

California Institute of Technology

Thursday, April 27, 1950

Volume LI.

No.25

'Melody Maids' Sing Tomorrow

Fair Sex Will Provide Entertainment In Program of Hit Vocal Numbers

Ten talented girls will provide local and musical entertainment at the assembly in Culbertson tomorrow. The Melody Maids, a string sextet of winsome wenches, will team their talents to play semi-classical, popular, and jazz selections; a trio of beautiful voices will serenade the audience with popular melodies; a fourth enchanting voice will sing semi-classical numbers.

Official Statement

The Rally Committee has rendered the following comment about the assembly: "If you like classical music, you'll get it; if you like jazz, you'll get it; if you like women, you'll get them, too; and your lunch is assured. What more do you want?"

Phone Nos. Withheld

The Melody Maids include: Rosemary McNamee, first violin; Jeanette Randall, second violin; Elva Orlow, third violin; Sally Elmore, cello; Norma Billups, bass; and Marilyn Lewis, piano. They will play "Holiday for Strings"; "Jazz Legato," by Leroy Anderson, and "My Dog Has Fleas," by David Rose. The previously mentioned voices belong to: Linda Worsley, Joan Worsley and Georgette Haver. The soloist, Marilyn Egenes, will sing "Lover Come Back to Me," and "La Habanera."

Festival Talent

This bundle of talent was discovered at the gala opening of the Pasadena City School's 1950 Music Festival Series.

Band Concert

Last week the Caltech Band, under the direction of William Kilgove, provided a varied program of marches, chorals and novelty and popular numbers. The program, announced by ASCIT President Ulrich Merten, included Victor Hugo's "March of the Toys," and several Bach chorals.

To Serve You!

The services of the Institutions are, as always, available for jobs which are associated with student body activities. Any person who needs help on such a job should contact one of the house chairmen at least a week before the work is to be done. The following are the house chairmen: Teddy Einwohner, Blacker; Tom Stockebrand, Dabney; Carl Rambow, Fleming; Mike Calaghan, Ricketts.

Four Finalists For McKinney Contest To Present Talks

The four finalists for the McKinney Prize Contest will present their essays orally Thursday, May 4, at 11, in 206 Dabney. They are Arthur Cuse, David Elliot, James Enslow, and James Ibers.

Present at the speeches will be a group of judges, chosen from Pasadena citizens, who will make the final decision on who wins the first prize of \$75 and the second of \$50. All four finalists, in addition, will receive books as trophies. All students are invited to attend this assembly.

Campus Calendar

THURSDAY, APRIL 27
12:00 Y Upperclass Lunch Club
12:10 Throop Club Meeting
7:30 Dancing Class in Culbertson
7:45 Board of Directors Meeting in Lower Fleming

FRIDAY, APRIL 28
11:00 Assembly, in Culbertson "Melody Maidens"
1:30 Varsity Golf at Whittier
4:30 Swimming, Varsity and Frosh vs. Whittier at P.C.C.

SATURDAY, APRIL 29
1:30 Tennis, Varsity vs. Whittier at Caltech; Frosh at Whittier
2:15 Baseball, Varsity vs. Pomona at Pomona; Frosh vs. Pomona at Caltech

SUNDAY, APRIL 30
7:30 Film Classic Series in Culbertson

MONDAY, MAY 1
7:30 Film Classic Series in Culbertson

TUESDAY, MAY 2
12:00 Y Frosh Lunch Club
4:15 Baseball, Varsity vs. Chapman at Caltech

WEDNESDAY, MAY 3
4:30 Swimming, Varsity and Frosh vs. Occidental at Occidental

7:30 Orchestra Rehearsal in Culbertson
9:00 Glee Club in Culbertson

Map 5 College WSSF Show

Individual skits by each of the five SCIC schools, followed by open houses in three of the participating colleges will highlight the second annual five college get-together.

The plays will begin at 8 p.m. Saturday, May 6, in Bridges Auditorium at Pomona. Tickets will be 50 cents; all the proceeds will go to the World Student Service Fund, which buys books and supplies for foreign students.

Television

The schools presenting skits and their acts will be as follows: Redlands, television show; Oxy, modern dance and glee club skit; Whittier, individual acts (song and dance routines); Pomona (assisted by Scripps and CMC), musical skits; and Caltech, a radio program.

The Caltech skit will be a parody on radio shows in general and on all the schools in the SCIC. Besides jokes about the colleges, there will be singing commercials for those more musically inclined, according to Bob Davis, ASCIT first rep.

Dancing, Too

There will be dancing after the plays at Pomona, Scripps, and CMC, to complete the evening.

Tech has been allotted 335 tickets, and they can be bought from Teddy Einwohner, Blacker-51; Bill Barmore, Dabney-21; John Johnston, Fleming-31; Dick Rodbury, Ricketts-7; the Caltech "Y," and the bookstore.

Cloud Chamber

Pictures of the particles were obtained through the use of a specially equipped Wilson Cloud Chamber on campus, which was tripped only when high-energy particles penetrated an 8-inch lead plate. Only six of the 3000 pictures taken showed one of the new particles.

The cloud chamber was then taken to the top of a 10,000-foot mountain, where 8000 more photographs were taken, revealing 24 of the same type of particles and four of a second new type.

Both of these particles appear to be new types of the well-known mesons. Both have a life of only two-ten billionths of a second, much less than previously known mesons.

Particles Described

The first type of particle has a mass which is yet undetermined but is somewhere between 500 and 2500 electron masses. It is a neutral one which breaks down into two charged particles. The second type, also of undetermined mass, is a charged particle which breaks down into one neutral and one charged particle.

Dr. Bacher expressed the opinion that the new particles might possibly be produced in the Institute's new billion-volt synchrotron.

