

California Institute of Technology
Pasadena, California, Thursday, February 15, 1951

HELP MAKE
THE Y DRIVE
A SUCCESS

Volume LII

No. 17

Debate Tourney Starts Tomorrow

Caltech to Host 70 Teams for Two-Day Meet Special Talks and Dinners to Highlight Talk Fest

Caltech will be host to debaters from 28 colleges tomorrow and Saturday during the championship debate tournament held annually here. About 70 debate teams are expected, representing three States, the majority being from California.

Caltech debaters participating in the tourney are: Swaroop Bhanji Deo, Matt Meseison, Stan Groner, Ulrich Merten, Mike Callaghan, Carl Larson, Irwin Rubenstein, Jim Enright, Bill Kimmel, Frank Ludwig, John Rogers and Art Savran.

Banquet

The traditional banquet will be held in the Athenaeum Friday at 6 p.m. Dr. H. Arthur Steiner, professor of political science at UCLA, will be the guest speaker—on the United Nations.

Special guests are Dr. Lee A. DuBridge, president of the Institute, and Dr. Hallett Smith, chairman of the Division of Humanities.

Questions

The subject to be debated is: "Resolved, that the non-Communist nations should form a new international organization."

Marine Corps Offers Plan

Major O. T. Koch, a procurement officer from Marine Corps headquarters, will visit the campus on March 5 in connection with the Platoon Leaders Class program and the Officer Candidate Course.

Summer Classes

The Platoon Leaders Class program is available to a limited number of Juniors, Sophomores, and Freshmen and consists of two summer training periods of six weeks each. There are no training requirements during the academic year. Enrollees may continue work toward a baccalaureate degree without interruption. Upon completion of the two summer training periods, and work leading to a baccalaureate degree, a small percentage of enrollees are commissioned second lieutenants in the regular Marine Corps, if requested, and the remainder receive commissions in the Marine Corps Reserve.

OCS

The Officer Candidate Course program is available to a limited number of graduates and Seniors and leads to a commission in the Marine Corps Reserve upon completion of a training program lasting eight to ten weeks. Classes convene on April 23 and July 10.

Detailed information concerning the above programs may be obtained from the officer procurement representative or assistants.

Vets' Eligibility Clues Announced

Regulations concerning veterans' educational benefits have been announced by the Caltech Veterans' Office.

They are as follows:

Regulations

1. All students discharged prior to 1947 must have their eligibility in effect during the last term of this year, or during the summer, to include the date of July 25.

2. Veterans who have used benefits, but have not been in attendance during the last term of this year must be enrolled on July or lose all remaining benefits.

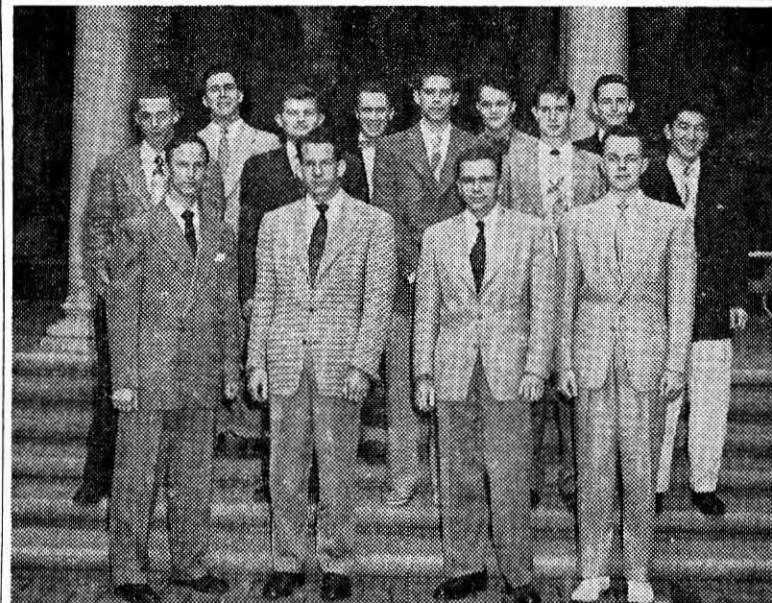
New Eligibility Certificate

3. Veterans receiving B.S. degrees in June, and who expect to continue in Graduate School, should secure a new Certificate of Eligibility before the end of the year.

