

California Institute of Technology

Thursday, December 8, 1949

Volume LI.

No. 10

Tau Beta Dinner Initiation Scene

"Opportunities for Scientists in Government Weapon Research" and "Gadgeteering" were topics of the after-dinner talks given by the two Tau Beta Pi alumni initiates at the traditional Tau Beta Pi post-initiation banquet held last Friday.

Over 150 undergraduate, alum-
ni and graduate members of Tau
Beta Pi, national honorary engi-
neering and science fraternity,
attended the banquet held at the
Athenaeum. A 15-minute skit
was also presented by the 19 un-
dergraduate initiates after the
dinner.

New Alumni Members

The two new alumni members were chosen on the basis of their outstanding records of achievement in engineering. Mr. Lewis was president of the Alumni Association last year. Dr. Woolridge is a research associate in electrical engineering on the campus and is in charge of the electronics division of Hughes Aircraft Company.

Dr. Woolridge spoke on the advantages and disadvantages of working for the government, particularly in the field of military research. He brought much of his background and experience as an expert in jet research sponsored by the government to bear on the question.

Red Tape

According to Dr. Woolridge, and contrary to popular belief, there are a great many very capable officials in government service. However, once in a while a situation arises where an official who does not know how to handle the intricate machinery of official procedure gets things balled up in red tape. Dr. Woolridge's advice to the scientist or engineer in government service when he is confronted by this situation, is to just be patient and wait matters out.

Government Research

Dr. Woolridge also mentioned the greater opportunity for the man who enjoyed making a better gadget in government military research than in private industry. Private industry, according to Dr. Woolridge, considers economic factors much more than government research, where the effectiveness of the weapon or

(Continued on Page 4)

Y Sponsors Yule Concert

Beethoven's Quartet No. 18, No. 2, carols and Christmas music, will be featured on a YMCA Christmas Vespers program. The program will be held Sunday, December 11, at 3:30 p.m., in Dabney Hall of the Humanities Lounge.

Vern Edwards, publicity manager of the Caltech Y, made the comment that, "After an afternoon of snaking for finals it might be relaxing for students to drop over for a short program of Christmas music."

Repeat Performance

The same type of program was held last year and is being repeated because of its success. Again Dick Buck, '50, is in charge of the Christmas Vespers program. For the past couple of years Dick has done considerable work in the direction of religious emphasis in the Caltech Y. He has also helped in relating the Y's associations with the neighboring churches.

Everyone is invited to attend. Students are encouraged to bring their girl friends to this Vespers program which will last less than an hour.

Campus Calendar

THURSDAY, DECEMBER 8
12:00 Y Upperclass Lunch Club
12:00 Throop Club Meeting
7:15 ASCIT Board of Directors Meeting in Lower Fleming
7:45 Dancing Class in Culb.
FRIDAY, DECEMBER 9
7:00 Frosh Basketball vs. LaVerne at LaVerne
8:15 Varsity Basketball vs. LaVerne at LaVerne Lounge

SUNDAY, DECEMBER 11
3:30 Y Christmas Vespers in Culbertson
7:30 Caltech Musicals in Dabney Lounge
MONDAY, DEC. 12-FRIDAY, DEC. 16
FINALS—Moan!

OPEN BOOK TEST?



Empty Wallet Troubles?

Cars are expensive enough to keep without trying to beautify them with little white slips marked "First Notice." Buildings and Grounds Committee has collected a bit of common sense in the form of parking rules. Their observance will help to make our campus all the more an oasis of ice-plant in the midst of Pasadena desolation and barbarism.

No Elephants

Please do not keep elephants in your room. Likewise, B&G would like to have cars and bicycles only in places designated therefor.

Please don't overhaul locomotives in the student house kitchenettes. Also, no washing, repairing or overhauling of cars is permitted on campus except in the spaces provided for such operations near the student shop.

The parking lot immediately South of the Athenaeum is exclusively for temporary parking of not over three hours by members of the Athenaeum and their guests. In no event is this lot to be used for all day or overnight parking.

The clock will not be watched in Tournament Park. You can stay for as long as you like.

CAMPUS PARKING RULES

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- No washing, repairing or overhauling of cars is permitted on campus except in spaces provided for such operations near the Student Shop.
- The parking lot immediately south of the Athenaeum is exclusively for temporary parking of not over three hours by members of the Athenaeum and their guests. In no event is this lot to be used for all day or overnight parking.
- Parking in the Tournament Park parking lot is permitted at all hours.
- Parking on the rest of the campus (including driveways) will be allowed only in regularly assigned places for which a parking fee of \$1.50 per quarter year or \$0.75 per year, has been paid in the business office.
- Parking space assigned to an individual, so marked, is for his exclusive use.
- At various places on the campus certain areas are designated for temporary parking not in excess of 45 minutes.
- If a regularly assigned space is occupied by an unauthorized person the owner of this space may park his car in one of the emergency parking spaces. The owner should notify the Buildings and Grounds Department that his space is occupied.
- All cars parked on the campus must have the owner's name in plain view as required by law.
- Persons violating any of the above rules will be assessed a \$1.00 fine for each first violation and a \$2.00 fine for each subsequent violation.

Two Y Firesides Conclude Term

Two very enjoyable Y Firesides were held at homes of Dr. Mel Brockie, and Dr. Fred Lindvall last Sunday evening.

Final Firesides

These are the last Firesides for this term but plans are underway to expand the Firesides program after Christmas. The first gathering scheduled is at the home of Dr. Carl Niemann on Jan. 8th.

If you haven't joined in this term, you are missing some fine evenings. To sign up add your name to one of the lists posted in the houses or in Throop.

Wanta Live In Student Houses?

Don't give up hope! If you are on the waiting list for entry to the student houses, your chance may be drawing near.

Cupid and the deans keep thinning the ranks of those waiting to enter. You, too, may be able to live, now, amidst hell and high water.

Even if you are not signed up now, there is still hope. Sign up as soon as possible by making application at the office of the Master of Student Houses in the basement of Blacker.

One Hour To New York City

"Lv. New York 10 a.m. EST; arr. Los Angeles 9:00 a.m. PST"—such would read the timetable of the transcontinental rocket ship recently envisioned by a Caltech professor.

According to the predictions of Dr. Hsue-Shen Tsien, Goddard Professor of Jet Propulsion at Caltech, made at a meeting of the American Rocket Society in New York, it is theoretically plausible that a one-hour trip across the country will be possible at some future time.

10,000 M.P.H.

Such a rocket would follow a circular path upward for about 1200 miles, then glide for 1800 miles reaching an altitude of 27 miles and maximum speed of nearly 10,000 miles per hour. The landing speed, however, would be only 150 miles per hour.

The rocket would have a length of 80 feet and a diameter of nine feet; it would possess small wings, and its takeoff weight would be 50 tons, of which 37 tons would be fuel. This fuel would be a combination of liquid hydrogen with either liquid oxygen or fluorine, and there would, of course, be no difficulties in cooling with this type of fuel.

Commuting Possibilities

Commuting daily by means of such a rocket ship would naturally be financially impossible for the business man, since only a few passengers could be carried on one trip and the costs of the fuels would be tremendous. With mass production of the liquid gases, however, such a transportation system might be feasible.

Dr. Hsue-Shen is a native of China, and received his doctor's degree for Caltech in 1939. He previously held the positions of members of the Air Force Scientific Advisory Board and M.I.T. Aeronautics professor, before coming to Tech this summer in his present capacity.

Institutors Serve At Dance and Meet

Last Saturday saw the Caltech Institutors busy at the Riviera Country Club, decorating for the big Christmas formal. A splendid job was done by them in preparing the clubhouse for the dance.

Another group of Institutors was active during the morning of the same day in Tournament Park, where the conference cross-country meet was being held.

Those who served as spotters for the meet were kept busy noting numbers and guiding the runners. Our thanks to them for a swell job!

Techmen Begin Finals, Vacation

Weekend To Be Marred By Snaking; Students Prepare For Holiday Travel

By Mike Sellen

With many a heartfelt sigh and backward glance it was generally conceded in most quarters that the fall term had slipped away, and the inevitable, dreaded vacation would shortly be forced upon all. There is little in such an outlook to bolster student morale, and only the brightening prospect of a week of finals pierces the resulting gloom.

The campus attitude was reflected perfectly in a statement made earlier this week by Mr. Edward Revay, of the class of 1950, who said: "I just love finals, really I do. I find the constant challenge that they present to the mind a refreshing and invigorating episode. At their conclusion I feel rededicated to the cause of Science. It is with a very profound and soul-stirring experience."

These statements were vigorously applauded by Mr. James Hendrickson, also of the class of 1950, who added further: "During the term many small points arise in my studies which remain unanswered to plague me. The Christmas vacation affords an excellent opportunity to clear up these small points, to work the supplementary problems, and delve into the side references. I also have a chance to revise and copy my lecture notes into permanent form."