The new discoveries bring to 13 the total number of particles that nuclear physics must deal with.

Concert Tonight In Dabney Hall

The Caltech Musicale and the Faculty Committee on Musical Activities are combining to present a Spring Festival of Music. Four concerts will be presented during the remainder of the third term.

The first of these will be given tonight at 8 p.m. in Dabney Lounge, when Miss Evelyn Smithson, pianist, will play works by Bach, Chasin, Rachmaninoff, Prokofieff, and Griffes. Admission is free. According to Doug Calley, president of the Musicale, the attendance at this concert will determine the policy of the Musicale toward the presentation of future concerts.

Subsequent concerts this term are scheduled for:

Sunday, May 7th, at 8 p.m. The internationally known Hungarian String Quartet will appear in Culbertson, their visit made possible through the assistance of the Coolidge Foundation of the Library of Congress. They will play quartets by Mozart, Schubert and Bartok. Tickets are \$1.20; for students, 60¢ (tax included), and may be purchased at the Book Store.

Sunday, May 21, at 8 p.m. in Dabney Lounge there will be a chamber concert featuring two

(Continued on Page 4)

Policies Set at ASME Elections

Last week the ASME held elections for officers for the coming year. Dan LeMay was elected student chairman, and Joe Mangin, secretary-treasurer in the unopposed election. The outgoing officers are Howell Tyson, Craig Marks, and Dick Wright.

Together the new and the retiring officers have decided upon a vigorous and extensive plan designed to make the ASME the leading engineering society on campus. Many interesting speakers and instructive field trips are on the agenda that will be of great interest to all engineers.

It should be kept in mind by all prospective and present MEs that membership in the organization, in addition to offering many personal advantages, demonstrates to employers the fact that the student has more than mere academic interest in his field.

Shop Votes In '50-51' Wheels

New student shop officers elected last week, are as follows:

Phil Halverson, foreman; Henry Richter, assistant foreman; Ted E. Einwohner, secretary-treasurer; Chuck Miller, David Rathje, Kent Stratton, and Dick Waters, committee members.

The system of paying dues was changed. New members will pay an initiation fee of \$1.00 in addition to the yearly fee of \$1.00.

Training Course

The shop is conducting a training course for its members and anyone else interested in improving his technique in using tools. The classes start Monday, May 1, at 11 a.m. in the ME shop. Two of the campus' expert machinists, H. E. Hendrickson and Gerald Ross, have consented to give their time for the instruction. All interested are urged to attend the first meeting.

New Republic Editor To be Y Forum Speaker Tuesday

Michael Straight, AVC Chairman To Discuss Civil Liberties at Forum

Michael Straight, editor of the *New Republic*, and chairman of the American Veterans Committee, will speak at a Y Forum in 119 Kerckhoff next Tuesday night on civil liberties.

Straight is traveling the country on a tour sponsored by the AVC. Besides talking on national and international issues at meetings, dinners, student gatherings, and trade-union locals throughout the country, he is gathering

material for an article concerning the status of the veteran, five years after the war. Straight will also speak at USC during his stay in L.A.

Under Einstein

Immediately after the war Straight served as secretary of the Emergency Committee of Atomic Scientists (Albert Einstein, chairman), rejoined the *New Republic* as co-editor, and became active in the AVC. Later he organized the National Committee for Atomic Information, which joined together seventy national organizations.

War Duties

In August, 1942, Straight volunteered as a private, became a pilot assigned to the French Air Force, and later flew B-17s and B-29s. He is still an enthusiastic private pilot, flying his own plane over the country.

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Wanted: Vagabond Keys!

Several times during the past few weeks the unauthorized key situation has been called to the attention of the student body. Since the response to previous requests that students turn in these keys has been very small, I have asked the presidents of the four Houses and Throop Club to help in collecting the keys.

Why all the excitement? Not because we think that the men holding these keys wish to use them in stealing or the like, but the possession of an unauthorized key can be very dangerous for the individual who has it. For example, suppose you're found in or near a campus building with an unauthorized key in your possession when some classified information or valuable equipment is taken. You may be innocent, but the incident may mean a lot of trouble for you.

Or, an unauthorized person may leave a door to one of the buildings ajar and be followed in by a group of the neighborhood children. This sort of thing has happened before, and, obviously, a six-year-old in an empty laboratory is not the best situation in the world. If the key responsible is unauthorized, its owner hasn't a leg to stand on.

Anyone with a legitimate reason for having a key can obtain one from the Buildings and Grounds Department; but, in order to be on the safe side, we should all let the people in charge decide who has a legitimate reason.

ULRICH MERTEN, ASCIT President.

Attention! Juniors, Seniors

Now is the time to get your dates for the Junior-Senior Garden Party, to be held Sunday, May 7, in Dabney Gardens. Many prominent members of the faculty and their wives will also be present. Here is an opportunity to meet them and talk to them outside the classrooms. Hal Lomen and his orchestra will furnish music for dancing from 2:30 until 5:30, and refreshments will be served. Get your invitations now from Martin Walt or from Bill Whitney in Dabney.

Varsity Club Elects Norman

Following the precedent of all other campus organizations, the Varsity Club met last week to elect new officers.

With one-sixth of the membership attending, Chuck Norman was elected president; Noel Reed, vice-president; Babe Karasawa, secretary, and Dave Hanna, social chairman.

Also at the meeting, the members decided to hold a beach party at Victoria Cove on May 6.

USC, Tech Plan Jaunt to Dams

Sponsored by the USC student branch of the AIEE and IRE, a field trip to Boulder Dam has been drafted for May 6, to which all Caltech AIEE and IRE members and guests are invited. Participants will meet at the winged statues at Boulder Dam a week from Saturday at 8:30 a.m. The tour of the dam will last a few hours and will be followed by an afternoon visit to Davis Dam, which is under construction.