Make Your Own Bed

House residents voted, as the lesser of the evils, for a plan which would eliminate bedmaking and cut room cleaning to one thorough cleaning a week, plus a small increase. Last week

Groner, Hanna Seeking Presidency Following ASCIT Nominations



First Row (L to R) Stan Groner, Dave Hanna, (President); John McCourt, (Vice-President); John Boppert, (Pub. Man.); Second Row (L to R) Leon Vickman, (Head Yell Leader); Carl Larson, (Treasurer); John Billings, (Pub. Man.); Chuck Benjamin, (Editor Calif. Tech); Mort Cramer, (Rally Comm.); Bud LeTourneau, (Editor Big T); Neil Stefanides, (Ath. Man.); Jim Latourette, (Sect.); Babe Karasawa, (Ath. Man.).

Players Bring 'Winter's Tale' To Culbertson

Coming to Culbertson tomorrow from the Balcony Theatre of the Pasadena Playhouse will be "Winter's Tale," a masque by William Shakespeare.

Assembly-goers will see a condensation of the production as it was shown—and held over—at the Playhouse. Students who have seen the play say it contains song and dance, drama and comedy.

Most of the action, requiring elaborate staging, takes place in Bohemia and concerns masquerading royalty. Student director is Stephen Bates.

ASCIT Dance To Be Gassy

"Jump for Joy" will be the theme for the second term ASCIT dance to take place in March at Riviera C. C.

Featuring decorations consisting of 800 helium-filled balloons, the dance is of the party type. The dress is sport.

Keith Williams and his 10-piece orchestra will play for the affair. Williams has played throughout the Southland with an orchestra reminiscent of the old Artie Shaw Band. Last year the Williams crew was voted favorite band of southern California colleges.

Billion Electron Volts Preliminary Testing Of Synchrotron Begun

by Al Jackson

The former optics shop, in which the 200-inch Palomar mirror was ground, is again a beehive of activity, as scientists build another giant in an effort to see beyond our present horizon.

In exact opposition to the exploration of outer space, this giant will be used to explore the very structure of matter itself. Caltech's mighty new addition, the billion electron volt synchrotron, is gradually taking shape and should be in operation sometime this year. It is hoped that this huge atom-smasher, known as an "electron synchrotron," will enable scientists to delve further into the structure of the atom and perhaps even solve the question of what holds nuclear particles together.

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Now Under Test
The magnet, largest part of the apparatus, has been assembled and exhaustive tests are being made of its field as final preparation for operation. This circular magnet is about 36 feet in diameter and encloses the vacuum chamber "race track." The chamber itself was sealed temporarily and tested for leaks

(Continued on Page 4)

Tech Reporter Gets Dope on Student Houses; Shows Where Your Money Goes

by Budd LeTourneau

"The student houses are a self-sufficient enterprise, managed by the Institute in an attempt to provide comfortable living quarters and wholesome food to members of the undergraduate student body."

Recently there has been much snarling and stewing among the house residents regarding a choice between a \$20 increase in rates or a cut in such services as waiters and bedmaking.

Comparison Shows

In order to consider intelligently the rate structure in the houses, a bit of comparison with other schools in the conference is in order. Present rates here at Tech are \$627.50 annually (80c room, 21-meal plan). Pomona, which offers similar accommodations and services, has just raised their rates to \$650.

Occidental, at \$610, and Redlands, at about \$550, are cheaper but do not provide waiter service or linen. These figures are from a survey made by George W. Green, business manager of the Institute.

