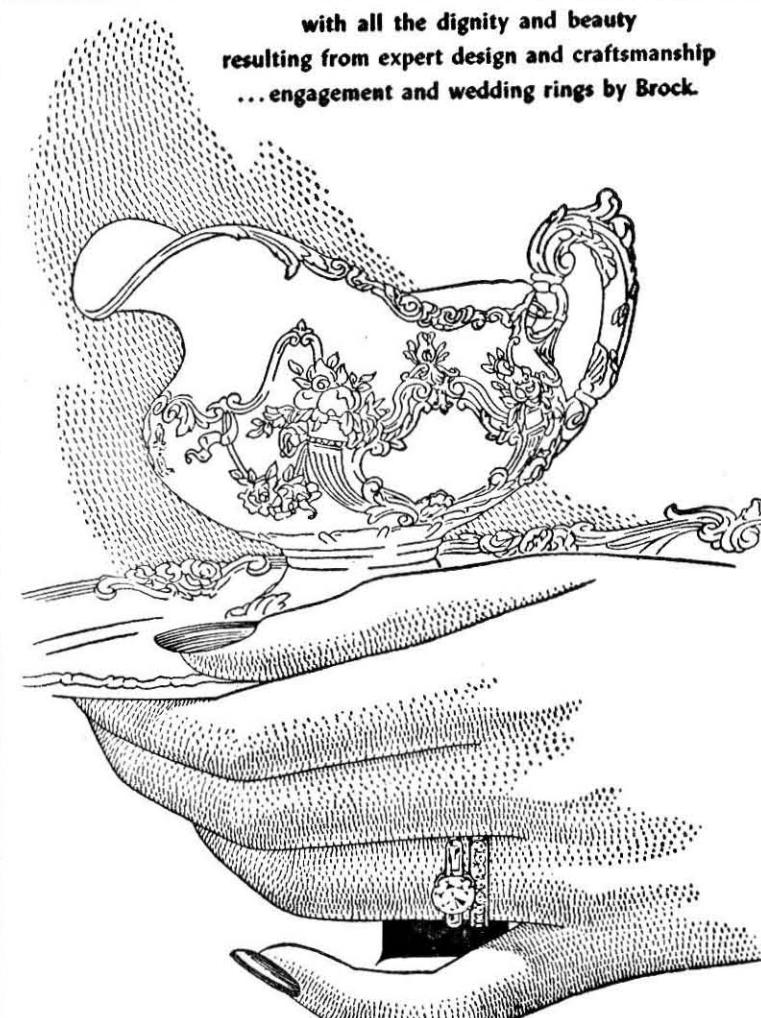
The CALTECH MUSICALE

PROGRAM FOR SUNDAY, JANUARY 18, 1948

RIISAGER—Serenade
FRANCK—Prelude, Chorale, and Fugue
BEETHOVEN—Piano Concerto No. 4
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Shavings from the Board

The Board of Directors began its third and final portion of its term of office with a red-hot meeting last Thursday evening. An endless amount of business was accomplished—most of it being too trivial to be mentioned in this earth-shaking and noteworthy column, that weekly takes up any vacant space in our gossip sheet.

Elections

It won't be too long now before ASCIT elections come up again. This will need much consideration by all members of the student body, so that the men best suited for each job can be talked into running for the job. The Board has decided upon the following schedule of events with regards to the forthcoming elections: Feb. 20, the nomination assembly; Feb. 25, the ELECTION RALLY; Feb. 26, the ELECTIONS FOR ASCIT OFFICES; and March 2, any necessary run-off elections. So remember—get the candidates out and get the vote out. To vote you will need your Student Body Card (also to see the basketball games). If you haven't picked yours up yet, go to the Athletic Office in the new barracks, where you will find Miriam, just overjoyed with the thought of issuing a card to you.

Other Pertinent Poop

The California Tech is still running in the black and, in fact, has made a small profit to date. Whether this will continue or not is a moot question, but I know the Treasurer certainly hopes so. The Big T contract

has been signed and for your information the present total cost estimate for this edition of the Big T is the tremendous sum of \$7122. Who says we aren't in big business? We'll have to send a lobby to Congress and join the N.A.M.

Enough of SCIC basketball . . . on the Coast scene, apparently the Southern Division title has already been given to the powerful Cal contingent of Chuck Hanger, Andy Wolfe, and Co. by the local sports scribes. But don't count the Bruins, S.C., or even Stanford out just yet. The Stanfords already have a surprising pre-season win over Oregon State, last year's PCC champions, and OSC in turn defeated the Oakland Bittners, the AAU outfit that just stopped the Phillips Oilers win streak after it had run 32 games.

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CAMPUS

BREWINS

Alas, to be back at school after such a delightful week-end. Sunday was simply a beautiful day and my soul was filled with love and kindness. After several days of meditation I once again turn my thoughts to more worldly things. While strolling through some lovely garden, clutching the commandments to my breast, I pondered on some rather uplifting material for this sordid column. While poring over the scripture, a revelation smote me—I have been wicked and evil in printing these malicious and salacious truths.

Basking in the Light

Seen at local churches this last Sunday were Tom Davis, Warren Marshall and Bud Mittenthal. Tom informed me that the sermon was truly inspiring.

Steve Morrison had a very exciting week-end. Steve tells me that he got into one of the most exciting chess matches he has ever been involved in. He finally won, although throughout the game he was constantly distract-

ed by some desirable girl who sent him on the telephone.

Bill Boutelle, rumor has it, is circulating a petition to have the Skip Inn closed on the grounds that it has a detrimental influence on high-minded students. Good work, Bill!