One group is leaving the USC Engineering Building at 3 p.m. on Friday, May 5. Reservations will be made for those going, if they wish, and will cost about \$2.00 for the night.

Early Birds

Those leaving Caltech may find it advantageous to go earlier, so that some time may be spent in nearby cities the night before. Reservations for those leaving Caltech can be obtained at the same rate as above. Accommodations are at the Boulder Dam Hotel. The group will

Dr. Langmuir Explains Synchrotron Details

By R. L. Quandt

Two hundred tons of "stuff and junk" was the picturesque conspectus employed by Dr. R. V. Langmuir in describing the latest big addition to the Caltech campus, the 1.5 billion electron volt synchrotron, at the Monday meeting of the AIEE held in 119K.

Dr. Langmuir worked on the 70 million electron volt synchrotron built by General Electric Company, and is now in charge of the project here. The synchrotron is to be completed within two or three years.

\$1,000,000

The AEC is financing the Caltech synchrotron project to the tune of about one million dollars. The synchrotron at present is in the form of unassembled parts lurking on the ground floor of the optics shop where the Palmar mirror was ground.

The machine itself was obtained from Berkeley where it was originally a $\frac{1}{4}$ scale model for a large Bevatron now being constructed there. The Bevatron is a proton accelerator but Caltech is going to use this machine as an electron accelerator; and,

(Continued on Page 4)

Caltech Host For ASCE Meet

ASCE Student Chapter activities will commence tonight with the Smoker for the ASCE Spring Conference being held in the Embassy Room at the Ambassador Hotel.

Approximately 300 students will be attending this conference from 16 western colleges. The Caltech student chapter is the host to this group of visiting students.

Field Trip

All student functions will be held in the Embassy Room of the Ambassador Hotel in Los Angeles, with the exception of the field trip on Saturday, April 29. The first part of the field trip will be spent on the Caltech campus. Included will be a demonstration in the Kellogg High-Potential Laboratory, and an inspection of the hydrodynamics laboratory in Guggenheim.

heim, and an inspection of the hydrodynamics structures north of the power house and the sedimentation lab. At each stop in hydrodynamics and sedimentation there will be a continuous ex-

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IRE Contest

The Los Angeles section of the IRE is having a student papers contest at the regular monthly meeting Tuesday, May 2, 7:45 p.m. Place: Institute of Aeronautical Sciences, 7660 Beverly Blvd. (by Gilmore Field). The Tech contestant is Stan Zwick.

Interview Schedule

APRIL 24, 25 & 26—GENERAL MOTORS CORP., Detroit, Michigan. Mr. E. M. Henderson, of their Dayton office, Interviewer.

BS degree men in Mechanical, Electrical, and Chemical Engineering ME & EE—for training to do product development, product design, testing, testing, prototyping and materials work, power plant work, plant maintenance, engineering or manufacturing supervision.

ChE—qualified for laboratory work, production electroplating, and production work on rubber products.

Fun For All-Tech Reporter Tells About International Association

By Duane Marshall

What would you do if you went to study in a foreign country? How would you start meeting people? How would you get started in any sort of social life?

Here on campus the International Association does a great service for both foreign and American students. The I.A. is a melting pot for people of all nationalities and it does much in bringing nationalities a better understanding of each other.

The great thing about this organization is that it is not stiffly formal in getting the members together. They go out and have a good time at social functions and the like.

Mixing It

About three times a year there is a big dance with orchestra and all. About twice a term there are record dances and twice a term there are conferences and discussions. The discussions have covered a wide variety of things, countries, customs, languages, modern art, educational systems (foreign) and many others. Picnics, outings and hikes are not uncommon. The Du Bridges have been active in the IA and have opened their home to them every so often.

At present most of the mem-

bers are grad students and about half of them are American. Membership, though, is open to undergrads and grads alike, however. There are girls in the IA, so everything works out on the social functions.

Every Wednesday, there is an informal tea over in T2 that starts about 5:15. After this, members sometimes go out for supper or make a theater party of it.

Accomplishments

Besides social functions, the IA does its bit in the way of material things. One of their most recent accomplishments is the addition of a kitchen to the old dorm. (Much thanks to the Pasadena Rotary Club for their financial aid here.) Besides the Rotary Club taking an interest in the IA, the Caltech Women's Association helps out.

Membership is open to both foreign and American students who are interested in the organization.

Be a Member

Application blanks can be obtained from General Chairman Donald Clark in 51 Crelin, or Secretary of Membership Miss Margaret Hemenway (Dr. Bachelder's secretary) or Mrs. Elizabeth Hanes (Assistant Registrar).

prepared on this page the following items of deep interest and/or great entertainment 1) Potpourri for this week with a biography and sketch of Robert Sharp, well-known geology prof, 2) A synopsis of the raiding agreement made at the recent five-school conference held at Oxy, and 3) A gripping epic of one man's two hour battle with a gallon of strawberry ice cream.

We hope to have, if we can placate the rightfully angry sources of these articles, these features next week; until then apologies to the readers of the Tech and to Bob Chrichton, Ulrich Merten, and Terry Thomas. Let us hope the brownies (or the custodian of Lower Fleming who cleans early in the morning) will be appeased by next Monday's bowl of milk and piece of cake.

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CAMPUS BREWINS

The Beak, unable to decide whether sex was the poem he half believed it to be, or the casual episode he had schooled himself to think it was, perused the campus and remained in a quandary. Endeavor was fruitless everywhere (see Kinsey—but don't read him), but he nevertheless continued to pound his head on the wall. But the Beak is usually concerned with the more immediate vagaries of life, so what is there to do but abandon hope?