Make Your Own Bed

House residents voted, as the lesser of the evils, for a plan which would eliminate bedmaking and cut room cleaning to one thorough cleaning a week, plus a small increase. Last week

Income:	1st term actual	2d-3d term estimate	
Food Sales	\$53,894.54	\$ 95,000.00	\$148,894.54
Room Rental	26,855.75	40,000.00	66,855.75
Miscellaneous	263.56	250.00	513.56
Net Income	\$81,013.85	\$135,250.00	\$216,263.85

Expenses:			
Cost of Food	\$25,452.16	\$ 47,500.00	\$ 72,952.16
Salaries:			
Manager and Assts.	2,948.83	5,300.00	8,248.83
Other regular employees (kitch, help & c.)	29,063.34	47,775.00	76,838.34
Student employees	2,791.78	6,500.00	9,341.78
Utilities (metered elec. and water)	1,286.68	4,700.00	5,986.68
"Supplies & Expenses"	2,352.10	3,600.00	5,952.10
Laundry	3,744.13	7,275.00	11,019.13
Telephone	298.89	600.00	898.89
Employee Meals	2,745.36	5,250.00	7,995.36
Master and RA's	2,262.41	4,400.00	6,662.41
Central Heat (Flat Fee)	2,200.00	4,200.00	6,400.00
"General & Administrative" (incl. acctg.)	824.99	1,575.00	2,399.99
Maintenance and repair..	3,180.43	5,800.00	8,980.43
"Provisions for repairs" ..	5,833.36	11,466.64	17,300.00
"Equipment" ..	\$ 281.76	\$ 50.00	\$ 331.76
"Miscellaneous" ..	215.12	50.00	265.12
Net Expense ..	\$85,481.34	\$156,091.64	\$241,672.98
Net Loss ..	\$ 4,467.49	\$ 20,841.64	\$ 25,309.13

The Board of Trustees voted to have **no increase** in rates, provided services were reduced, as stated above, and to absorb the small loss.

(Continued on Page 4)

ASCE Meeting

Next week the civil engineer will be shown a G.E. film entitled "Clean Water."

Active Campaign Opens Monday; Seven Offices Still Uncontested

Last week's nominations assembly for the coming ASCIT elections found the following men put up for office:

Stan Groner and Dave Hanna for president; John McCourt and Mike Callaghan for vice-president; Jim LaTourette for secretary; Carl Larson for treasurer; Frank Joyce, Bruce Watkins, and Ed Bryan for second representative-at-large.

Mort Cramer for rally commissioner; Babe Karasawa and Neil Stefanides for athletic manager; John Boppert and J. T. Billings for publicity manager; Chuck Benjamin for editor-in-chief of the *California Tech*; Dick White for business manager of the *California Tech*; Budd LeTourneau for editor-in-chief of the *Big T*, and Leon Vickman for head yell leader.

Later Nominations

In addition, the following men have been nominated before the Board of Directors since the assembly last Friday: Don Tierney and Larry Starr jointly for business manager of the *Big T*; Bill Blodgett and Bob Perpall for first representative-at-large, and John Gee for treasurer.

Proposed Amendment

At the assembly President Ulrich Merten also proposed an amendment to the by-laws stating that if the six members of the Board of Directors required for a quorum are not in school, a majority of the Board members still can transact business for the corporation.

The purpose of this amendment is to make it possible for elections to be held for ASCIT officers if a large number of them are called by the draft over the summer. The text of this amendment in full can be seen on the bulletin boards of any of the student houses or Throop Club.

Offices Still Open

Since some offices did not get two or more nominations at the assembly, they are still open for nominees until 11 tomorrow morning, according to the ASCIT by-laws. They are secretary, treasurer, first rep, rally commissioner, head yell leader, and editors and business managers of the *Tech* and the *Big T*.

Campaigns Start Monday

The elections next Thursday will be preceded by a hectic week of campaigning by the candidates.

\$10 Limit on Expenses

The only rule concerning individual campaigns is that no candidate may spend more than ten dollars (\$10) on his own propaganda to the masses. Otherwise he may use his ingenuity to the fullest extent in persuading everyone that he is the best man for the office.

Freshman Orientation

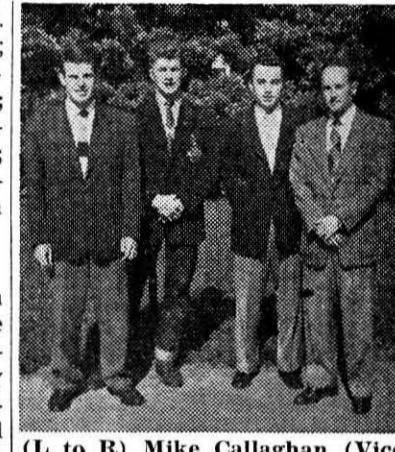
Commencing this coming Monday, a series of three weekly freshman orientation lectures will be given in 201 Bridge. These lectures, which are compulsory for all freshmen, will try to give the freshmen advice on choosing an option.