Meanwhile official statements from forces on high in Throop announced that "a student petition . . . to resume classes one day earlier on January 2nd . . . has been denied." "These offices," it continued, "realize fully that in the course of the vacation many noses will be thrust both oft and deeply into the flagon. In a spirit of mercy the Institute pledges that its employees will wear rubber-soled shoes, that Bromo-Seltzer and aspirin dispensers will be conveniently located about campus, and that secretaries will be instructed to type softly on the morning of January 3rd. Therefore Merry Christmas, and indeed, a Very Merry New Year."

Assignments

Vern Edwards will be editor of the "Cypress," the daily news sheet. Dick Buck will play the piano for the choir, and Leo Baggery is co-head of the housing group of which Dick Libbey is a member.

Mature Persons

The main theme, "How to Be Mature Persons," will be ably discussed by speaker Malcolm Dana, while Muriel Lester will head worship services. Discussion groups of about 20 fellows and girls will rehash the daily bill of fare. Tech is furnishing four discussion leaders in F. Drury, J. Lewis, R. Lovberg, and S. Sweet.

Good food, comfortable accommodations, and plenty of recreation are added features of the conference which gives promise of being a very enjoyable and satisfying experience for all concerned.

Tech Delegates

Other members of the delegation include Wes Hershey, faculty advisor; Bob Crichton, Y prexy; Pete Knoepfle, delegation chairman; M. Bader, S. Bhanji Deo, D. Daily, B. Engholm, J. Fee, B. Haefliger, J. Harlan, R. Khachaddorian, A. Hoover, F. Ludwig, M. Lourie, J. Mantle, J. McEwing, R. Mesara, P. Orville, M. Pollack, S. Stone, J. Wilkening, C. Andrew, B. Housman and W. Eager.

Schmidt 'Scope Sights Comet

A new or lost comet was discovered recently from Palomar Mountain, it was reported here last week.

Planet Suspected

Although a minor planet was first suspected, subsequent photographs disclosed a tail. Although the object is invisible to the naked eye, it is yet uncertain whether it is a sizeable comet at a great distance from the earth, or a smaller comet closer to us.

The comet was identified by Dr. Albert G. Wilson and his assistant, R. G. Harrington, on one of the first photographs made by the giant Schmidt telescope in connection with the National Geographic Society's photographic survey of the universe.

Survey Delayed

The survey, scheduled to have been started several weeks ago, has been delayed because an initial set of \$14,000 worth of special camera plates had to be reprocessed.

Before the five-year survey is completed, it is expected that the 48-inch Schmidt, largest telescope of its type in the world, will chalk up a long list of discoveries of which the comet is the first.

Schmidt Possibilities

Many astronomers believe that the Schmidt, designed to be a scouting instrument for its larger companion, the 200-inch Hale Telescope, is destined to make more discoveries of popular interest than the latter during the ensuing year. The 200-inch is about ready to be placed in regular operation following the final

(Continued on Page 6)

What Do You Think?

This issue of the California Tech represents the final issue of the present term, and the tenth under the leadership of the present editors of the Tech.

With an eye to constant improvement of this paper, the staff has not only received with rapt attention any and all criticism of the Tech, but has incorporated several reader-born ideas into the paper throughout the term.

In the last regular week of the Spring term of the preceding scholastic year, a brief questionnaire was given Student House members (lack of time prevented the questionnaires from being issued to off-campus students), and such questions as "Would you like to see any changes in Campus Brewin's," "Are you satisfied with the sports news," and "Would you like to see more editorials on student body problems," were asked.

Granted that no distinct conclusions could have been drawn as representative of the entire undergraduate opinion, the editors have attempted to employ many of the majority opinions into this year's newspaper.

The California Tech is the official news organ of the Associated Students of the California Institute of Technology. As such it is the purpose of the newspaper not only to make news of the student body known, but also to do so in a manner which is satisfactory to the student readers, keeping in mind the bounds of common decency, journalistic integrity and accuracy. Student opinion may be expressed in the paper through the editorial page, either by letter or by editorial. The Board of Directors of the ASCIT can, through the paper, determine to some degree existing student opinion on issues vital to the student body.

Only through student criticism can the staff determine, for example, which features are being read and enjoyed. Each feature column attempts to serve a distinct purpose, and if "Potpourri," "Campus Brewin's," or any other columns fail to maintain reader interest, then we would like to know this, and the columnists would like to know this.

Only through continued constructive criticism can the staff hope to steadily improve the content, style, and tone of the Tech. We rely on you, the reader, to help us make your paper in the form you wish it.

Secretary's Report

Minor Sports

For some weeks now, the ASCIT Board of Directors has been formulating a set of regulations that would both suit the Athletic Council and the Student Body concerning the application for recognition of new minor sports.

After much discussion of the matter, the following recommendation was approved by the Board on November 18 and was submitted for consideration at the following meeting of the Athletic Council.

Last Monday, Dec. 5, the Athletic Council formally accepted the recommendation and voted that henceforth applicants for recognition of new minor sports shall conform to the following regulations:

- 1) A request for granting of conditional probation shall be submitted to the Board of Directors of the Corporation and to the Athletic Council at least one month previous to the opening of the competitive season in that sport.
- 2) The following information shall be included in the application:
 - a. Expected minimum number of men out for the sport at any one time.
 - b. Approximate dates of competitive season.
 - c. Weekly hours of practice.
 - d. A statement of available coaching and instruction, including names of coach and/or instructor, and approximate weekly hours during which they will be in charge of practice.
- 3) At the time of application, agreement will be reached between the applicants and the Physical Education Committee as to the granting of physical education credit to men out for the sport.
- 4) Upon approval of the request by the Board of Directors and the Athletic Council, scheduled intercollegiate competition shall be carried on in the sport for two consecutive yearly seasons, during which time the standards set down in the original application shall be strictly complied with. A schedule of competition shall be submitted to the Athletic Department before the beginning of each competitive season.
- 5) At the end of the second season of competition, final application for recognition of the sport as a Minor Sport shall be made to

(Continued on Page 4)

Potpourri

By Bob Crichton

It has often amazed me that P.E. isn't entirely under the Honor System. I understand from some of the men who were here before the war, that P.E. used to be under it, and I think that we ought to go back to that arrangement.

* * *

The grapevine has informed me that, during the thick smog last week, Dr. Wiersma, of the Biology Department, wore a gas mask.

* * *

With finals almost upon us, there is a rising wail from the freshmen; each one sure in his own mind that he is going to flunk out.

I got tired of hearing these predictions of doom, and I decided to get some facts. I consulted Mrs. Haynes in the Registrar's office and asked her, "Just how many frosh usually flunk out at the end of the first year?"

She told me that the average over the last three years is 3.667 men per year.

* * *

I am sure that the frosh will be glad to hear that "The Powers That Be," priding themselves on their sound judgment, hate to flunk anybody whom "They" have admitted.

An earnest effort is made to admit only those students who can make the grade.

I've noticed that those who leave, voluntarily or involuntarily, either see greener pastures in another field, or are unwilling to work at all.

* * *

There has been a great deal of activity on California Street recently. It appears that the L.A. Department of Sanitary Engineering is investigating the campus. I have it strictly second hand that a new junior college is being built somewhere down by Long Beach, and there is a big unknown, namely, how big should the sewer pipes be. They decided to measure Caltech's output, count the number of people, and solve the equation. I have yet to obtain their answer, which ought to be an interesting bit of information.

* * *

I understand from the Drosophila flies in the Biology Department that Dr. Beadle and the research fellows in that department like to apply their learning in the waters off Corona Del Mar.

Earlier this fall, they went on a spearfishing expedition. There were two of the research fellows (Markert and Teas) who seemed to have developed rudimentary gill-slits. They alone caught the entire day's catch of over 50 pounds of fish.

Dr. Beadle, while transferring from the rowboat to the larger boat, hit his head against a chain and jabbed a sizeable hole in his chin. Other disasters struck. One of the crew became seasick; the anchor rope broke, and a nearby fishing boat rescued them just as they were drifting onto the rocks.

* * *

Have you ever been stuck with a professor who lectures

CAMPUS BREWINS

Feeling about as cheery as the menial who picks up the empty bottles from the golf course of the Riviera in the burning Sunday sun, we hasten to capture you, the Troops, with 45 inches of scintillating prose. A not-too-kind comment was overheard by us the other day, re said prose. It's too good to be original, but this boor's conjecture was that we wrote it as if there were a rodent asleep against the type of our typewriter, and that we were only hitting those keys that wouldn't disturb it. S.P.C.A. take notice.

The "never-miss-a-social-function" diehards climbed into their ram-jet dogcarts for the cross-town hegira to the Riviera and, inevitably, the usual few had monumental trouble getting there.