Apropos vagaries, the Senior class is guilty of a heinous sin.

The surplus of their treasury fund was voted to the scholarship fund rather than the customary libations of past years. The Beak wonders how much of a budge this will create in the fund compared to the mountain of pleasure that could have been obtained otherwise. We are primarily concerned with the betterment of human understanding—alas, it is difficult to find humans.

Friday night, Throop Club was enlivened by an exchange dance featuring a monumental surplus of the weaker sex. Doves were steadfastly left sitting around, and the most popular cavaliers easily proved to be Dr. Schutz and the picturesque Howie Mower, who disappeared with some damsel just long enough to drive her home alone after everybody had left.

Sailing, Sailing

An interesting account is told of the mariner Baily. "Twould appear that in spite of all his navigational accoutrements, he was unable to cope with the

a tight red creation.

Finally, the evening was enlivened by the appearance of the Oxy relay, together with Miller, Mason, Bates and Kamei. The rest of the time was spent chasing Cuse's date around the house, except for petty bourgeois Miller, who leaned against the front door smiling.

No Exchange

Our kudos this week also go to Blacker for the scintillating squad of gallants recently sent forth to meet PCC and Muir. The Beak's hair turned slightly grayer this weekend at the following description of the affair given by one of the belles in question (no, she wasn't out with a Blacker man). The evening began as follows: "Dja like to dance?" "I'd love to." "What's your name?" "Dottie, what's yours?" "Jasper." Silence. "Dyagostot PCC or Muir?" "PCC." "What's your major?" "Journalism." "Oh, that's interesting." Silence. "Have you lived in California all your life?" "Yes, I have." "Doncha think our exchange is nice?" "I certainly do." Silence. "May I cut in?" Silence. This makes the Beak all too keenly aware of the traditional shortcomings of us all,

Whose Fault Was This?

Saturday night saw the majority of the Blacker crew at the Buwalda party, thrown by the professor, and presided over by his lovely wife. Attendance embraced the past, present, and future of Blacker: Bill Sylvies gamboled wildly over the wet lawn, indulging in badminton and pingpong with his high school sweetheart; Drury was there, his Beaver pin prominently displayed on date. Boyd Gage, Boppert, and respective dates proved most noteworthy in view of their dancing enthusiasm, and drank till it was time to go, i.e., the beer ran out (the Beak's pain at this is very poignant). Frosh Vice Stefanides sighed on the dance floor with

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and we suggest for future topic reference under such conditions a query as to the value of pi to 20 places.

Tom Hamilton, just shafted by an Oxy physciste (sic), was shedding no tears at Dabney's Emerald Bay excursion Sunday.

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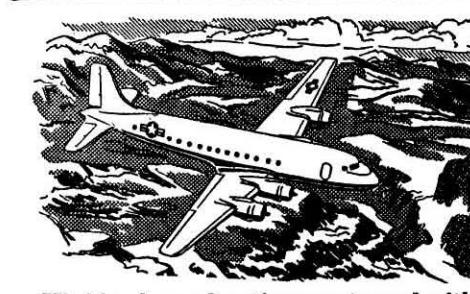
**Capt. Paul Buskey, Middlebury, '38
Air Intelligence, U.S. Air Force**



An excellent student at Middlebury College, Vermont, Paul found time to win the coveted All Sports Trophy in his senior year. He graduated in June, 1938.



He then joined a coated paper mill firm as research and control man. Pearl Harbor changed all that—Paul went to Maxwell Field to begin Aviation Cadet training.



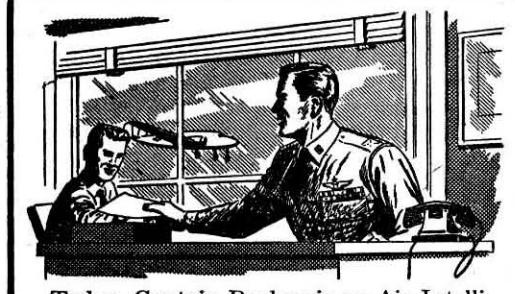
His big plane education was topped with 23 missions over the far-famed "Hump," flying C-54 transports. After V-J Day, he stayed on in the Far East until March of 1948—specializing in Air Intelligence.



Back home, after accepting a Regular Air Force Commission, Captain Buskey went to Air Tactical school, was there rated an outstanding student, and won assignment to Command and Staff school.



An outstanding Cadet, 2nd Lt. Paul Buskey was held over as an instructor after graduation. Then he was assigned as a pilot in the Air Transport Command.



Today, Captain Buskey is an Air Intelligence Officer on MATS Headquarters Staff at Andrews Air Force Base near Washington, D. C. He looks forward to a rewarding future in the U. S. Air Force.



If you are single, between the ages of 20 and 26½, with at least two years of college, consider the many career opportunities as a pilot or navigator in the U. S. Air Force. Procurement Teams are visiting many colleges and universities to explain these career opportunities. Watch for them. You may also get full details at your nearest Air Force Base or U. S. Army and U. S. Air Force Recruiting Station, or by writing to the Chief of Staff, U. S. Air Force, Attn: Aviation Cadet Branch, Washington 25, D. C.



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Beaver Trackmen Choke; Fifth At All-Conference

It seems as though the Tiger field is a jinx spot for the Beaver track team. At least it proved to be so last Saturday afternoon when Caltech placed fifth in the All-Conference meet.

Tyson Breaks Record

Expected to take a close second, the Engineers, with the lone exception of Hal Tyson in the shot, choked. Hal, however, came through with a beautiful 49ft. 4½in. put to take a first and come within a quarter of an inch of the All-Conference and conference individual records.