At the first lecture, Dean Strong will talk about basic principles of vocational guidance, while the 2nd and 3rd will be on opportunities in science and engineering, with the speakers unannounced.

AIEE Sponsors Amplifier Talk

Mr. George Downs will give a demonstration lecture on "magnetic amplifiers" Monday, Feb. 19, at 11 o'clock in 119 Kerckhoff. The lecture is being sponsored by the A.I.E.E.

Mr. Downs is chief engineer for the William Miller Corp. of Los Angeles, and an authority on this subject. Magnetic amplifiers were developed by the German during the last World War, and have since undergone extensive development and application.



(L to R) Mike Callaghan (Vice President), Ed Bryan, Bruce Watkins, and Frank Joyce (Second Rep.)

YMCA Drive Nets \$446.50

The annual Y drive which has been running for the last four days ends tomorrow. The thermometers have been steadily climbing all week to bring the campus total to \$446.50 so far.

The YMCA office reports that they are expecting the final tally, after all late donations are in, to be around \$2,750.

Breakdown

The latest breakdown when the Tech went to press was as follows:

Blacker	\$ 39.50
Dabney	1.00
Fleming	92.25
Ricketts	32.00</td

ON THE RECORD

By George Abell

The Barber of Seville

Gioacchino Rossini's opera buffa, "Il Barbiere di Siviglia," will be given two performances in the Los Angeles area next week by a local opera group sponsored by Charles L. Wagner, the first in Philharmonic Auditorium next Wednesday, the second in Pasadena Civic Auditorium next Thursday evening.

"The Barber of Seville," Rossini's greatest opera, is really nothing more or less than a first class musical comedy that's been a smash hit for 135 years. The text was adopted from a celebrated comedy of the same name by the French dramatist Beaumarchais, whose "Marriage of Figaro" had been set to music by Mozart.

The action deals with the young and handsome Count Almaviva who is in love with Rosina, the charming ward of an old character named Dr. Bartolo, who also has designs on the girl. Of course, the Count wins out, thinks to the clever maneuvering of the town factotum, the barber, Figaro.

Sparkling Music

Rossini being quite a wit, has introduced a considerable amount of farcical situations, which serve to keep the thing fast moving and full of fun. His gay and sparkling music is every bit as lively as the plot. Typical of the fresh and colorful melodies are the arias, "Una voce poco fa," "Largo al factotum," and the scandalous "Whispering song."

In English

Fortunately, the two performances of "The Barber of Seville" next week will be in English, so that all the subtleties of humor will not be lost on an American audience.

The cast will include Frank Cappelli, Jon Crain, Graciela Silvain, Ethel Swenson, William Wilderman and Ralph Telasco. Paul Breisach will conduct.

Civic Orchestra Next Sunday

Next Sunday afternoon at 3 p.m. the Pasadena Civic Symphony Orchestra, under Richard Lert, will give a concert featuring the Bach Double Violin Concerto. The soloists will be Stanley Plummer, concertmaster, and Barbara Brown, another orches-

SPACE BEAVERS

by Al Lewis

Ed. Note: Due to the increasing interest in science-fiction among Tech students, "Space Beaver" is being inaugurated as a new column presenting latest developments in this fascinating field.

New Magazine

The most important development of the past week in the field of science fiction is the inauguration of a new magazine, **Suspense**, featuring, according to the contents page: science fiction, mystery, crime, fantasy, the macabre, a suspense storyette, and a detective novelette.

Of the dozen stories, seven are of a fantastic nature; and six, including the two light fantasies and the two weirds, are reprints. "The Quick and the Bomb" by William Tenn is the best story in the issue, having accomplished the next-to-impossible feat of pulling a new wrinkle out of the hackneyed and badly overworked atomic destruction plot.

An item of general interest is

tra member. Both young violinists have achieved fame in previous public performances.

Also on the program will be Brahms' Variations on a Theme of Haydn, and two movements from Beethoven's Ninth Symphony.