Engagement Announced

Vincent Honnold, well-known man-about-campus, is now out of circulation. He is engaged to be married to a charming girl, by the name of Peggy? (we didn't catch the last name.) I suppose we should write the above item in somewhat better style, such as, Mr. and Mrs. ? announce the engagement of their daughter Peggy to Mr. Vincent Honnold. Peggy was a Beta Eta Theta at the University of Southern California, where she majored in horticulture. She was a member of the Moss and Mildew Society. The engagement was announced at a luncheon at Fink's Drive In. The bride-to-be wore a lovely grey strapless burlap afternoon dress with shoes. Mr. Honnold studies molecules at the Southern California Junior College of Technology.

Well, Vince, the details may be slightly incorrect, but we sincerely do wish you both a lot of luck.

Noted Traveler

Mr. Frederick Smith, it is rumored, may soon be giving a lecture on seeing our glorious America deluxe, by thumb. He has just returned from a 6000-mile excursion around our spacious land, making him an authority on the subject. He is the President of the Which Way is Tech Society. The aim of the organization is to have signs located all over the country pointing toward Tech.

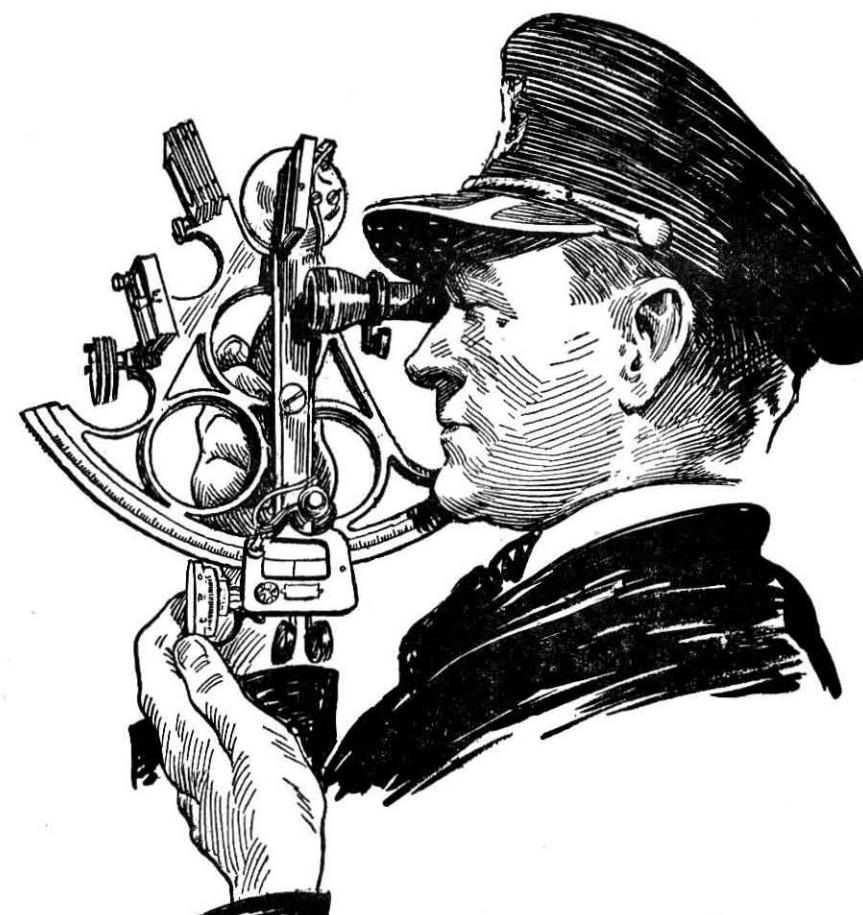
Music in Pomona

Our music-loving colleagues to the east at Pomona College were hosts to the Standard Hour. The following program was pre-

Varney Joins ME Teaching Staff

Wilbur R. Varney, former instructor of metallurgy and metallography at Lafayette College and metallurgical engineering consultant in the East, has joined the Caltech faculty as assistant professor of mechanical engineering. He will teach undergraduate work in materials and processes and assist in metallurgy.

Professor Varney obtained his bachelor's degree at Northeastern University and his master's degree in metallurgy at Rensselaer Polytechnic Institute. He served as a lieutenant in the U.S. Navy during the war. Following his release to inactive duty with the Navy he was property disposal officer with the Navy Bureau of Ordnance until March of 1946 and since then has been engaged as metallurgical engineer covering manufacturing problems and field development in ferrous and nonferrous metal working industries throughout the East. He has also worked with a number of industrial concerns in the east including Bethlehem Steel and Taylor-Wharton Iron and Steel Company.



Business, too,

must have expert navigation

IN the telephone business, much of the knowledge of "where we are" and guidance as to "where we are headed" comes from the analysis of statistics.

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Chociborz, Sachsen,
Gennoia 12, 1948.

C.I.T. Student Newspaper,
Herr Redakteur:

The reputation for benignancy of your students has spread even to our distant land. At the suggestion of our Minister of Public Morals, Wadyslaw Rumplemeier, a Caltech graduate, we are calling upon you to aid us in our struggle for independence. We are not asking for money; we realize your students can hardly spare a bogach. But, you can bring our noble cause to the attention of others in your fair land.

After all, we are practically brothers under the skin. Whether in Pasadena or Kottbus, we do just about the same thing. Of course, you realize that we Lusatians are Sorbs and not Serbs, a most important distinction. However, even the Low Sorbs from south of Sagan are with us. As soon as we get our anthem and coat of arms, we are going to the UNO to demand our independence. Then is when we need your moral support.

In the words of Wojtech Delanow Kozka, "Sycarska Narodni Cestovni kancelar."

Sincerely,
STANISLAW CZTUK.

SKILL

Mr. Editor,

I am noticing wit much enjoyment the fine job is being done by cap writers on this beautiful newspaper. I refer specially to most particularly to basketball picture resurrected from last year about which nobody on staff seems to know anything about. Is great example of skill to write so much about a nothing which has any relation to anything pertinent which skill also continually shown in N places most every issue.