Others scoring for Caltech were John Lewis and Pete Mason, with thirds in the discus and mile, Martin Walt with a tie for third in the pole vault; and fourth from Irwin in the highs, Noble in the javelin, and Schroeber in the lows.

While Oxy didn't capture all the firsts, it was still pretty much their meet, since they scored 81 points. Next best was Whittier with 28 points, then Pomona with 25½, Redlands with 17½, and Caltech with 13½.

100—McKibben (O), 1yd.; Reinke (P), 2ft.; Mason (R), 1ft.; Hayes (W), 9.95s. 220—McKibben (O), 5yds.; Reinke (P), 2yds.; Mason (R), 2yds.; Hayes (W), 21.1s. (New Occidental record. Old record, 21.2s., McKibben, 1950.)

440—Parker (O), 15yds.; Beckett (W), 9yds.; Deis (P), 1yd.; Ruprecht (O), 48.6s. (Equal meet record, Parker, Oxy, 1947.) (Newton (W), was third, disqualified.)

850—French (P), 2in.; Smith (W), 1ft.; Cotrel (O), 1yd.; Kamanski (O), 1m. 58.2s.

Mile—Barnes (O), 100yds.; Jones (O), 70yds.; Mason (CT), 20yds.; Brown (P), 4m. 20.9s. (New meet record. Old record, 4m. 24.3s., Clair Berdel, San Diego State, 1939.)

Two-mile—Lineweaver (P), 70yds.; Straw (W), 90yds.; Creacy (R), 70yds.; Hamman (O), 9m. 52.8s. (New Pomona record. Old record, 9m. 53.4s., Cunliffe, 1933.)

120 high hurdles—McClung (O), 3yds.; Dennis (O), 1yd.; Baudrand (W), 1ft.; Irwin (CT), 15.2s.

220 low hurdles—Baudrand (W), 2yds.; Welsh (P), 2ft.; Sieben (O), 1ft.; Schroeber (CT), 24.6s.

Four-man mile relay—Oxy (Kamanski, McKibben, Barnes, Parker), 5yds.; Whittier, 10yds.; Redlands, 25yds.; Pomona, 3m. 18.4s. (New meet record. Old record, 3m. 21.1s., Oxy (Harvey, Wiemen, O'Neill, Kilday, 1938.)

Shot-put—Tyson (CT), 49ft. 4½in.; Levin (O), 47ft. 3 7-8in.; Oleson (O), 46ft. 8½in.; Fearn (W), 43ft. 1in. (New Caltech record. Old Record, 48ft. 10in., Tyson, 1950.)

High jump—Duty (O), 6ft. 1½in.; tie, between McClung (O) and Beckman (R), 6ft. 1½in.; tie among Thorsen (R), Gahan (P), Anderson (O) and Rheinschild (O), 5ft. 10in.

Javelin—Ward (R), 186ft. 2¾in.; Sieben (O), 168ft. 4½in.; Reid (W), 165ft. 9in.; Noble (CT), 161ft. 1in.

Broad jump—Schlegel (O), 23ft. 3¾in.; Tucker (W), 22ft. 8in.; Knight (O), 22ft. 5½in.; Welsh (P), 22ft. 4½in.

Pole vault—Tie between McMurry (O) and Crandall (W), 12ft. 6in.; tie between Walt (CT), and Conly (R), 12ft.

Discus—Locher (O), 140ft. 6½in.; Martin (O), 136ft. 1 5-8in.; Lewis (CT), 134ft. 2 5-8in.

Final scores—Oxy, 81; Whittier, 28; Pomona, 25½; Redlands, 17½; Caltech, 13½.

SPEAKIN' SPORTS with Mike

Enter football, exit track, is the word of Coach LaBrucherie as spring football practice got up a full head of steam starting last Monday. Although blessed with the presence of many Frosh this year, other sports and activities are keeping many notable regulars out for a while. The first day of practice saw thirty-five monster-filled jerseys starting off practice with mild pass receiving and fundamental plays.

To prove the enthusiasm displayed by local troops, we might site as an example the manly presence of Mel "Bud" Katz, bles his sweet pointed little head. If the Crusher is out, everyone'll be out.

Swimmers

A boat load of water lilies to the swimming team in their endeavors this past week. Special mention should be paid to Tech Diver Ed Reineke in copping first place from the board against Oxy a week ago Tuesday. Von Herzen blazed his way to a 200-yard breaststroke victory over last year's conference champ, Brubaker, and also in front of last year's Frosh conference king, Dick Libby put on a brilliant display to take honors in the 100-yard free style.

Throops Top IH Football League

The 1950 IH Football season drew to a close this week with Throop annexing the crown.

On Monday the Rowdies took to the air for two touchdowns and Blacker just couldn't get rolling, leaving the score 12-0. On Tuesday the Mosich-to-Pata-poff combination proved unbeatable, and Dabney was crushed by Throop, 40-0. Fleming beat Blacker, 12-6, on Wednesday, while Ricketts bowed to Throop, 12-0, on Thursday. Dabney got an early touchdown against Blacker, and they couldn't quite even it up, leaving Monday's score 6-0.

Throop has taken the Inter-house football title by winning all four games, while Dabney has finished in second place with three wins and one loss. Tuesday's game will decide third and fourth places for Ricketts and Fleming, each having one win and two losses prior to the game. Blacker stands last with four losses.

Beaver Sports

Poor Fielding Spikers Drop Aids Oxy Win SC Tourney

Caltech lost another conference baseball game last Saturday because of their inability to play both a hitting and fielding game. The Beavers came up with five runs on nine hits but still lost the game. The Oxy team got 13 runs on 10 hits. Most of these runs got across because of errors by the Beavers.