Free Admission

The admission to the concert is free, and no tickets are needed. The doors to the auditorium will open at 2:30.

Music This Week

Tonight:
Los Angeles Philharmonic Orchestra, Artur Rodzinski, guest conductor
Philharmonic Auditorium; 8:30 p.m.
Vivaldi-Silotti: Concerto Grosso in D Minor
Aaron Avshalomoff: "Piping Hutsungs"
Strauss: "Der Rosenkavalier" suite
Tchaikovsky: Symphony No. 4.
Friday, Feb. 16:
Los Angeles Philharmonic Orchestra, Artur Rodzinski
Philharmonic Auditorium; 2:15 p.m.
Repeat of Thursday's Program
Clifford Curzon, pianist

that Howard Hawks' *The Thing*, ads for which have been appearing in Post, Life, and other places in the past several weeks, is not a box found on a beach, but rather is a movie version of John W. Campbell's novelette, "Who Goes There."

The Thing

The story concerns the members of an antarctic expedition who find a creature from another planet embedded in the ice. They thaw it out, only to discover that it has been in a state of suspended animation for twenty million years, and is still alive and very, very deadly.

The beast is capable of metamorphosing into any desired form, and the members of the expedition are at no time able to discern whether their fellows are in reality man or monster. "Who Goes There" is considered by many to be Campbell's best story, and by some is thought to be the best science fiction novelette ever written.

Next week a report on the

Fanquet.

Philharmonic Auditorium; 8:30 p.m.
Beethoven: "Les Adieu," sonata
Schubert: "The Wanderer," fantasy
Schumann: "Scenes of Childhood"
Liszt: "Funeralies"
Dohnanyi: Concert Study in F Minor

Saturday, Feb. 17:
Luisa Triana, and Spanish Dancers
Philharmonic Auditorium
Maurice De Fallo: "El Amor Brujo"
Ravel: "Bolero"
(Complete Ballet Version of Each)

Sunday, Feb. 18:
Pasadena Civic Symphony Orchestra;
Richard Lert, conductor

Pasadena Civic Auditorium; 3:00 p.m.
Bach: Double Violin Concerto in D Minor

Brahms: Variations on a Theme of Haydn

Beethoven: Adagio and Scherzo from Symphony No. 9

Wednesday, Feb. 21:
Comic Opera Charles L. Wagner
Philharmonic Auditorium; 8:30 p.m.
Rossini: "The Barber of Seville"

Thursday, Feb. 22:
"The Barber of Seville"
Pasadena Civic Auditorium; 8:20 p.m.
Los Angeles Philharmonic Orchestra;
Alfred Wallenstein, conductor;

Ruggiero Ricci, violinist

Philharmonic Auditorium; 8:20 p.m.

Martini: Concerto Grosso

Bruch: Scotch Fantasy for violin and orchestra

Dvorak: Symphony No. 5 (from the New World)

We Highly Recommend



CAMPUS BREWINS

First, a word to explain our apparent defection of last week. Stout of heart and steadfast of purpose were we until, alas, that wretched Thursday dawned and the world shook.

Ted Polk proved his out-of-itness e'en exceeded by his poetic proficiency, and his scathing censure struck right to the Beak's heart. Still reeling from the "otiose lout," "dull ape," the now egg-headed Beak betook himself to the Dabney locality mentioned by Pindarus Polk, to prevent the latter from committing the **ultimate outrage**. E'en here were we foiled, however, and such prolonged frustration thus unmanned us that we were unable to service the reader last week.

Irritated?

If any other readers be dissatisfied with these penning, we strongly recommend the Polk method for regaining harmony of soul, and we have further made arrangements with the printer, who assures us local irritation will be minimal. Good man Polk, Polk: you're the feline's posterior, and, verily: we've seen the light.

Thus purged by the catharsis of insight, we again betake ourselves to the upper strata,

whence we dispassionately report the following:

Heavy, Heavy

It came to pass that Fleming's dance of Saturday eve proved odious to all but three couples who heavily stepped through the heavily darkened lounge, clutching each other in heavy intimacy.