As Corbato picked up his blind date, a scant two hours late, he plausibly advanced the theory that it was all the fault of his dilatory transportee, D. Royce, that the punctuality routine was so hammed up. Royce sheepishly trotted forth some fantastic tale to the effect that his date had met the chief engineer for Byron-Jackson (ME's take notice!) at a dinner party earlier that evening, and that she and the Chief had become so engrossed in a discussion of pumps (hydraulic, not dancing) that it had become impossible for Royce to get her there on time. Corbato's date, an SC girl of yesteryear, smiled a worldly, unbelieving smile.

A much more inspired, if no more credible tale was offered by Marv Hyman and Chuck Walker, when they sashayed into the Riviera shortly after midnight. Hyman and Walker, it seems, hurtled forth from the Mediterranean-styled Dwelling Machine about 2115, all set to be stylishly late for the ball. Chuck dropped Marv off at his house to clamber into his tux, and departed to do likewise. The unhappy Hyman soon discovered that his menage was securely and irrevocably (by him, at least) locked. Casting wildly about for a more comfortable antler to this dilemma, he thought of his old (but up to now uncultivated) buddy, Leon Eddelson, who lived but a mile away, and who might possibly own a cadgab tux. A short but weary time later Hyman faced a mother who was valiantly protecting the health of her sack-enclaved scion, as he rested up for an early Sunday field trip.

Rising to hitherto unplumbed depths of eloquence, Hyman

on after the final bell? Well, if you have, then you might be interested in starting a new tradition at Caltech. At Cambridge University, England, if a professor lectures on beyond the hour, the class begins applauding until the prof. catches on to the fact that his time is up.

* * *

About 90 faculty and graduate students were at the Y luncheon last week. Dr. Munk of Reed College, a native of Czechoslovakia, gave a fascinating talk on the conditions within that country. He spent six weeks there this summer, and he is one of the best-informed persons in this country on the Czech political and economic situation.

eventually found his six-foot one-inch self in (almost) a sleepy five-foot four-inch Leon's glad-garment. He hurried home, there to find two perceptibly irritated girls and a resigned Walker awaiting him. After enjoying his 45 minutes of dancing, Walker thoughtlessly (?) deposited Hyman on the same slightly-less-than-hospitable doorstep of his home, and left for Tech. The story here grows too sad to tell, but let it suffice to say that Hyman found it necessary to come back to CIT with a well-rested, radiant Eddelson at the charming hour of 0600 Sun. morn. . . . and then, there's Prussian acid.

And then, too, there's Willis, who found himself (and, oh happy day, his Crown jewel) at the Pacific Ocean, accurately enough, but well removed from that portion adjacent to the Riviera.

Saturday night found the Res. Assoc. side of our civilization well represented. The Otter (both he and MacKenzie having been ached out by a newcomer, R. Stone, for the company of the fair Agnes) made his contribution to society by bringing the Gloria Murphy for the troops to gaze upon. She was seen joshing (!) Georgie Smith as he stood, his boyish face blushing at the consciousness of his own wickedness, at the corner of the bar. Norm Bulman was the unwitting cynosure of all eyes on one of the darkened balconies, and the memories of his scandalous behavior are doubtless what caused him to demolish three (3) priceless pieces of equipment during his session in the lab on the following (and black) Sunday. Another interesting balcony maneuver was effected by Roger Baier, who enjoyed a tête à tête (klonk!) with a new feminine acquaintance. Gene Spencer, who at least arrived and left with date, was not seen the entire evening—on the dance floor, in the bar, or on the bar floor. Trivia: Gene has a Nash.

Drury, who was dancing at arm's length and chatting philosophically with his Schipfipps date, defends this notorious conduct with his ideal that one should date women with intellect and the ability to support her end of a conversation (if nothing else). Fred apparently had found his ideal, so we were surprised to hear him sad over the fact that he couldn't kiss her good-night . . . The bitter with the sweet, etc.

The Dabney Dutchman was present with old faithful, Jeanie King, who loves to see her name in print. She spent much of the evening happily flitting about

(Continued on Page 6)

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The Front Burner

American premiere of "The Trial" focuses the spotlight of attention on Pasadena Playhouse for the December 7th opening of Jacqueline and Frank Sundstrom's adaptation and translation of the Andre Gide-Jean Louis Barrault dramatization of Franz Kafka's celebrated novel.

Andre Gide-recent Nobel prize winner and Jean-Louis Barrault's original dramatization of "The Trial" was the sensation of the play season when presented in the French language to Paris audiences this fall.

The Sundstrom translation of the novel, now in its eighth printing, is the first successful English version of the Kafka masterpiece. Added attraction of the Playhouse production is the elaborate two-level sets designed by famed Broadway scenic designer, George Jenkins.

Following its Pasadena engagement, "The Trial" goes to the St. James Theatre in London, with Frank Sundstrom directing and playing the lead role, as he does at the Playhouse. From Europe the play returns to America for a Broadway showing.

The cast of 85 is headed by Frank Sundstrom, John Wengraf, James Craven, Eve McVeagh, Irene Seidner and many others.

Musical Concert

Sunday night, December 11,

7:30 p.m.

Dabney Lounge

PROGRAM

Prelude to Act I,

LohengrinWagner

Sinfonia Concertante...Mozart

(For violin and viola,

with orchestra)

Symphony No. 7

in C MajorSchubert

EVERYONE IS INVITED

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FOR MEN

at

Open Evenings

Christmas



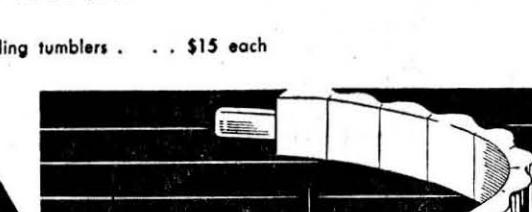
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ON THE RECORD

Guest Reviewers
FRED WOOD and
JIM HENDRICKSON

Music has given birth to a new child, or at least some classify it as such. Others claim that it is only a natural outgrowth of that which has gone before—and they are probably both right.

Be-bop Spoken Here

To be conservative one might say that jazz has gone just one step further in the last few years and this additional step has been named be-bop. There is no doubt that in many ways be-bop is most difficult to distinguish from any other form of "jazz."

If we were to consider that everything from dixieland thru the progressive music of Stan Kenton could be included under the confusing title of jazz, then we could immediately find similarities of these other forms with that of bop. We could compare the soloing and individualistic styles with Chicago jazz and some of the harmonies and chords with that of the progressive jazz form.

Still and yet, bop being a culmination of all this, at the same time has definite characteristics which set it in a class by itself.

Understanding Necessary

To appreciate bop one has to have a feel for it, moreover one must understand it. To understand bop one must accept it as a medium of self expression whose freedom is seldom musically equaled. But how is this freedom achieved and what in particular makes bop distinctive from other forms of "jazz"? Is it the rhythm, harmony, or structure? It is all of that and more.

Consider the average modern song, written with harmonics or chord sequences, a melody and steady consistent rhythm. In Dixieland they would syncopate the beat, use all of their instruments for a majority of the piece with relatively few solos. Their chords and chord changes would follow closely the original song and even the melody would be somewhat maintained.

Evolution of Bop

The evolution of the Chicago style brought the elaboration of the dixie pattern with emphasis on more solo work after the original harmony and melodies had been established. In bop, this is carried still further.

In the first chorus the theme is in general established using the complete instrumentation with more chord changes and the melody often not played as originally written. From there on the differences become more noticeable. The harmony changes might come as often as four, rather than one to the measure, the chords characteristically being of a more complex nature.

Soloists Accent

This is accentuated by the soloists who take advantage of long chromatic runs, accenting the upbeat which produces the unique bop sensation. The soloist thinks in terms of long phrases often disregarding the consistency of normal rhythm with respect to the single measure. His solo is a series of feints and dodges against the steady background of the rhythm section. Thus, each of these unique features of bop, such as the more frequent and complex chord changes and the greater opportunity for rhythmic variations allows the freer expression of the artist's imagination.

"Au Naturel"

Certainly the best way to understand bop is to hear it in its natural setting—in a small night club where musicians gather to play and to listen not for pay, but purely in jam session for love of their music. Such a club is the "Showtime" on Ventura Blvd., near Sepul-

veda where continuous sessions occur every Monday night. The musicians just drop in and there are always several to spare. The crowd is loose, the players punchy. The atmosphere is the personification of casualness. The musicians rarely sit or stand, they sort of lean. The first impression of the music is a fast, liquid rhythm that seems to flow from all the instruments and fill the room. The insistent quality of this rhythm is as compelling as it is difficult to describe.