Much sincere,
HERMAN.

Mittenthal Guests On Hawthorne; Gets In Sorb Plugs

The Tamiment Social and Economic Institute, and Writers Talent Scout, Inc., have announced the opening of essay and story contests.

Commercial Writing Contest

Writers Talent Scout, Inc., is offering several thousand dollars in prizes for short stories, and ideas for motion pictures and radio shows. In the short-story division, the Estate of Jack London will offer prizes of \$1,000, \$300 and \$200. In addition, Cosmopolitan magazine will pay for serial rights to the best story and will have an option on all others.

A \$1,000 prize and ten-week contract will be awarded for the best movie plot, and other cash prizes will be given for the best ideas for radio shows. Further information may be obtained by writing to Writers Talent Scout, Inc., 1067 N. Fairfax, Hollywood, Calif.

World Peace Essay

A first prize of \$1,000, with thirteen additional prizes amounting to \$2,000 will be distributed to college students by the Tamiment Social and Economic Institute for the best essays on "An American Program for World Peace in the Present Crisis."

The contest is open to all undergraduate college students in the United States. Essays should be from 5,000 to 6,000 words in length and should be submitted to the Tamiment Institute at 7 East 15th Street, New York 3, N.Y.

CAMPUS BREWIN'S

(Continued from Page 2) tation that these fellows are rowdies and ill-mannered athletes.

In conclusion we should like to leave this one quotation with you, "Aloof, O aloof, ye profane or uninitiated!"

Smith, Mudgett Vacation Saga Exposed . . .

A new chapter was added to the Smith Saga over the holidays when F. S., the Fleming Joe Spkjdt, tried to hitch-hike to his home in Connecticut. Previously his claims to fame had included such incidents as getting off the PE at California and Lake in the wee hours of the morning and walking two miles the wrong way with considerable baggage. But this time The Mouth outdid himself. He had a car back home, but since he had no driver's license, and didn't like to drive alone, he talked Walt Mudgett into thumbing to New England with him. This was Friday of finals week.

They left the next afternoon amid rain and the prophecies of bad luck of Jug Johnson, who drove them up to Colorado Street. They were in Barstow by ten-thirty that evening, and also by eight the next morning, though cooler. At Needles they were fortunate (?) enough to get a ride with an ex-CPO headed for Norfolk, Va., in a '33 Plymouth coupe.

This Mr. Crawford and Mudgett alternated driving until they hit Chattanooga, where Crawford took over while the other two slept. This was about 4 in the morning. About fifteen miles out of Chattanooga, "The Safest City in the World," a blind, inadequately warned, narrow, low railroad underpass, a high, wide, dynamite laden cab and trailer outfit, and one small Plymouth all tried to occupy the same space at the same time. Needless to say the car came out a poor third.

Mudgett and Smith were taken to a hospital where that evening they enjoyed the Christmas Eve caroling of the nurses. Smith left for home (by train) after a few days, not much worse for wear, and soon found himself in

• YOUR CAMPUS

BY JOHN WHITTLESEY

Cosmic Rays

The cosmic ray research on campus consists of two separate and distinct phases: One under Dr. Anderson and the other under Dr. Neher.

Anderson-Cloud Chambers

Dr. Anderson's activities are centered on the third floor West Bridge, taking nearly all of it except the Electrical Computer room, and in the "Cosmic Ray Shack," the small, one story building between Guggenheim and the Astro-physics Instrument Shop, besides which stands a comical old generator and its ancient truck.

The main aim of the project is to learn facts concerning the production and disintegration products of mesotrons. Most of the work is done with cloud chambers (there are seven different types and sizes here), and much of it is carried on at high altitudes.

The project has been financed by the Office of Naval Research; B-29s have been donated by the Air Force. Three are based at Inyo Kern and from there all operations begin.

Flying Saucer

One of these B-29s has carried a cloud chamber weighing 2 tons for about 250 hours. The trips are usually of from 7 to 10 hours in length and as high as possible. The last flight (about a week ago) caused some excitement over Spokane when the B-29 flying at 37,000 feet was mistaken for a flying saucer. It is principally Dr. Lloyd and two graduate students who are making these flights, and the Cloud chamber they use is the one (somewhat modified) which Dr. Anderson built in 1930 and carried to Pikes Peak in 1935 and Panama in '36.

Others working on this part of the program are Dr. Leighton, Dr. Hamermesh, Dr. Forster, Ray-

the big New York snowstorm. After a while here he finally made it home. Here he found that another fellow who had been going to help him drive was also unable to come out here. So he hitch-hiked back out.

On the return trip the only thing that happened was that one of his rides ran off the side of the road into a snow bank, another was a nith fellow, a third had a phobia of speeds under eighty. But still in one piece he finally ended his Odyssey along with the end of the first week of school.

Mudgett spent both the holiday "eves" in Chattanooga's excellent Erlanger Hospital, flew home to spend some more time in an L.A. hospital, and is now confined to quarters here with a banged up, but not broken, leg. He and Dick Marsh have been eyeing each other suspiciously: Marsh was originally going to make the trip with Smith.

One usually assumes when walking down the street that the earth will not open up to leave a gaping hole for you to fall into. Mudgett no longer makes this type of assumption when Smith

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mond Adams, and several graduate students, totaling about a dozen. Dr. Leighton is working on his new "Falling Cloud Chamber" a chamber which by means of a magnetic release is allowed to fall freely when a cosmic ray enters, the photographs being taken during these descents. It was Dr. Leighton who accompanied Dr. Anderson last summer when he sent up the first balloon ever to carry a Cloud chamber (Ht. 85,000 ft.)