Beaver Scoring

After Karasawa was out on a fly to right field, Jack Smith and Snider got singles. This scoring threat was stifled by a double play by Oxy. Then in the fourth inning Snider and Pfeiffer were walked and a single by Dave Koons scored Snider. Then, in the fifth inning, Grey flied to right field, Karasawa got a hit, Smith forced Karasawa at second, and, with two out, Snider hit a triple, scoring Smith.

Following this, Stallkamp got a single, scoring Snider. In the seventh inning, Grey was out on a fly to right field. Karasawa singled and Smith was safe on an error by the shortstop which enabled Karasawa to score. Snider was safe on an error by the third baseman, which sent Smith to third. Stallkamp then grounded to first base, scoring Smith.

This display of hitting power may have been caused by confidence gained in the game with L.A. State the previous Tuesday. In that game the Tech team drove in 11 runs. The L.A. State team was much weaker than Oxy, but they did not give us (Continued on Page 4)

At A Glance

SWIMMING—

Caltech, 39½; Pomona, 35½; Occidental, 5½; Caltech, 21.

Oxy Frosh, 42; Caltech, 28.

Pomona Frosh, 39; Caltech, 9.

TRACK: All-Conference Meets—

Occidental, 81.

Whittier, 28.

Pomona, 25½.

Redlands, 17½.

Caltech, 13½.

Oxy Frosh, 7½ 1/3.

Pomona, 40 2/3.

Caltech, 23.

Whittier, 20.

Redlands, 6.

TENNIS—

Caltech, 5; Muir, 4.

Redlands, 9; Caltech, 0.

Caltech Frosh, 7; Redlands, 2.

BASEBALL—

Occidental, 13; Caltech, 5.

Caltech Frosh, 3; Oxy Frosh, 3.

GOLF—

Pomona, 17; Caltech, 1.

Poor Fielding Spikers Drop

Aids Oxy Win SC Tourney

Last Saturday eight men from Caltech headed for USC. These men are part of Caltech's inter-collegiate volleyball team, which entered the first annual Southern California Volleyball Tournament.

Although the team has been in existence less than a year, they made a good showing. SC, last year's national collegiate champions, won the tournament.

Season Still On

Our team has entered several tournaments so far this year and has more on schedule with conference teams. Those who represented Caltech at SC Saturday were Jared Abell, Phil Bates, Charles Bates, Allan Beek, Len Schultz, Larry Knight, Sanford Sweet and Dick Taylor.

Volleyball is now recognized as a minor sport, and P.E. roll (Continued on Page 4)

Tankers Repeat Over Sagehens; Oxy Wins

Reineke Tops Tiger Divers; Houser Double Winner Against Pomona

Although the swim squad was only able to get a split in its meets with Oxy and Pomona last week, it could be considered a successful week of competition. The natators repeated their former victory over Pomona, 39½-35½, in the PCC pool on Friday, while three first places were snatched from the Tigers as they splashed to an easy 54-21 win on Tuesday, also in the PCC pool. As the score indicates, the Sagehen meet was almost a carbon

copy of the one a week before at Pomona. The main change was in the 220 free where Houser, going out in a fast first 100, was able to shade Von Herzen.

Also the backstrokers, Hall and Weil, slipped one place apiece from the previous week, taking third and fourth. However, these two made up the points thus lost by placing in other events.

Tuesday was a red-letter day, despite Oxy's victory, for it was the first time a Caltech diver had taken a first place for several years. Ed Reineke was the happy recipient of loud plaudits from his teammates, as the diving results were announced.

Other Caltech wins against Oxy were by Von Herzen in the 200 breast and Libbey in the 100 free. Additional credit is due Von in that the two Tiger swimmers he beat were last year's varsity and frosh champions in that event.

A meet with Whittier tomorrow at the PCC pool at 4:15 is the only swimming competition this week. Results:

300 medley relay—Pomona (Beckner, Ford, Van Vorst), 3m. 33.5s.

220 free style—Houser (C), Von Herzen (C), Griselle (P), 2m. 41s.

50 free style—Libbey (C), Disney (P), tie between Barmore (C) and Welch (P).

Diving—Hespers (P), Yeager (P), Worrell (C).

100 free style—Libbey (C), Disney (P), Van Vorst (P), 57.7s.

150 backstroke—Beckner (P), Kenmouth (P), Hall (C), 1m. 58.1s.

200 breaststroke—Von Herzen (C), Ford (P), Hall (C), 2m. 47.1s.

400 free style—Houser (C), Griselle (P), Weil (C), 6m. 8s.

400 free-style relay—Caltech (Barmore, Houser, Von Herzen, Libbey), 4m. 3.9s.

Final score—Caltech, 39½; Pomona, 35½.

Tech Tops Muir At the Nets 5-4

Last week the Caltech tennis team managed to defeat Muir in a practice match. However, they were unable to overcome the Redlands netters on Saturday. On Wednesday the raquetteers piled up five victories to but four for Muir. The individual scores are as follows:

Jett (M) def. Martin 6-4, 6-4, Blanchard (CT) def. Jones 2-6, 6-2, 6-4; Pindexter (CT) def. Desher 6-1, 10-8; Baier (CT) def. Ritter 6-2, 6-0; Holyoke (M) def. B. Welch 6-4, 6-8, 6-6; Lafleur (CT) def. Carruthers 6-1, 6-2; Doubles—Jett-Danner (M) def. Martin-B. Welch 4-6, 6-4, 7-5; Pindexter-E. Welch def. Peaker-Ritter 5-7, 6-0, 6-5; Fox-Holyoke (M) def. Hyman-Butler, 5-7, 7-5, 6-2.

On Saturday the team was unable to capture a single win, losing to Redlands 9-0.