You Have to Hear It

We cannot stress too much, that there is a certain very distinctive emotional quality about bop which once heard leaves the definite impression of a unique music from which is difficult to explain. When we asked a bop musician to explain, "just what makes bop different," he could only tell us, "I don't know exactly, you just feel it." Probably no amount of verbal analysis can ever serve to distinguish "bop" from other forms of jazz, it must be heard, preferably directly from the hands of the musicians in a spontaneous session to be appreciated.

Bop Recordings

In closing, however, it might be noted that some recordings are excellent. Many of Norman Granz's "Jazz at the Philharmonic" series catch the spirit. The album "Bop for the People" by Charlie Ventura is an interesting, but only moderately successful attempt at a musical explanation of bop. Among the top-flight musicians are such names as Dizzy Gillespie and Howard McGee (trumpet), Dodo Marmarosa and George Shearing (piano), Charlie Parker and Sonny Criss (alto sax), Illinois Jacquet, Coleman Hawkins and Charley Ventura (tenor sax). Nonetheless better bop may frequently be heard in small spontaneous sessions of unknown musicians than on the recordings of such name artists as these.

But don't be discouraged if bop doesn't come easy—many of the best musicians have difficulty really understanding it. Just give it a chance and in doing so you will discover an appreciation and respect for its place in the world of music.

Who Dealt This Mess

BY CARL FOX

Caltech is one of the more than 300 colleges invited to compete in the 1950 National Intercollegiate Bridge Tournament. Invitations and entry blanks were received last week by college officials from Kenney L. Ford of the Intercollegiate Bridge Tournament Committee.

Undergrads Only

Only undergraduates are eligible to play in the duplicate Contract Bridge event for the title and trophy. A preliminary round will be played by mail in February, and the sixteen highest ranking pairs will meet for the face-to-face finals at the Blackstone Hotel in Chicago on April 21 and 22, with their expenses paid by the Tournament Committee.

Wayne Wins

In last year's Intercollegiate tournament, which was won by the team from Wayne University, 1306 students representing 163 colleges in 45 states played in the round-by-mail. To insure representation of all parts of the country in the finals, the country is divided into eight zones, with two pairs from each zone qualifying for the finals.

Equal Competition

The Intercollegiate Bridge Tournament Committee, which supports the event so that there is no cost to the competing colleges or the players, is a group of college alumni and officials interested in developing Contract Bridge as an intercollegiate sport in which men and women can compete on an equal basis. The Committee for 1950 includes: Kenney L. Ford, Alumni Secretary, Kansas State College; Louis D. Day, Jr., Director, Houston Hall, University of Pennsylvania; Mrs. Christine Y. Conway, Dean of Women, Ohio State University; Foster M. Coffin, Director, Willard Straight Hall, Cornell University; Nelson B. Jones, Director, Faunce House, Brown University; Donald R. Matthews,

Musical Masterpieces

KFAC 4-5 p.m. daily
2-5 p.m. Sunday
Presented by the Slavick Jewelry Company

THURSDAY, DECEMBER 8
•Lohengrin—"Preludes to Acts I and 3"—Wagner, Eugen Jochum and German Opera House Orchestra, Berlin

•Concerto in D Major—Brahms. Ossy Renardy, Violinist, Charles Munch and Concertgebouw Orchestra of Amsterdam

FRIDAY, DECEMBER 9

•Till Eulenspiegel's Merry Pranks!—Richard Strauss. Clemens Krauss and La Scala Orchestra

•Alice in Wonderland—Lewis Carroll. Ginger Rogers as Alice with All-star Cast. Victor Young and Orchestra

•Mother Goose Suite—Ravel. Piero Coppola and Paris Conservatory Orchestra

SATURDAY, DECEMBER 10

•The Pirates of Penzance—Gilbert and Sullivan. Major General—Marty Green. Pirat King—Darrell Fancourt. Samuel Donald Harriss. Police Sergeant—Richard Watson. Edith—Joan Gillingham. Kate Joyce Wright. Ruth—Ella Halman. Isadore Godfrey and The New Promenade Orchestra

SUNDAY, DECEMBER 11

In Nature's Realm—Dvorak. Rafael Kubelik and Czech Philharmonic Orchestra

•Concerto No. 3 in E Minor—Medtner. Nicolai Medtner, Pianist. Issai Dobrowen and the Philharmonic Orchestra.

Romanian Dances—Bartok. Izler Solomon and Columbia Philharmonic Orchestra

MONDAY, DECEMBER 12

•Das Liebesverbot—Overture—Wagner. Alois Melchior and Berlin State Opera Orchestra

•Der Querwolf—Richard Strauss. Paul Teller, Violoncellist. Sir Thomas Beecham and Royal Philharmonic Orchestra

•Silent Night—Gruber. Ernestine Schumann-Heink, Contralto

TUESDAY, DECEMBER 13

•"Il Traci Amant!"—Overture—Cimarosa. Adano Lundi and Orchestra da Camera

•Symphony No. 5 in C Minor—Beethoven. Serge Koussevitzky and Boston Symphony Orchestra

•Concerto No. 5 in A Minor—Vieuxtemps. Jascha Heifetz, Violinist. Sir Malcolm Sargent and London Symphony Orchestra

WEDNESDAY, DECEMBER 14

•"Raymond"—Overture—Thomas Boyd Neel and National Symphony Orchestra

•Symphony in B Flat Major—Chausson. Frederick Stock and Chicago Symphony Orchestra

•Theme and Variations from Suite No. 3 in G Major—Tschaikovsky. John Barbirolli and Philharmonic Symphony Orchestra of New York

THURSDAY, DECEMBER 15

•"Judge of the Secret Court"—Overture—Berlioz. Sir Adrian Boult and B.B.C. Symphony Orchestra

•Concerto No. 1 in C Minor—Beethoven. Anja Dorfman, Pianist. Arturo Toscanini and N.B.C. Symphony Orchestra

•"The Queen of Sheba" Ballet Music—Goldmark. Arthur Fiedler and Boston "Pops" Orchestra

FRIDAY, DECEMBER 16

•"Pinocchio"—A Merry Overture—Toch. Frederick Stock and Chicago Symphony Orchestra

•Nursery Suite—Elgar. Sir Edward Elgar and London Symphony Orchestra

•"Through the Looking Glass" Suite—Taylor. Howard Barlow and Columbia Broadcasting Symphony

SATURDAY, DECEMBER 17

•"Amelia Goes to the Ball"—Overture—Menotti. Eugene Ormandy and the Philadelphia Orchestra

•"Carmen" Excerpts—Bizet. Carmen Gladys Swarthout, Mezzo-soprano. Don Jose—Ramon Vinay, Tenor. Micaela—Licia Albanese, Soprano. Escamillo—Robert Merrill, Baritone. Eric Leinsdorf and Chorus and Orchestra

Gad!

"Is your boy friend broadminded?"

"Yeah—that's all he thinks about."

The Evening Concert

KFAC 8-10 p.m.

Presented by the Southern California and Southern Counties Gas Companies

THURSDAY, DECEMBER 8

Donna Diana—Overture, by Reznicek. Dresden State Opera Orchestra conducted by Dr. Karl Bohm (4).

Symphony No. 8 in C Minor, by Bruckner. Hamburg Philharmonic Orchestra conducted by Eugen Jochum (84).

Leonard Sharow, Bassoonist.

Concerto No. 1 in B Flat Major for Bassoon and Orchestra (K. 191), by Mozart. NBC Symphony Orchestra conducted by Arturo Toscanini (16).

Scherzo Capriccioso, by Dvorak. Minneapolis Symphony Orchestra conducted by Eugene Ormandy (9).

FRIDAY, DECEMBER 9

Weekly Feature Concert—A Night at the Ballet

The Perfect Fool—Ballet Music, by Holst. London Philharmonic Orchestra conducted by Sir Malcolm Sargent (10).

Le Beau Danube, by Johann Strauss. London Philharmonic Orchestra conducted by Antal Dorati (25).

The Spider's Banquet, by Roussel. London Philharmonic Orchestra conducted by Charles Muench (18).

Cinderella—Ballet Music, by Prokofiev. Royal Opera House Orchestra of Covent Garden conducted by Warwick Braithwaite (24).

Giselle by Adam. Royal Opera House Orchestra of Covent Garden conducted by Constant Lambert (18).

The Incredible Flutist, by Piston. Boston "Pops" Orchestra conducted by Arthur Fiedler (16).

SATURDAY, DECEMBER 10

Fedora, by Giordano. Soloists, Chorus and Orchestra of La Scala, Milan, conducted by Lorenzo Molajoli.

MONDAY, DECEMBER 12

Pique Dame—Overture, by Suppe. Vienna Philharmonic Orchestra conducted by Robert Heger (8).

Symphony No. 2 in D Minor, by Dvorak. Czech Philharmonic Orchestra conducted by Vaclav Talich (36).

Sergei Rachmaninov, Pianist.