Cosmic Spectrum

Dr. Hamermesh investigates the cosmic ray spectrum, trying to extend it to higher and higher energies. Another phase of the work deals with the tracks left in photographic emulsions. It might be notable in this connection that plates have been placed on several of the highest peaks in Southern California and that others are being carried back and forth in the regular transcontinental airline flights of the DC6s.

Results of the project include the finding of electrons being given off by mesotrons and the measurement for the first time of the energy of these electrons.

Dr. Neher—Geiger Counters

Dr. Neher's part of the research is a continuation of the work he started with Dr. Millikan in 1935, aimed at getting information on cosmic rays as a function of altitude and latitude over as wide a range as possible. The Earth seems to act as a huge magnetic analyzer, sorting out particles of more or less definite energies. Observations are carried out by means of balloons, sent to heights of 15 to 18 miles, to which are attached trays of Geiger Counters. Most of the actual data is gathered in the course of long summer tours; during the winter results are analyzed and new equipment built in the basement of Bridge. This last summer the party included the still very active Dr. Millikan, Dr. Neher, Dr. Pickering and three graduate students. About 20 flights were sent up in the midwest over a region extending from southern Texas north into Canada.

The Geiger Counters are arranged in what is called a "Cosmic Ray Telescope": three trays of counters placed one above the other in a metal framework about 1½ ft. square and about 4 ft. high. The equipment registers only when a particle goes through all three trays. Thus only those particles entering within a few degrees of the vertical are recorded—about 15 out of a total of 2000 per second. The balloons are sent up in pairs, the second to slow the descent and to act as a marker. Attached to each is a \$10 reward for return notice.

National and International Aspects

This June an international cosmic ray conference is to be held here at Tech in honor of Dr. Millikan's 80th birthday.

The Review of Modern Physics is devoting its entire Spring issue to Cosmic rays. A book containing reports by leading U.S. scientists in this field is being contributed to by Dr. Anderson, Dr. Millikan, and Dr. Christy.

The view has been stated that the work during the last six months both in England and the

(Continued on Page 6)

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Pepperdine Basketballers Down Fighting Tech Cagers

Talkin' It Over with The Goon

I'm not claiming that I'm a strong man or anything to that effect. But when Braven Dyer of the L.A. Times gave us the word that he was going to write an exposé of West Coast football that would make even strong men faint, I began to work out in earnest. Who knows what this ex-Sagehen keeps locked in his encyclopedic mind of sports facts?

Maybe Dyer was going to tell us who gave Shipkey the new De Soto convertible, or what Ferraro's income tax ran last year, or even how many million bushels of wheat Darwin Horn speculated with in the grain market!

Tracy and the D. L.

Here it is Sunday morning. I leap out of bed at 6:30 a.m. tense with excitement, rush downstairs to get the paper, cast aside the funnies after seeing that Tracy's getting hot on the tail of Shoulders, without even checking Hotshot Charlie's score with the Dragon Lady. At last, here it is, the Sports Page!!! I don't even notice the two-column spread with pictures they gave the Pepperdine game. There it is—in bold black type: "What's Wrong With West Coast Football." After reading 24" of this local sports prophet I didn't even feel a strain. He was just shooting the peasant a bucket of sheep-dip that was about as potent as a cup of tea.

All of this shouting and screaming about football is getting on my nerves and as a result the old beak is reaching a brittle point. All we need to really kill intercollegiate athletics are a couple of more guys like the sports editors of the

With only 24 hours' rest following their hard-fought victory over Occidental, the Caltech Varsity cagers traveled to Pepperdine on Saturday night, where they met the strong and highly favored Waves.

Reserves Not Enough

The Peps showed their over-

Daily Bruin and the Daily Trojan who are currently running off at the mouth. The poor, persecuted Bruins are crying in their beer claiming that every ref in the USC game was slipped a Fifty before the kickoff; while our pal from the Figueroa St. Country Club is screaming that SC should go out with the money bags and scare up a little talent. That's the kind of stuff that helps the public realize what little angels run around the college campuses.

Cut the Gate?

Here's the Goon's slant on what's wrong with collegiate athletics—it's too damn commercial. The big "institutions of higher learning" are picking up a couple hundred grand per annum from their extracurricular activities. As a result, the guys who get their heads bashed in on the gridiron every Saturday figure that they deserve a small cut of the gate. And they do.

But there should be a strict set of laws that the NCAA and the other college groups follow that would provide for a certain designated amount of cash plus room, board, tuition and books. Not only formulate the law, but also place fines for violations high enough that it would really hurt the school.

The old beak is softening up now, and space is becoming scarce. Don't forget to turn out for the baseball meeting if you're interested in throwing horseshoe around. See you at the Redlands game Friday night at the North Pole.

confidence by starting their second team, but when the Engineers forged ahead, 12 to 7, at the end of the first 10 minutes of play, the Wave regulars were rushed in to the rescue. However, instead of narrowing the margin, the Pepperdine first-string found itself outscored, 14 to 13, during the next 10 minutes, and as they left the floor at half-time they trailed, 26 to 20.

Beavers Tire

The second half was a different story, however. The hard-fought 3-point victory over Oxy the previous night had understandably taken a lot out of the Beavers, while the Waves, who had coasted to a 65-to-45 win over Redlands the previous night, came out for the second half rarin' to go. They pulled ahead, 32 to 31, shortly after the start of the second period, but the Engineers kept in the game, trailing by but 42 to 40 with 6 minutes left in the game. However, in those remaining 6 minutes the Waves outscored the game but tired Beaver, 14 to 1, bringing the final count to 56 to 41, a one-sided score which does not accurately show the closeness of the battle.