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HOTALING'S

TWO STORES FOR MEN

<p

HOUSE SOCIAL NEWS

Throop Picnic

A most enjoyable evening was spent by Blacker couples last Saturday night when Dr. and Mrs. John Buwala played host to over fifty Blackermen and their dates.

Saturday night will give evidence of Blacker originality when all modesty will be forgone for gunny sacks and rags at the Dogpatch Hop. Refreshments will be served as dancing will be accompanied by Blacker's unique supply of dance records.

The next event on Throop's social calendar is the Installation Picnic next Sunday, April 30, at Brookside Park. Starting at 1:30 there will be baseball, games, hiking and other assorted entertainments. Picnic lunch fare will be provided by the Club, and will be served in the evening. All members are urged to attend, and there will be opportunities for entertainment, dates or not.

Fleming Beaches

Fleming's mermen and their mermaids will cavort this Sunday at the first of two beach parties of the term. The event will be held at Little Corona beach starting at noon and continuing into the evening. The standard picnic variety of food will be served for both lunch and dinner, supplemented by cold beverages by the quart.

KFI Engineer Talks Fot Sound Seminar

The speaker for EE200, Seminar on Sound, next Tuesday, is Wayne Johnson, Chief Research Engineer for KFI.

His talk will be on audio amplifier design, and also on a new process for electronically combining live action with background in television, which he has invented.

ASCE MEET

(Continued from Page 1) experiment running and an expert present to give a short talk describing the experiment and that portion of the lab where he is stationed.

Picnic Lunch

After a picnic lunch in Tournament Park the party will go to Morris Dam and to the Naval Ordnance Test Station at Morris Reservoir, both in San Gabriel Canyon. At Morris Dam the visitors will inspect the spillway, dam construction, and outlet works. At the Ordnance Test Station they will inspect the installation quite thoroughly, with the emphasis on the engineering features of the installation. The climax of the trip will be a torpedo launching at the Test Station.

Committee

Because of the huge size of the convention and the relatively few Caltech Student Chapter members, the members have been working for many months preparing for the Conference. Those who have been working particularly hard are the committee chairmen:

Executive Co-Chmn.—Max Kreston and Bob Smith

Housing and Registration—Dwight Schroeder and Jay Montgomery

Transportation—Don Oswald

Student Paper Contest—Bob Munro

Student Luncheon—John Fee

Field Trip—Max Kreston

Social—Ed Pyatt

Publicity—Vern Edwards

Finance—Don Schmid

The following is the schedule for the Conference:

Thursday, April 27—
7:00 p.m.—Get-Acquainted Dinner and Smoker.

Friday, April 28—
8:30 a.m.—Final Registration.
9:30 a.m.—Address of Welcome.

9:45 a.m.—Student Paper Contest.

12:30 p.m.—Student Luncheon.
2:30 p.m.—Student Forum, announcement of winners of Student Paper Contest and presentation of awards.

8:30 p.m.—Student Chapter Dance at USC.

Saturday, April 29—
8:30-6:00—Field Trip.

CAMPUS BREWINS

(Continued from Page 2)

He escorted a young dream who, among other distinctions, is a member of the famous Blackouts tumbling team. Want to know where he met her?—at the Blacker exchange, of course.

The Beak's award for meritorious service beyond the call of duty goes to Corbato and F. Wood. They, taking home to the nurses' triple apartment two of same, encountered the third nurse, just in from a date herself and complaining of its dullness. Never ones to let a poor girl suffer, they undertook Promethean efforts to console her with—Don Royce—but were unsuccessful, so that the party finally broke up at 0300 without ever really getting under way. Alas.

The Fog Burner

Saturday night, the Fleming-Ricketts dance burned a hole in the Pasadena fog, and precipitated considerable rainfall from the Rockies in Peoria—seeding was responsible. Having duly moved indoors, the Beak's proboscis, amidst quiet nooks and candlelight, was seen gazing at the host of uniquely clad females. With unaccustomed savoir-faire, he bumped extremities with RA's and faculty members in surprising numbers. Coach LaBrucherie was seen sweating, while the more academic element was represented by Dean Eaton and Wilbur Varney: yea, even the house members supported this function in unexpected droves, and the whole thing was, as they say, quite a success.

Finally, darkness loomed and before being engulfed, as all men will, the Beak would like to remark that, now that mail deliveries have been cut to one a day, there are only 39 shopping days till finals.

Gad!

Mazie—A fresh guy tried to pick me up yesterday. Boy, what an apartment he's got.

TWO NEW MESONS

(Continued from Page 1)

The new particles were discovered in cosmic rays in much the same manner as Dr. Anderson discovered the positron, for which he received the Nobel Prize. These particles should not be confused with the new heavy elements being produced, they are new, fundamental building blocks within the nucleus of the atom.

Cosmic Rays

The study of cosmic rays has furnished us with much new information on the nature of the atom. Fundamental research at Caltech has again provided knowledge vital to the eventual understanding of the fundamental nature of matter.

NEW REPUBLIC EDITOR

(Continued from Page 1)

In January, 1942, more than three years before the actual United Nations organizing conference in San Francisco, Straight had already published the first articles proposing that the organization be given real powers and that it be set up on a permanent basis.

From 1937 to 1941 Straight served in the State Department, and later on in the White House staff, working closely with Presidential assistant Benjamin Cohen. Late in 1940 he returned to the State Department but resigned early in 1941 to campaign for active intervention and to become the Washington editor of the **New Republic** magazine. At 34, Michael Straight is married and has three children.

SPIKERS DROP

(Continued from Page 3)

is taken at the practice games. Hans Vogel, the coach at USC, is also our coach. For those of you who are interested in getting on the team, the practices are held at 4:00 in the main gym of the Pasadena "Y" on Monday, Wednesday and Friday. Coach Vogel urges anyone who is interested to come out and get on the team. See you there!