Concerto No. 1 in F Sharp Minor, by Rachmaninov. The Philadelphia Orchestra conducted by Eugene Ormandy (24).

Scheherazade—Symphonic Suite, by Rimsky-Korsakov. The Philadelphia Orchestra conducted by Eugene Ormandy (39).

Notre Dame—Intermezzo, by Schmidt. Berlin Philharmonic Orchestra conducted by Dr. Hans Schmidt-Isserstedt (5).

TUESDAY, DECEMBER 13

Le Roi D'Ys—Overture, by Lalo. San Francisco Symphony Orchestra conducted by Pierre Monteux (10).

Symphony No. 2 in C Major, by Sibelius. The Philadelphia Orchestra conducted by Eugene Ormandy (40).

Jascha Heifetz, Violinist.

Concerto No. 4 in D Major (K. 218), by Mozart. Royal Philharmonic Orchestra conducted by Sir Thomas Beecham (24).

Suites No. 1 and 4 in D Major, by Bach. Boston Symphony Orchestra conducted by Serge Koussevitzky (40).

Fritz Meitner, Organist.

A German Organ Mass, by Bach (48).

Die Gotterdamerung—Siegfried's Rhine Journey and Funeral Music, by Wagner.

NBC Symphony Orchestra conducted by Arturo Toscanini (23).

Navy Seeks 1200 In Cadet Program

Wanted: 1200 Naval Aviation Cadets.

This offer has been tendered by the Secretary to all qualified, unmarried American men between the ages of 18 and 27.

Requirements

In selecting the applicants preference will be given to those who have graduated from an accredited college in a course normally requiring four academic years to complete. However, applicants who have graduated from a recognized junior college or have successfully completed not less than one-half the requirements for graduation in a four-year college course may be able to meet the minimum requirements.

Stay in School

In commenting on the program, the Chief of Naval Personnel reiterated the Navy's policy of "Stay in School." The Navy encourages students to stay in college and graduate, being convinced that young men will serve themselves and their country better by obtaining the maximum of educational background. However, for the students who have successfully completed college or must leave after two or more years due to economic or personal reasons, the Navy offers an unsurpassed opportunity for young men to qualify as Naval Aviators.

Cadets

Selected applicants will be enlisted as naval aviation cadets and ordered to naval air flight

(Continued on Page 6)

THURSDAY, DECEMBER 15

Oberon—Overture, by Weber. Boston Symphony Orchestra conducted by Serge Koussevitzky (9).

Symphony No. 3 in C Minor, by Saint-Saens. Philharmonic Orchestra of New York conducted by Charles Muench (32).

Fritz Meitner, Organist.

A German Organ Mass, by Bach (48).

Die Gotterdamerung—Siegfried's Rhine Journey and Funeral Music, by Wagner.

NBC Symphony Orchestra conducted by Arturo Toscanini (23).

FRIDAY, DE

Marry Not An Engineer

(Ed. Note: Due to numerous requests, since printing a year ago, the California Tech again prints this short treatise, *Marry Not An Engineer*.)

Verily, I say unto you, marry not an engineer, for the engineer is a strange being, possessed of many devices; yea, he speaketh eternally in parables which he calleth "formulas," and he wieldeth a big stick which he calleth a slide rule; and he hath but one Bible—a handbook.

He talketh away of all stresses and strains, and without end of thermodynamics. He showeth always a serious aspect and seemeth not to know how to smile; and he picketh his seat on the car by the springs therein and not by the damsel beside him. Neither does he know a waterfall except for its power, nor the sunset except for her specific heat.

Always he carrieth his books with him, and he entertaineth his maiden with steam tables. Verily, though his damsel expecteth chocolates, when he calleth he opens the packages to disclose samples of iron. Yea, he holdeth his damsel's hand, but only to measure the friction, and he kisses but to test viscosity. For in his eyes shineth a far-away look which is neither love nor longing—but a vain attempt to recall a formula.

There is but one key dear to his heart, and that is the Tau Beta Pi key; and one love letter for which he yearneth, and that an "A"; and when to his damsel he writeth of love and signeth with crosses, mistake not these symbols for kisses, but rather for unknown quantities. Even as a boy he pulleth a girl's hair to test its elasticity,

—Swiped.

TAU BATES

(Continued from Page 1) gadget is more important than its saving of money, manpower, or production time, factors that need to be considered in industry.

"Better Mouse Trap"

Mr. Lewis talked on his experiences as a "gadgeteer" in industry. He stressed, as did Dr. Woolridge, the fact that a new gadget must meet practical and economic requirements before it can be used by industry. To market a new device, a fortunate combination of gadget producibility, gadget merchandisability and gadget sales appeal must occur. According to him, "The world will not necessarily beat a path to your door if you build a better mousetrap" unless this mousetrap is able to be produced easily, merchandised readily, and sold profitably.

Unique Advantage

Mr. Lewis also pointed out that the engineer or gadgeteer possess a unique advantage over the other "idea men" in industry. This is the right to protect their idea—the gadget or new process—from being copied or stolen, by patenting it. He also said that the engineer is usually better off working for a private company than going out on his own as a consulting engineer.

The banquet was a climax to a three-week pledge period for the 15 seniors and five juniors initiated into the honorary fraternity.

but as a man he discovers different devices; for he would count the vibrations of her heart strings and reckon her strength of materials; for he seeketh even to pursue the scientific investigations, and inscribeth his passion in a formula; and his marriage is a simultaneous equation involving two unknowns and yielding diverse answers.

—Swiped.

The People and The Song

(Ed. Note — The following short story was written by someone on the Caltech campus who wishes to remain anonymous. The California Tech would like to receive comments of this article, and it is the Editors' hope that more student contributions such as this will be submitted to The Tech for future publication.)

Leece, Italy, is a nightmare. It is supposed to be a city, a city where human beings love, live, raise children, eat, sleep and hang around until they die; yet it is nothing more than one of God's bad dreams. You can see the tortured face of God asleep in the filthy streets of Leece. The sky over Leece is low and black, the air is stagnant and hard to breathe; and all the people are dream-walkers. It is a city of dirt, an accumulation of filth and rotting debris, and magnificent monuments to death, waste and infecuity.

And yet, the small Italian sings the song.

Leece is one of God's worst dreams, and the song is that sad element of the comic which is always present in the tragic. Around Leece stinks. There is buildings stink, the people stink, and everything about and around Leece stinks. There is no water anywhere. There is no clarity of earth and sky, and there is no clarity of mortal moment. There is no moment in all the 24 hours of the day and night. It is all out of time, out of space, out of reality.

The people seem to have work, and this is strange, for in Leece time stands still. There are shops with signs. A Tailor. A Baker. A Printer. A Butcher. A Barber. In Italian. In the printed words of that language. A department store. A book

shop.

And yet the small Italian people sing the song.

The people walk and play in the streets. Their faces are the faces of nothing. It is God having a nightmare. In all their faces is only one thing, emptiness. More than half the people, men, women and children are without shoes. Many are cripples. Midgets twisting with evil forms. Large heads on smashed bodies. Long thin fingers. Fat blue veins.

And yet the small Italian sings the song, proudly.

The streets rattle with old carts drawn by thin, starved horses. The carts bounce and the men sitting on the carts look at nothing. When the carts return to Leece they have a few small, unhealthy-looking potatoes. Food, for the bad dream.

The first time I heard the song I thought I was going to be amused by some bad music; but I wasn't amused nor was the music bad. The song belonged to Leece, to God's bad dream and to the rotting, stinking life of the city. It was full of the deep, dark melancholy of the unhappy people. It was bitter, angry, and defiant, and at the same time it was warm and full of longing for life.

The song doesn't mean much, except that in the atmosphere of death, bad dreams and lead dreams in Leece, the living asked for life; they asked to live only in the music of this simple little song.

Egad!

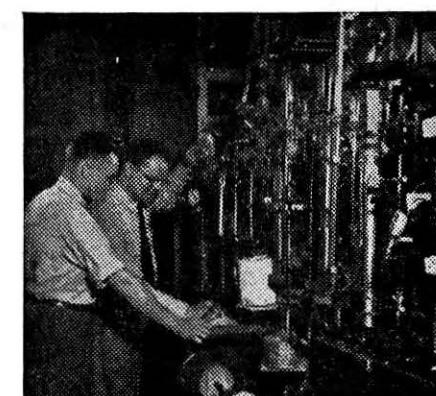
Two women previously unacquainted were conversing at a reception. After a few conventional remarks the younger woman exclaimed, "I can't understand what has upset that tall man over there. He was most attentive to me and now he won't even glance at me."

"Perhaps he saw me come in," said the other woman. "He's my husband."

The reaction of methanol with carbon monoxide leads to acetic acid, which is a well-known industrial chemical. By the same synthesis but substituting ethanol for methanol, propionic acid is obtained. From it come the "Mycoban" sodium and calcium propionates that retard mold and rope in bakery products.