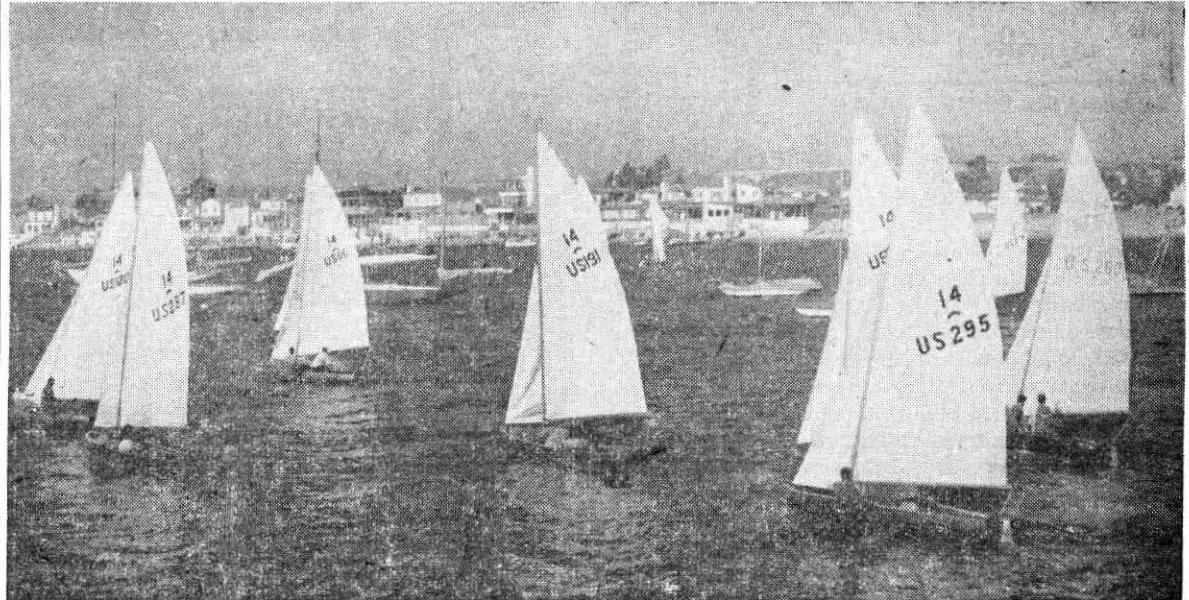
Pace Edges Saltman

Paul Saltman poured seven baskets through the hoop during the first half but fell off to a single free-throw before fouling out in the second half. His 15 points were high for the Beavers, but Joy Pace of Pepperdine was high man for the evening with 17, all of them coming in the second half.

Varsity, Frosh Baseball Begins

In spring some men's fancies turn to love, while others turn to baseball. February 16 is the official date of the start of season practice, says Coach Ed Preisler, who has replaced Hustlin Hal Musselman on the diamond. With the return of a large number of last year's varsity and the addition of Milt Strauss, 1944 All-Conference outfielder, prospects of a successful season are good providing Preisler can find a couple of good pitchers.

All men who are interested in playing be sure to attend the organization meeting Friday at 11 a.m. in the athletic office.



SAILING, SAILING—The boats above are participating in the recent Intercollegiate Sailing Championships, held at the Newport Yacht Club, in which Tech placed fifth. Note the Tech-manned craft closing the gap on the lead boat.

Caltech Sailors Race at Newport

Local athletic activities were extended to new fields as Tech entered the Intercollegiate Sailing Championships held at the Newport Yacht Club during the Christmas vacation.

This event is an annual affair sponsored by the Pacific Coast International Yacht Racing Association and this year's competition included entrants from 14 Pacific Coast schools.

Stanford, defending champions, were defeated by San Diego State College. Caltech's showing constituted an improvement over last year as this time we placed fifth out of fourteen entrants, winning over such vaunted teams as U. of C. at Berkeley, where there exists a well-organized club and a fleet of college-owned boats.

Caltech took first place in the first annual regatta of this series, held three years ago.

Caltech's team was captained by Don Royce of Dabney House and the team included Allen Beck, also of Dabney, and Jim Hill and Mitch Cotton of Blacker.

Plans are in progress for formal organization of the campus sailing interests in the near future and it is hoped that joint regattas will be arranged with colleges in the Los Angeles area.

Tech Skiers Second In New Ski League Meet

Last Saturday the Tech Ski team raced for the first time this year, competing against UCLA and Muir College. The race was

90 and Muir 67.

For Tech the outstanding performance was turned in by Jim Blom who finished second with a time of 66.4 seconds. Also in the top ten were Sage Burrows, sixth; Bill Bradley, eighth; Marv Blair, ninth; and Bud Schurmire, tenth.

The next race is scheduled for January 31 with Tech as host. Competing will be PCC and Pomona. On February 28 Tech meets Muir again and USC. On April 3 and 4 all eight teams meet at San Gorgonio to compete for the S.C.I.S.U. trophy.

	Tech times:
Blom	66.4
Burrows	77.0
Bradley	80.0
Blair	83.0
Schurmire	88.0
Bardiner	91.3
Price	93.2
Mason	100.0
McKenny	103.7
Carus	129.9

Tech Man Places On All-State Team

Although the San Francisco Olympic Club water polo team dominated the San Jose State College All-Opponents' water polo team, according to the selections released yesterday by Charles Walker, Spartan water polo mentor, Caltech had representation in the person of Bill Harris, Beaver back.

The Winged "O" team placed four men on the first team. Selections included Woody Woodman, Pete Peterson, Nick Popovich and Dick Richards. University of California placed Stan Morkett and Dale Webster on the first team.

The Indians dominated the second team as four Stanford men were selected for the second squad. The Golden Bears placed two and Cal Aggies rounded out the team with one member.

Members of the San Jose State varsity selected the three teams and were high in praise of the strong Olympic Club team.