MUSICAL SLATES PIANIST

(Continued from Page 1)

quartets and a violin-viola duo. One quartet is composed of Tech grad students, and the duo consists of one of our campus secretaries and her sister.

Thursday, May 25, at 8 p.m.

In Dabney Lounge, Miss Barbara Brown will give a violin program which includes sonatas by Franck and Handel, a concerto by Mozart, and selections by modern composers. Miss Brown is the artist pupil of Vera Barstow, and was the winner of the UCLA Young Artists competition. Admission will be free.

INTERVIEW SCHEDULE

(Continued from Page 1)

in Physical Analysis.
THE BOARD OF CIVIL SERVICE EXAMINERS announces an examination for probationary appointment to the position of Junior Scientist and Engineer, \$3,100-\$3,825 a year (GS-5-GS-7). Applications will be accepted not later than May 10, 1950. Seniors and graduate students studying for the MS degree are eligible. Openings are for Chemists, Physicists, Engineers (various options) and Electronics Scientists in the States of Arizona, California and Nevada.

They also announce the examination for **Engineering Aid and Physical Science Aid**, \$2,200 to \$3,825 a year (GS-1 through GS-7). Engineering options eligible as well as chemists, physicists, geologists, and mathematicians. Same territory and closing date for filing.

For complete details see the pink announcements—No. 12-81 and 12-82—posted on the various bulletin boards throughout the campus, including the Placement bulletin board.

POOR FIELDING

(Continued from Page 3)

anything. Next week the Beavers travel out to Pomona.

Score by innings:
Caltech 000 120 200—5
Oxy 040 311 040—13

USC, TECH PLAN

(Continued from Page 1)

leave Davis Dam about 3 p.m. Saturday and be back in Pasadena by midnight.

Those interested should leave a note for M. N. Ross in the R box in lower Throop before Friday, April 28. Men needing transportation should sign the list on the C.E.S. bulletin board in lower Throop so that the men with cars will know whom to contact.

SYNCHROTRON DETAILS

(Continued from Page 1)

by using the synchrotron principle of phase stability, will be able to obtain electron and x-ray energies up to 1.5 billion electron volts.

Electron Racecourse

The Caltech synchrotron will be about 36 feet in diameter and will occupy a sizable portion of the floor of the optics shop. The largest part of the synchrotron itself will be the huge circular ring magnet enclosing the "race-track," which is a hollow evacuated doughnut shaped chamber inside of which the electrons whirl. The radius of the "race-track" will be about 138 inches at first and will be expanded to about 150 inches in a few years when full power is to be developed.

If electrons are injected into the "race-track" at an energy of about 1.5 million electron volts by a special pre-accelerator, they will have a velocity of about 0.966 times the velocity of light. As the speed of any particle is limited to the velocity of light, at velocities very near the velocity of light the electrons can gain appreciable energy only by increasing their masses, a relativistic effect.

High Velocity

In the synchrotron, the electrons are injected at very nearly the velocity of light into a magnetic field of such strength that they are forced around into an orbit of essentially constant radius, in this case about 138 inches. Since the radius and

the velocity of the electrons are to remain almost constant, the angular velocity of the electrons around the "race-track" must also remain constant.

It can be shown that if the magnetic field is increased in magnitude, more energy must be added to the electrons to keep them at that constant radius and angular velocity. This is accomplished by having the particles pass through a gap across which a radio-frequency voltage at a frequency of about ten megacycles is produced at such a time that energy is picked up from the electric field. When the electrons have reached the desired energy, they are allowed to strike a tungsten target from which X-rays at the 1.5 billion electron volt level are radiated. These X-rays, not the electrons themselves as in a cyclotron, pass through a hollow evacuated tube into the target being bombarded.

Radiation Shields

The X-ray beam will be terminated by several feet of lead shielding and the entire synchrotron itself, if necessary, will be shielded with lead and concrete. It is not expected that the machine itself will require much shielding. The safety requirements for the project dictate that it must be possible to carry on continuous normal work in the room with the machine in full operation, otherwise it would be impossible to conduct experiments. So those of you who live in the Student Houses can stay right where you are in perfect safety.

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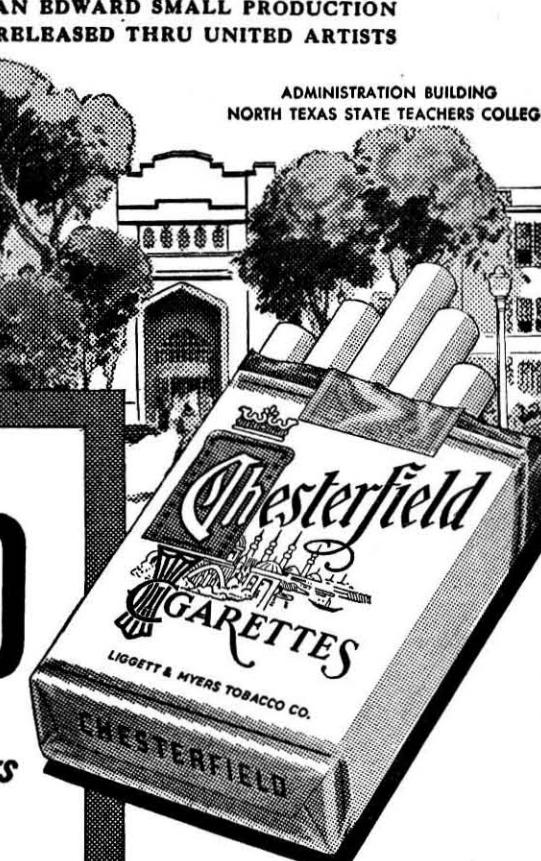
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