Synthesis in the Future

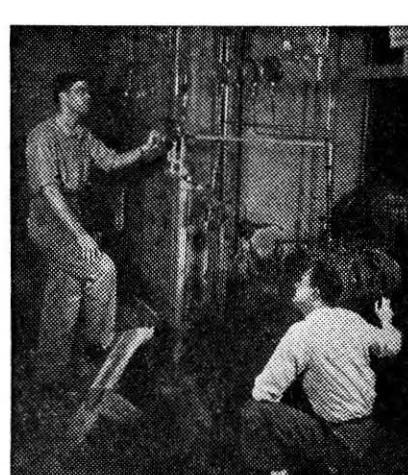
Today Du Pont manufactures some 120 different items that are partly or wholly dependent upon elevated



A. J. Hill, Jr., Ph.D. Org., Yale '44 and F. F. Holub, Ph.D. Org., Duke '49 carrying out an experiment on a new method for purifying carbon monoxide. The large furnace in this apparatus operates at 1200°C.

Plastics and Anti-Freeze

Methanol is used also to make a large number of compounds such as formaldehyde and methyl methacrylate. The former goes into urea- and phenol-formaldehyde plastics for light fixtures, radio cabinets, hardware, utensils, and electrical equipment. The latter is the basic material for "Lucite" acrylic resin with its many uses.



R. L. Stearns, B.S. Ch.E., Yale '49 and H. Peterson, B.S. Ch.E., Northeastern Univ. '42 checking a multi-stage carbon monoxide compressor used in semi-works operations.

A. H. Emery, Jr., M.S. Ch.E., M.I.T. '49 and M. J. Roedel, Ph.D. Org., Michigan '40 inspecting a high-pressure batch reactor taken from the shaker tube assembly after a run to make 3,5,5-trimethylhexanol.

and high-pressure chemical techniques have been highly developed, carbon monoxide has become a key-stone of industrial synthesis.

Scientists have found that under the proper conditions of high pressure and temperature, carbon monoxide, in combination with other substances, can be converted to a variety of useful products. These or their derivatives range from an acid used in tanning hides to the sparkling plastics in milady's boudoir.

BONNER BACK

(Continued from Page 1)

pot. He saw many aborigines, most of whom were fairly civilized, but never saw a boomerang. He also mentioned the outstanding differences in climate between tropic Darwin and Tasmania. Commenting on the reported low cost of living Australia, he said they had about the same standards of living as the United States because the prices and income were both comparably low. But you'd really be set if you lived in Australia with an American income. Since Australia is a country the size of the United States, but only the population of California, there are vast open frontiers of unused land for future development. New irrigation projects and remedies of soil deficiencies are rendering much land usable for agriculture.

Australian Chevy

He also mentioned the new Australian General Motors Holden as a much-needed low-priced car, smaller than the Chevrolet but of equal quality and good looks, unlike the small English cars.

In spite of a tight schedule, Dr. Bonner managed to pursue his mountaineering hobby by climbing a half-dozen of Australia's mountains, including Blue Mountain, on which he had to use rope-climbing tactics with which his Australian friends were unfamiliar.

Busy Life

Following his return by air on November 27th, Dr. Bonner settled down to a busy life at Tech by catching up on his work and telling his colleagues of his travels. He is trying to find time to read the proofs of a book he wrote just before he left.

Dr. Bonner encourages more scientific exchange with Australia, especially for postdoctoral work in such biological fields as plant nutrition, in which the Australians are far advanced.

SECRETARY'S REPORT

(Continued from Page 2) the Board of Directions and to the Athletic Council. In no case shall this application be made later than May 1. Upon approval of the application by both bodies, award of minor sport letters shall be made on the same basis as for other sports. If the sport is approved, seniors having participated two consecutive years will receive a letter for the second probationary year. If the sport has completed the requirements to the satisfaction of the Athletic Council, it shall be accepted as a minor sport. If the sport has not filled the complete requirements, but has shown interest and enthusiasm, it may, at the discretion of the Council, be awarded an additional, consecutive probationary period.

Oly Gardner

Egad!

Did you hear about the woman who wanted a divorce from her husband on the grounds he was unfaithful? She didn't think he was the father of her child.

Egad!

Judge: "I'm sorry but I can't issue a marriage license until you have properly filled out your form."

Girl: "Listen, if my boy friend doesn't care, what business is it of yours?"

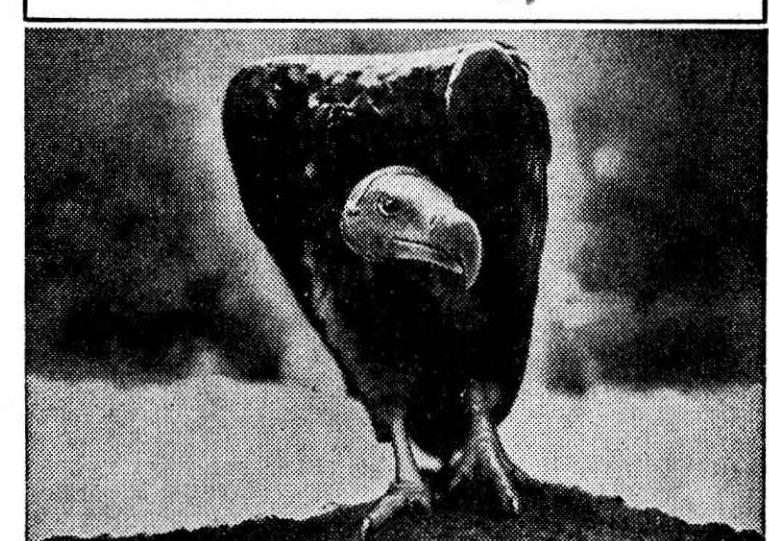
Egad!

A hollow-eyed cat dragged itself through the door of a village store. It seemed hardly able to crawl, and its gait caused a traveling salesman to ask—"Sick?" "No," said the owner of the store, "you see he's the only Tom Cat in town."

Egad!

A diplomat is one who can tell us to go to hell so tactfully that you look forward to the trip.

J. Paul Sheedy* Switched to Wildroot Cream-Oil Because He Flunked The Finger-Nail Test



YOU'D never guess to see him now, but just two weeks ago there was a sad, forlorn look in Sheedy's beady eyes. People picked on him because his hair looked like he was moulting. Not a gal on campus would even carry on a conversation with him. Then he bought a bottle of Wildroot Cream-Oil hair tonic and he's been a gay old bird ever since. Non-alcoholic Wildroot containing Lanolin keeps hair neat and well-groomed all day long. Relieves annoying dryness, removes the loose ugly dandruff that can make you a social outcast. So if your hair is giving you trouble, set your corpse for the nearest drug or toilet goods counter and get a bottle or tube of Wildroot Cream-Oil hair tonic. And ask your barber for professional applications. It's the best treatment your hair cadaver get.

* of 327 Burroughs Dr., Snyder, N.Y.

Wildroot Company, Inc., Buffalo 11, N.Y.



Beavers Shaded By Oxy Harriers, 36-38

by Pete Mason

Caltech's varsity cross country team put forth their best effort Saturday in the All-Conference meet, but, as seems to happen so often, they just couldn't squeeze by Oxy. Final scores of Oxy 36, Caltech 38, Pomona 63, Redlands 44 and Whittier-no score, indicate that the team was fighting all the way, but Oxy's team paced by John Barnes in first place had a slight edge which gave them the championship.

Fair Conditions

The meet, a four mile affair, was run under nearly ideal conditions Saturday morning. The weather was cool and the smog which had laid over the city for several days was not yet evident. Oxy took an early strong lead which was slowly cut down. John Barnes, Pete Mason, and Bill Pilkington ran neck and neck for the first two miles. Barnes came thru after three and three fourths miles to pull ahead of Mason by seven seconds. Winning time was 22:01.2, about a minute better than last

(Continued on Page 6)

Attention!

There will be a meeting and sign up Friday, Dec. 9, at 11:00 a.m. in 206 Dabney for all Varsity and Frosh track candidates.

SPEAKIN' SPORTS

with Mike

It's been quite a while since we've seen a game with the action-packed features of the one that was played on Pasadena Nazarene last Monday. To some of us it brought back the memories of the Oxy-Tech tussle with two overtimes of last season. This game, however, might even be of more significance since Pasadena was second only to Santa Barbara at the Redlands Tournament. Thus, Pasadena was rated above both Redlands and Oxy. Comparing scores again? Yeah, but it makes us feel good.