The selections:
First team:

Goal Woodman—SFOC
Back Peterson—SFOC
Back Popovich—SFOC

Back Webster—UC
Forward Morkett—UC
Forward Borchers—Stanford
Forward Richards—SFOC
Second team:

Goal Hester—Stanford

(Continued on Page 6)

Prospects of a successful season are good providing Preisler can find a couple of good pitchers.

All men who are interested in playing be sure to attend the organization meeting Friday at 11 a.m. in the athletic office.



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BEAVER FIVE ROLLS OVER OXY

FROSH CASABAMEN LOSE TO TIGERCUB QUINTET

The Occidental Tigerbabes rudely jolted any designs the Caltech Frosh had on occupying the Freshman league leadership by shellacking the Beaver juniors, 47-29, last Friday night.

Playing the entire game with a sizeable lead which they quickly obtained in the opening minutes of play, the Oxy boys were never threatening. After Oxy chalked up an 18-6 lead, Bud Freise, teach forward, grabbed 4 quick points for the Frosh with a long court shot followed by a neat key shot. While the Tigers were pushing four baskets through the hoop, Frosh center Thorne Butler made good a free-throw to end the initial half, 26-11.

Oxy Continues Scoring

Opening the second half, forward Al Sereno hit the hoop for a beautiful side shot after Freise made a gifter. Sereno came through with another pair of field goals while the Tigers were making three buckets, and then retired from the game on five personal fouls with the score at 34-20.

From then on the Oxy Frosh made constant use of their reserve strength while the Techmen tried vainly to close the gap. Dick Brewer ended the fray making a free shot, and the score 46-29. Center J. Tunney for the Occidental squad led the scoring with 15 points.

Lose to Pepperdine

The succeeding evening saw the Pepperdine Freshmen readily hand a 79-30 defeat to the baby Beavers. For a short while it appeared that the Waves might be in for a rugged tussle as the Frosh tied the game at

two-all and four-all on a tip-in by Butler and a couple free throws from Al Sereno.

Dick Brewer made the scoreboard read 6-5 after Wave forward Boyd dribbled through the key for a lay-in. The rest of the first half witnessed a scoring spree on the part of the eager Waves, who dropped 40 points through the hoop while Brewer made two long baskets and a short key shot and Freise made good a gift shot. Halftime score was 46-12.

Second String Comes in

Beginning the final stanza with their second string, the Peps ran the score to 51 points before Butler made a free throw, followed by corner shots by Freise and Sereno. High scorer of the night, Wave guard Goldstan, pushed the score to 59-18 as Brewer made another side shot and Butler a tip-in.

The Wave score jumped to 69 thanks to Goldstan and Leppard, Wave first-string guard, who made 18 points during the contest. Two accurate shots by Freise, one by Butler, and a gifter by guard Ray Greutert accounted for the last of the Beaver scoring, and the game finally ended, 79-30.

The "down-but-not-out" yearlings meet the Redlands Bulldogs tomorrow evening at the Armory. Game time is 6:45.

Scoring:

Caltech (29)	Occidental (47)
Freise (8)	Goss (10)
Sereno (6)	J. Wheaton
Butler (7)	C. Tunney (15)
Brewer (6)	G. T. Wheaton (1)
Greutert (1)	G. Lawson

Half-time score: Occidental, 26; Caltech, 11.

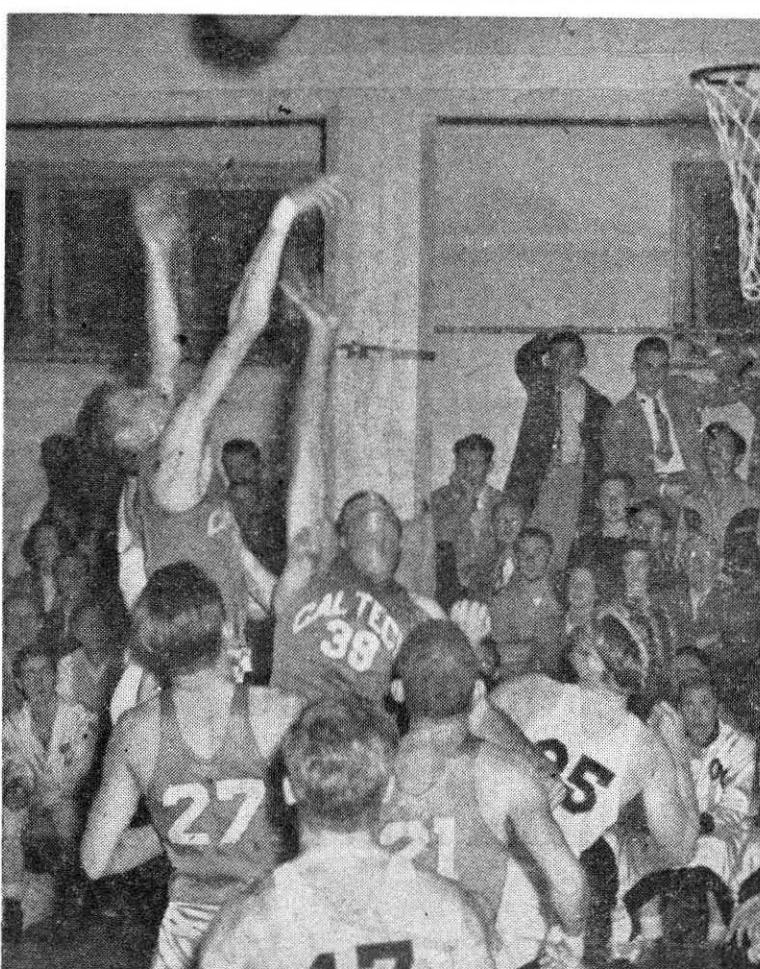
Scoring subs: Caltech—Kamei, 2; Occidental—Rheinschild, 1; Graham, 2; Valentine, 5; Kellogg, 9; Patch, 4.