That's Sad

The sad story of Duane Marshall deserves telling in one form or another. Marshall, who owns one of the faster motor-cycles on campus, decided to test his and the machine's speed on a hill near Oxy. As he roared over the top of the dirt grade, the bike went one way, and Marshall the other. So now Duane has three broken bones in his foot, which is encasted, preventing his daily sojourns to his girl's home in Long Beach.

At Dabney during the week, censorship and darkness enveloped all.

Who Cares?

Quite a different picture, how-

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Prof. G. R. MacMinn

ever, was envisioned at the Ricketts-Throop Valentine dance, where the active splendor of the former outfit outshone all: Reports are flying thick and fast that the masses enjoyed themselves. Whether or not the women enjoyed the masses is still a subject of considerable debate. Yea, consider-

able.

Among the notables present were young **H. Mower**, Gil Kitching, flashing **H. Mower**, Chuck Miller, suave **H. Mower**, Don Lamarr, and debonair **H. Mower**. End of message. (Dit-dah-dit-dah-dit). Ta, ta!

YOUR COLLEGE SHOP

DRESS WEAR

SPORTSWEAR

CASUAL CLOTHES



881 E.
Colorado
at
Lake

Fowler's

"Men's Distinctive Fashions"

Open
Fri. Nights

THE DU PONT DIGEST

Bringing Up Alathon*

Du Pont scientists find great promise in this young member of the wax family

One of the most interesting and versatile of the new plastics is Du Pont "Alathon" polythene resin, chemical cousin of paraffin.

Because of its unusual combination of properties, it is now being used in everything from "squeeze-bottles" for toiletries to cable insulation and chemical-resistant linings.

"Alathon" was born when English scientists used high-pressure synthesis to create polythene, the solid and semi-solid polymers of ethylene.

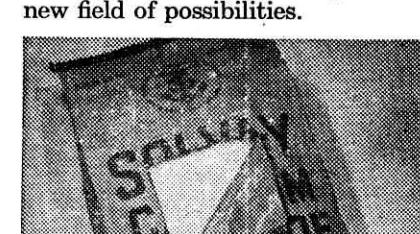
Du Pont scientists and others added their background in high pressure work to the field of ethylene polymers. This concerted effort produced a greatly expanded range of uses.

Taking First Steps

The first step of Du Pont chemists and engineers was to produce polythene in the laboratory to confirm earlier findings. Then the product was turned over to chemical engineers for pilot-plant work. Finally, a plant for full-scale commercial production was designed by chemical, mechanical and electrical engineers and metallurgists.

Many of the most promising uses

for "Alathon" could not be realized until technical difficulties were overcome. For example, the chemical inertness, which is one of the outstanding properties of the material in film form, also made the casting of film from solution impractical because it could not be dissolved in suitable solvents. In devising a special extrusion technique to solve this problem, Du Pont engineers opened up a whole new field of possibilities.



Multwall bags for chemicals and foods are made of kraft paper coated with "Alathon."

Acid-Defying Paper

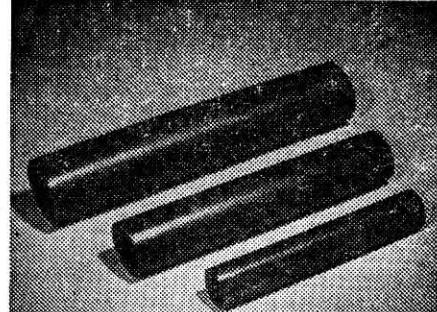
In film form, "Alathon" lends its strength, chemical inertness and resistance to grease and moisture to packages for chemicals, foods, metal parts and moisture-sensitive powders. In still another form in which these properties are employed, paper coated with "Alathon" is used as wrapping for bakery products and moistureproof containers for chemicals that would attack uncoated paper. (Experimentally, "Alathon" coated paper has been exposed to concentrated sulfuric acid for days without harm; the same paper, uncoated, was ruined within a few minutes.)

The protection of "Alathon" was extended to metal tanks and drums when Du Pont engineers developed a spray-flaming coating technique.

In the field of electricity, too, "Alathon" is proving of great value. Its outstanding electrical properties



All "Alathon"—ice-cube trays, refrigerator bowls, tableware and protective coverings.



Pipe made of "Alathon" is used for handling corrosive chemicals, solutions and gases.

make it an ideal insulator for wire and cable, particularly in the high-frequency applications necessary in television and radar.