Echos

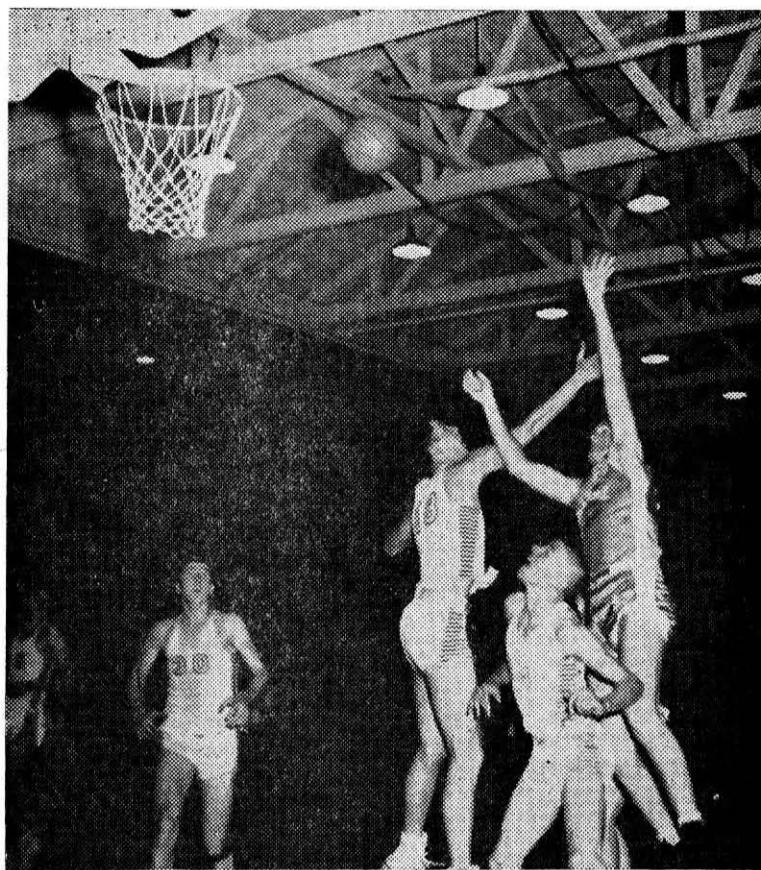
Before we bury football for the 1949 season it is well to mention several interesting pointers indicated by Tech foes. Mighty Whittier's team included three Beavers in their voting for an all-opponent squad. Bestowed honors by the league champions were Carson at end, Miller at tackle and Karasawa in the back field. A carload of congratulations, men.

IH Netters

All Flemingers, Rickettesers, Blackerers, Dabneyers, and Throopers talented along the line of the fuzzy ball sport are

(Continued on Page 6)

Beaver Sports



Tech Booters Down Hens In Final Match

Engineers Control Game As Season Becomes History; Price Scores Two

Frosh Sports Roundup

by Perry Vartanian

Saturday morning our Frosh harriers were nosed out of the conference cross-country title by a three point margin by the Oxy Frosh five-man entry. The final score in the three mile, 165 yard endurance test was Occidental, 36; Caltech, 39; Pomona, 45, with Redlands and Whittier being scratched because they did not finish a five man team. The winner, Munroe from Oxy, was timed at 17:43.8. He was followed by Mueller of Redlands and Caltech's own Dewey Marshall in third. The remaining four men who finished in the money were Hank Pollet, seventh; Terry Thomas, ninth; Ed Stofel, eleventh; Francis Scott, fifteenth. Also finishing for Tech were Don Romine and Dave Twining, twentieth and twenty-first.

Basketball

Friday night at Freemont High the Frosh cage five dropped their second game to Woodbury College's varsity by a 51-38 score. The game was much closer than the score indicated as at half-time Woodbury led 19-13 and shortly thereafter our Frosh came within two points of their opponents, 25-23. George Corparales and Dave Stevens were high for the Frosh with 10 points each followed by Bren Dehn with 9 and John Gee with 5. On the whole the team was greatly improved since the Chapman game.

Tomorrow night in the prelim to the main game, our Frosh meet the La Verne Jayvees. The game begins at 6:45 and will be at La Verne. Let's get there a little early, huh?

Polomen Tripped By Oxy In Finale

The Beaver mermen suffered a pair of defeats last week as they were overpowered successively by Occidental and El Camino.

The 6-1 loss inflicted by the Bengal on Tuesday at the Oxy pool ranked particularly, as the Engineers had been preparing for this contest with their biggest rival with revenge in mind—the Tiger tankmen had been the cause of Caltech's only other defeat earlier in the season. The Oxy swimmers, however, proved to have just too much stuff. They handled the ball well and broke into the clear again and again where they could make good shots at the goal. It was just this factor that decided the issue—the Beavers were unable to get away from their guards for a reasonably clear shot whereas the Bengal did.

Butler High

A slap on the back for Butler who deserves congratulations for an excellent job. He not only sank six out of nine free throws but he took game honors by registering 22 digits. The only time this record has been equalled since the war was in last year's Oxy game when Paul

(Continued on Page 6)

Close Game

The contest last Monday started fast with Tech making the first tally. The ball raced up and down the court for the first ten minutes of play putting us in front 11-10. However, Pasadena forged ahead leaving the half time score in their favor 26-18. The second half saw the boys snap back into shape and at four minutes to go the score was tied at 42-42. The tally seesawed up to 47-47 and in the last 15 seconds of play Pasadena sank the free throw which decided the game.

El Camino

On Thursday a portion of the Beaver squad made the long journey out to El Segundo to take on a highly rated El Camino team in the final game of the season. The 7-1 loss came as no surprise since the Engineers came minus four of the best players. El Camino is considered one of the best teams in the Los Angeles area.

The Beavers thus wound up the season with a record of five wins against three defeats.

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WHEN YOU ARE HUNGRY WHEN YOU ARE THIRSTY**" WHEN YOU JUST NEED RELAXATION IT'S THE****SKIP INN**

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Open Till 2 A.M.

The Caltech soccer team wound up its season Monday afternoon by trouncing Pomona by the score of 5-2. We showed a lot of teamwork and, although the Pomona eleven played a rough, hard-hitting game, we managed to keep the ball at their end of the field a good part of the time.

Tech for Two

We started the game off with two goals in the first quarter, one scored by Price and the other one booted in by Williamson. However, Pomona tied the score during the second period and at the half it was two all. The third quarter was rather inactive as far as goals were concerned. The ball went from end to end and, although several shots were taken by each team, none of them materialized.

The third quarter started off with a bang as Otto blasted one through to put us in the lead. Soon after, Price again put one through the uprights putting us ahead 4-2. In the closing minutes, Steve Chong broke loose with the ball and very neatly placed one out of reach of the goalie for our final tally, giving us five goals to Pomona's two.

Trojans Win

Last Saturday, the team was not quite so fortunate. They bowed to Southern Cal's eleven by the score of four to two. The game was played on a field that was not only ten yards too short but twenty yards too narrow. The Beavers weren't accustomed to either the cramped quarters or the smog that pervaded the field during the second half. Our two goals were scored by forwards Chong and Wood, but they were not enough to match S.C.'s four.

League Possibilities

The fact that Monday's game was the only encounter with a team in our own conference shows that, should soccer get going in this conference, the Tech booters would probably be well up in the standings. However, teams like U.C.L.A. and S.C. with several times as many squad members as we have, have been able to overcome our quality with their quantity.

Hey, You!

Measurements for Athletic Awards, Soccer, Cross-Country and Water Polo, will be made Friday, Dec. 9, at 11:00, in Fleming Lounge.

Caltech Ski Club Completes Repairs

The work party of skiers that went to Snow Valley last Saturday effectively completed temporary repairs and improvements on the Caltech Ski Club cabin.

With ample snow expected, it was announced Monday that the cabin would be open over Christmas vacation. It was also learned that the new chair lift at Snow Valley is practically through and will be rarin' to go when snow flies.

Activities

Plans are actively underway for a definitely scheduled ski class every weekend of the season. An important meeting of general interest is being planned for January 10. Activities will be discussed and movies will be shown. Watch for details later.

We Highly Recommend**Carl's Caltech Barbers**On California St.
Near Lake**Voget & Cathey****MEN'S CLOTHING FURNISHINGS**

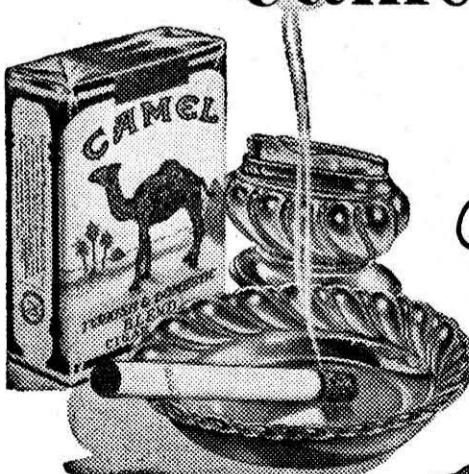
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BEAVERS SHADED

(Continued from Page 5)
 year. Mason took second while Pilkington finished well ahead of Parker, Oxy, for third. Brad Houser scores next for Caltech in eighth, then Bob Cobb in tenth, and a surprise finish, Bob Parnes, finished out the scoring for Caltech in sixteenth. Displacing were Ray Bowerman in seventeenth and Mike Sellen in nineteenth. Others who ran for Caltech were Dick Dickinson, Bill Lansdown, and Dick Smyth.