Caltech (30)	Pepperdine (79)
Freise (5)	Boyd (3)
Sereno (3)	F. Grosenour (12)
Butler (10)	C. Furlong (9)
Brewer (11)	G. Montgomery (6)
Greutert (1)	G. Leppard (18)

Half-time score: Pepperdine, 46; Caltech, 12.

Scoring subs: Pepperdine—Terrel, 2; Harline, 2; Wood, 1; Walker, 2; Goldstan, 22; Phillips, 2.

Beaver Sports



CASABA CAPERS—Guard Bob Stokely (no number shown) and Center Paul Saltman (38) go up to nab the ball in Oxy game, while Bowen (27) and Furth (21) help. Tech was victorious, 57-54.

Frosh Sports Roundup

—By Earl Hefner

Ed Preisler, Caltech's recently acquired Freshman football, basketball and Varsity baseball coach, was associated with some pretty fine teams in his undergraduate days at San Diego State. The ex-Aztec star earned letters in all three major sports while at the harbor city school, and was outstanding in each.

Nationals Three Years

The ex-Navy lieutenant relates that the 1939 Aztec team participated in the National Intercollegiate Basketball Tournament in Kansas City and won all their games with comparative ease except when they reached the finals and were victims of Southwestern Kansas. The following year was just the reverse, when San Diego narrowly squeezed by each opponent up to the finals by small margins. In the semi-finals Preisler, who played first-string forward for the squad, won the game on a field goal in the final five seconds of play. However, the California boys

again lost the pay-off contest in what was the Frosh coach's final basketball game for S.D. State. Preisler adds that the next year the Aztec squad took the Kansas City championship—without his services.

On the trip east in 1939 the team members made use of their spare time on the train by making believe they had a dog named "Jack," and kept their fellow passengers in doubt as to the existence of "Jack" the entire journey. When the team returned to K. C. the next year, they carried a leash at all times for the unseen dog, which came to be their good-luck "charm." Superstitious? What true sportsman isn't the slightest bit superstitious?

Frosh Basketballers

Jumping to Preisler's present dilemma, the basketball squad, we find in reviewing the Frosh's first three games that high-scorer for the team is Dick Brewer with 28 tallies. Closely behind Brewer comes Thorne Butler with 25, followed by forwards Al Sereno and Bud Freise, 19 apiece; subs Hiroshi Kamei and Dick Libbey with 7 and 4 points respectively, and guard Ray Greutert with 4 to his credit.

After the game with Redlands tomorrow, which will be their second crack at a league win, the Beaverbabes meet the team that gave them their only win of the

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Hoopmen Win In 57-54 League Tilt

Techmen . . .

This issue marks the initiation of a new and enlarged sports section of the California Tech. The sports staff hopes that this new page will give Caltech athletics the complete and accurate coverage that they merit.

—Jack Scantlin,
Sports Editor.

It is questionable whether the Oxy cagers will profit by the lesson in basketball given them by the Beaver quintet last Friday night, but one thing is certain—the 57-to-54 Tech victory definitely established the Engineers as title contenders in the forthcoming conference race.

The Tigers, boasting league victories over Pomona and Redlands and a 1-point non-league loss to Whittier, were on the defensive from the opening whistle. Big Paul Saltman led the Beavers with 21 points, and it was his deadly accuracy on pivot shots which kept the Oxy contingent in constant trouble. Ten of his points were scored in the first half as the Engineers grabbed a 29-to-23 lead at the intermission of their initial conference game.

Early Lead

Baskets by Saltman and Bob Stokely gave the Engineers an early 4 to 0 edge, and from that point on Oxy had an uphill battle on its hands. The Tigers did hold a brief 9-to-8 edge midway in the first period, but Ted Bowen's free throw tied it up and Jay Montgomery's swishing long shot put the Beavers out in front again. The remainder of the first half was all Caltech, with the Beavers at one time commanding a 27-to-17 lead.

The Oxy followers found one moment to cheer early in the second half when second-string center Jim Black put on a one-man rally, tossing in five straight buckets to give Oxy a 34-to-33 lead.

However, Bill Cox put Tech back in the lead with a 2-pointer, and Oxy was never ahead again. The Tigers did manage to tie the count at 42-all with 10 minutes left to play, but Saltman came through with a basket and three straight charity tosses, putting the Beavers ahead, 47 to 42.

Desperate Rally

Apparently unwilling to admit that their first league setback was at hand, the Oxy five fought back desperately in the last three minutes to cut the Engineers' margin to 53 to 52. Red Furth then arched a perfect left-hander from the corner and the Beavers led by three, but Bob Olsen, who was Oxy's leading scorer with 14 points, picked up a loose ball and drove it in all alone to make the score 55 to 54 in Caltech's favor. However, Bob Stokely sewed up the game for the Beavers with a shot from the back of the key-hole, and his mates stalled out the remaining 90 seconds, protecting their 57-to-54 lead.

SCORING

Caltech (57)	Occidental (54)
Bowen, 9.....F.....Berekoff, 8	
Furth, 7.....F.....Olson, 14	
Saltman, 21.....C.....Burton, 11	
Stokely, 10.....G.....Hawkins, 6	
Montgomery, 6.....G.....Gullixson, 3	

Scoring Subs: Caltech—Cox 4; Occidental—McLean 2, Black, 10

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Caltech Chemist Named To State Dept. Mission

Dr. Joseph B. Koepfli, California Institute of Technology chemist, has been appointed a member of the U.S. State Department mission on science and technology to England, with his wife and two children this week aboard the S.S. Queen Elizabeth.

Dr. Koepfli will be attached to the U.S. Embassy in London as a senior scientist for a period of one year as provided by the State Department when it was announced that such a mission was to be set up in England.

Mission New

This type of mission, something new for this country, was announced recently by the State Department and is the first provision made by the government to provide assistance to science and scientists at the diplomatic level.

Head of the mission will be Dr. Earl A. Evans, Jr., chairman of the department of biochemistry at the University of Chicago.

While small, the mission will cover all fields of science by means of a rotation of service whereby leading men in various scientific fields will be appointed for limited service of one year. In this manner all fields can be covered over a reasonable period of time. The initial staff, of which Dr. Koepfli will be a member, will include biochemistry, organic chemistry, physics, engineering, biology and agronomy.

Ph.D. at Oxford

Dr. Koepfli obtained his bachelor and master degrees at Stanford University and his Doctor of Philosophy at Oxford. Prior to coming to Caltech in 1932 he was an instructor in Pharmacology at the Johns Hopkins School of Medicine.

A great deal of his recent work at Caltech has been concerned with the study of anti-malarials and in collaboration with other Caltech scientists he recently announced successful extraction of two new anti-malarial chemicals, one of them 100 times as powerful as quinine. The chemicals were obtained from leaves and roots of a plant long known to the Chinese for its anti-malarial properties and called Ch'ang Shan. Its botanical name is dichroa febrifuga lour. Fibrefugine and isofibrefugine are the names given to the two new drugs by the scientists.

Former Caltech Man Honored With Award of "Medal For Freedom"

Alex E. S. Green, instructor in physics at the University of Cincinnati, has been awarded the Medal For Freedom, University authorities announced recently.

Green received his M.S. from Caltech.

The medal, presented to Green by Gen. Joseph T. McNarney at Wright Field, Dayton, Ohio, honors Green's work as an operations analyst with the 20th Air Force.

A member of the crew of a B-29 photo airplane on one of the longest and most hazardous reconnaissance flights of the war, Green used a ship-length computer which he had devised and helped identify major units of the Japanese fleet lying in the Kure anchorage.

"As a result of this flight," the citation declares, "the U. S. Navy made a highly successful attack on the enemy fleet."

Although Green had been drafted into the Army and technically held the rank of private, he essentially served in a civilian capacity; for immediately after induction he was placed on special status as an operations analyst and sent overseas on a technical assignment.

A graduate of Brooklyn Technical High School, Green received his B. S. degree from the City College of New York in 1940. Currently he is working for his Ph.D. degree at the University of Cincinnati where he is an instructor in physics in the university's College of Engineering.

TECH MAN PLACES

(Continued from Page 4)

Back	Armstrong—Stanford
Back	Manariaga—Cal Aggies
Back	Marver—Stanford
Forward	Lull—Stanford
Forward	Widman—UC
Forward	Shutt—UC
Honorable mention:		
Goal	Nixon—UCLA
Back	Ward—SFOC
Back	Harris—Caltech
Back	Davis—Cal Poly
Forward	George—Cal Poly
Forward	Cousins—UCLA
Forward	Cashin—SFOC

MITTENTHAL GUESTS

(Continued from Page 3)

the latest. Friday the 13th is rumored to be National Sorb day at assembly. Your attendance will give you a much clearer idea on the subject as we don't know any more about the Sorbs than we did before the interview with Pope Mittenthal.

THE CALIFORNIA TECH

CAGERS FACE

(Continued from Page 1)
first will necessarily get the best seats.

Frosh Play

Another good reason for an early arrival is that each varsity game this season will be preceded by a frosh contest. The Beaver frosh dropped their first league tilt to the Tigers but had an off night in the unfamiliar Occidental Gym. The team boasts plenty of height and experience and should come along nicely from now on. The Redlands frosh, however, have scored an impressive win over the potent Whittier youngsters and should rate a favorite's role. Both teams have been low scorers in games thus far, however, but the Bevobabes showed in one contest that they have the stuff to score 60

points in a game if they are "on."

Probable starting line-ups for the Varsity contest:

Caltech	Redlands
Bowen	F. Rosenberger
Furth	F. Parker
Saltman	C. Leonard
Montgomery	G. Bell
Cox	G. Raine

Probable starting Frosh line-up:

Caltech	Redlands
Freise	F. Hammer
Sereno	F. Conley
Butler	C. Roche
Brewer	G. Stevens
Greuter	G. Casey

Conference Standings

	W.	L.	Pct.
Whittier	2	0	1.000
Caltech	1	0	1.000
Occidental	2	1	.667
Redlands	0	2	.000
Pomona	0	2	.000

EPHEMERAE

(Continued from Page 2)

Oddity

Sports oddity of recent weeks was the defeat of the Marshall College quintet by San Diego State. The Aztecs had powerful quintets back around '40, when Ed Preisler was there, but have not been too noted recently; the Herd of Marshall College (West Virginia) took last year's national championship, winning one game 113-80 to do it. They showed amazing recuperative powers out here in the L. A. Invitational, when they came from behind in three games to win in the last minute, and took the tourney championship, beating Syracuse 46-44 in the finals.

So when the Herd and the Aztecs met, Marshall was the top heavy favorite, having won the

L.A. meet only a few days previously. But when it was all over, the score was San Diego 56, Marshall 23.

Explain it? You can't. It's just one of the things that can happen in sport. In basketball, perhaps more than any other sport, this possibility of upset is always present; it may account for some of the tremendous popularity achieved by the sport that annually attracts more spectators in the United States than any other.

YOUR CAMPUS

(Continued from Page 3)

U.S. has shown a big field is opening up in physics, concerned with the properties of mesotrons; and that the understanding of their properties will be very useful in furthering our understanding of the Nucleus.

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