Looking Back

The season as a whole has been modestly successful with Caltech in a tie for second. Oxy, of course took first with 4 wins, no defeats. Caltech and Pomona were in second with 2 wins, 1 loss and 1 tie. Redlands was fourth with 3 losses, one win, and Whittier lost with 0-4. Prospects for next season are good, with several able Frosh coming up. Of the team this year, Mike Sellen and Bill Lansdown are graduating. Best of luck to them, they've been a big help.

Correction

Contrary to the article on cross country a couple of weeks ago, the cup went to the runner of the All Conference meet, rather than the dual meet champions. However Oxy took both, so there's no defense in results.

Final results in tabular form are:

1 Barnes O	11 Hertel P
2 Mason CT	12 Kamanski O
3 Pilkington CT	13 Spulik O
4 Parker O	14 Ranure O
5 Brown P	15 Tucker W
6 D. Jones O	16 Parnes CT
7 Creacy R	17 Bowerman CT
8 Houser CT	18 Lombard P
9 Stokes P	19 Sellen CT
10 Cobb CT	20 Wagner R
Distance, 4 miles 220 yards.	
Winning time—22:01.2.	
Whittier did not enter a full team of five, and was not counted in the scoring.	

SPEAKIN' SPORTS

(Continued from Page 5)

warned to get their cats killed for gutting rackets immediately. Coach Neary has given me information that said teams will begin official matches starting the second week of next term.

Another sign that spring just might be on its way is the lusty voice of Coach LaBrucherie echoing across the campus with an urge for all track men to attend the meeting for signup. That means you—206 Dabney, 11 a.m. tomorrow. The cinder ticklers of this year promise to have strength in all events, with decided aid coming from last year's Frosh squad.

SCHMIDT 'SCOPE

(Continued from Page 1)

face-lifting, which required six months to complete.

Dr. Wilson says that the comet is moving away from the sun and is situated in the constellation of Pisces. The length of the tail has not been computed yet.

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SHYMEN DROP

(Continued from Page 5)
 Saltman piled up 24 points.

PCC Wins

Although the PCC tilt of last Friday night can not compare with the Pasadena Nazarene thriller it was a very good game and also very close. Tech took the lead through most of the first period and gave it up to the Bulldogs in the second half but never by more than a six point margin. With two and one half minutes left and the score board reading 42-44, and the Beavers almost making up for the phenomenal scoring of Bell, PCC's 23 point redhot left forward, the engineer's ball handling went completely to pieces giving City College the opportunity for a 50-42 victory.

Tomorrow night the C.I.T. hoopmen travel to LaVerne for their last game this quarter and their last practice game before starting S.C.I.C. competition against Redlands on January 7. Let's get out there tomorrow night and give the melon men some much deserved support.

Lineups:
Pasadena College (48) **Caltech (47)**
 Davis (5).....F.....Bowen (12)
 Jandreau (3).....F.....Grey (3)
 Davis (9).....C.....Butler (22)
 Bogdonoff (9).....G.....Cox (3)
 Bonds (7).....G.....Montgomery (3)
 Half time: Pas. (26), Tech (18).
 Scoring subs: Pasadena: Hindman, 2;
 Cartwright, 5; Anderson, 1; Latter, 3; Seitzer, 4. Caltech: Patapoff, 1; Tautz, 1;
 Sereno, 2.

Caltech (42) **PCC (50)**
 Bowen (1).....F.....Mullis (5)
 Patapoff (9).....F.....Bell (23)
 Butler (13).....C.....Ailshire (5)
 Cox (5).....G.....Mille (5)
 Montgomery (7).....G.....Riley (8)
 Half time: PCC (20), Caltech (19).
 Scoring subs: Caltech: Grey, 6. PCC:
 Stevens, 2; Bradshaw, 2.

CAMPUS BREWINS

(Continued from Page 2)
 chatting with all her old flames. Of Dutch she comments, "He knows a lot of steps; I had trouble keeping up with him." Mike Hall, noble Prexy of Brautrinker Verein (PBAA), was at the formal with bourbon and Gloria; just for Mike, the former came up from Kentucky, the latter from San Diego.

We came up out of the basement once, just to be able to say we had danced, and timorously stepped forth upon the polished oak. Our worst fears were realized when a juggernaut, one Bruce Stowe, with a helpless frail clutched to him, plummeted from some concealed corner, and knocked us galley-west. He drew back, gallantly, let us get our sadly fractured galley back into its correct (eastern) position, then relentlessly rolled over us again. We hobbled off, muttering, "Where's the bar—or rather, the car?"

WHO DEALT THIS MESS

(Continued from Page 3)

Director of Alumni Affairs, University of Florida; Lloyd M. Valley, Manager, Purdue Memorial Union, Purdue University; Charles D. Owens, Manager, Associated Students, University of Washington.

Official Approval

The Committee requires that the approval of the dean or a corresponding authority be granted before a college can be regarded as officially entered in the tournament.

MacKenzie brought home, in his own inamorata, Canadian way, the full significance of Blom's reaching his majority. He came to the pre-dance birthday celebration brandishing, before Blom's unplussed parents, his birthday gift—a fifth of Seagram's 7 Crown.

Ted Smith had a tender young Oxy frosh (she claims to know Hedrick) and felt it obligatory to come home via Mulholland Drive. This is evidently no short cut—to Oxy—as he didn't return home till 0418.

Waheed is still shaking his head in injured (and unaccustomed) innocence. It seems that a young lady of his acquaintance was on her way up to the U. of Washington, and found herself in Los Angeles for the evening. Eager to do his bit to smooth her way, Waheed picked her up and helped her carry her bags to an hotel. There he and she, before an amazed room clerk, had a slight altercation as to whether virtuous she or chivalrous he was to pay the charge. The clerk started interrogating our hero, and upon ascertaining that he was neither husband nor brother, self-righteously told him he'd have to leave. Waheed, because his heart was pure, insisted on pursuing his plan to completion, carried the young lady's effects to her room, and promptly came downstairs, fixed the clerk with said injured look, and departed. We will be happy to boycott this evil-minded hostelry, if brother Waheed will be so good as to divulge its name.

Peter Knoepfle stumbled into a discussion of the young ladies to the East the other evening. He felt obliged to defend these up-to-then undefended unfortunates, and soon became quite heated in his sibilant oratory. At last, unable to stand the allegations of the assembled malcontents, he crushingly roared, "How can you argue with me? I'm House Lover!!" The jackals retired in disorder.

Condolences to one Alex (Desperate) Dessler. His girl has decided, after going out with him for a year or so, that he hasn't got it. She told him she wanted an older, more mature man.

As to the varying degrees of shaft received by the men from Blacker House over the weekend, several stories come to light, among them the bitter quip by Frosh Ross on returning from a Saturday night Pomona dance: "Just call me P. O. Plenty."

The Friday night Theater Party degenerated afterwards into a typical dancing debacle in total darkness, with its inherent hazards of tripping over people on the dance floor—it occurred this time through the expedient of lighting the lounge with the light from a very small log in the fireplace, which obligingly burned out very early, leaving the dancers to find other means to keep warm. Wright and date found the solution in his room, apparently, for they left the dance after dancing two numbers for convention's sake, and kicked out long-suffering

roommate Greutert from his snaking. The cast of the play also journeyed over from the Playhouse as "guests" after the performance, but seemed to need no entertaining—it might even be said that they entertained themselves much better than the natives here (the truth about some of the Playhouse fellows is not true of all by any means, it was observed.)

NAVY SEEKS

(Continued from Page 3)

training. They must agree to serve on active duty for four years unless sooner released and must remain unmarried until they win their wings.

In announcing the Navy's Nav Cad program, Secretary Francis P. Matthews commented: "It is of vital importance to our National Security that Naval Aviation Cadet Program offers splendid opportunity for young men to qualify as naval aviators, to win an officer's commission and join that select group of men who contribute to the supremacy of America, Naval air power."

Detailed information on the NavCad program, including application blanks, may be obtained from the nearest Naval Air Station, Navy Recruiting Station, or Office of Naval Officer Procurement.

Gad!

He: I can't see what keeps you girls from freezing.

She: You're not supposed to.

Give 'em all my Christmas Best

COMING YOUR WAY
WITH THE SEASIDE'S BEST
Arthur Godfrey

MILD
CIGARETTES

Arthur Godfrey