"Alathon" in powder form is used for molding a wide range of light, tough and flexible plastic articles. In addition to bottles, these include tumblers, dishes, jar caps and ice-cube trays. Extruded as a film, it serves for garment covers, tablecloths and rainwear.

The future looks bright for "Alathon." New applications such as extruded pipe for mines and separators for storage batteries seem about to be realized. Other uses yet undreamed of will no doubt emerge from the close, continuous teamwork of technical men that typifies Du Pont research.

DID YOU KNOW ...

six out of ten Du Pont plant managers and superintendents started with the company as chemists, analysts, technicians or engineers.

DU PONT<br

Netters Trounce Loyola 5-3; St. Barbara Here

Varsity tennis players will engage Santa Barbara for the second practice match of the season Saturday, Feb. 17, at 1:30 p.m. in Tournament Park.

A close, well-played practice match with Loyola gave Tech's tennis men an outlook for a promising season. Matches were played on Atheneum and PCC courts with the following outcome:

Singles:
Joe Diehl (L) def. Palmer Smith (C), 6-4, 4-6, 6-4.
Rodger Baier (C) def. Gil Amelio (L), 6-4, 6-2.
Dick Bush (L) def. Jim LaFleur (C), 6-3, 9-7.
Ed Eyler (C) def. Tom McNulty (L), 4-6, 6-4, 6-4.
Tom Emery (C) def. Ed Devine (L), 8-6, 6-2.
Doubles:
Smith-Martin (C) def. Diehl-Bush (L), 6-4, 4-6, 6-1.
Amelio-McNulty (L) def. Baier-LaFleur (C), 6-2, 6-3.
Eyler/Emery (C) def. Devine-Price (L), 6-3, 6-1.

Top Doubles

The climax match was the first doubles payoff with Tech's Palmer Smith and Jack Martin defeating Diehl-Bush of Loyola. Both coaches admired the teamwork and strategy employed by the Smith-Martin combination. This coalition should prove to be a strong contestant for the top doubles team of the conference.

Ed Eyler proved his competitive ability with a spirit of determination which was too much for his opponent.

BUTTIN' IN

—by Butler

The Beaver basketball team was close but there was no cigar as the Sagehens squeaked out a narrow 43-41 victory. The difference between defeat and victory was told at the foul line. The Engineers made an almost unbelievably poor percentage of their free throws; getting only nine for twenty-two.

Probably the most gratifying observation made about the game was that Shy's five did not crack when they found themselves ten points behind with minutes to go. During the current season the team has habitually fallen apart when things got a little tough. But Saturday night the Beavers showed plenty of spunk while whittling down the score difference.

Al Sereno was the man that sparked the Engineers' attack. His clever passing and brilliant team work set up score after score. And now that Al has been watching the fouling, he should play considerably more minutes in the games to come.

IH Trophy

Throop Club's victory in Interhouse track virtually clinched

(Continued on Page 4)

Beaver Sports

Throop Takes IH Swimming IH Track Meet Practice, PCC

While debate still rages about the outcome of a hotly contested 880-yard relay, there was no question but that Throop took the Interhouse meet last Saturday. Throop wound up with 52 points for an easy win over runner-up Fleming with 42 points.

Outstanding mark was Bruce Munn's 100 time of 10.7s. Munn, a Dabney man, also made it a double win in the 220. Gil Kitching jumped a very creditable 20 ft. in the broad jump, took the 120-yard low hurdles in 14.7s, tied for third in the high jump, and ran the relay. Ray Heacock took the discus with 109 ft. and the shot with 39 ft. 4 in., as well as third in the broad jump, to win top scoring honors with 12 points.

The 880-yard relay was a beaut, with Dabney winning a clear first, and a close and still-argued finish between Perpall of Fleming and Kitching of Throop. The finish judges finally awarded

(Continued on Page 4)

As a result of the Interhouse track meet Throop Club has increased its lead to 22½ points in the race for the Interhouse Trophy. Fleming House which has held the trophy for the past n-1 years is in fourth place at the present time.

The scores in the meet were: Throop, 52; Fleming, 42; Dabney, 33; Blacker, 24; and Ricketts, 3.

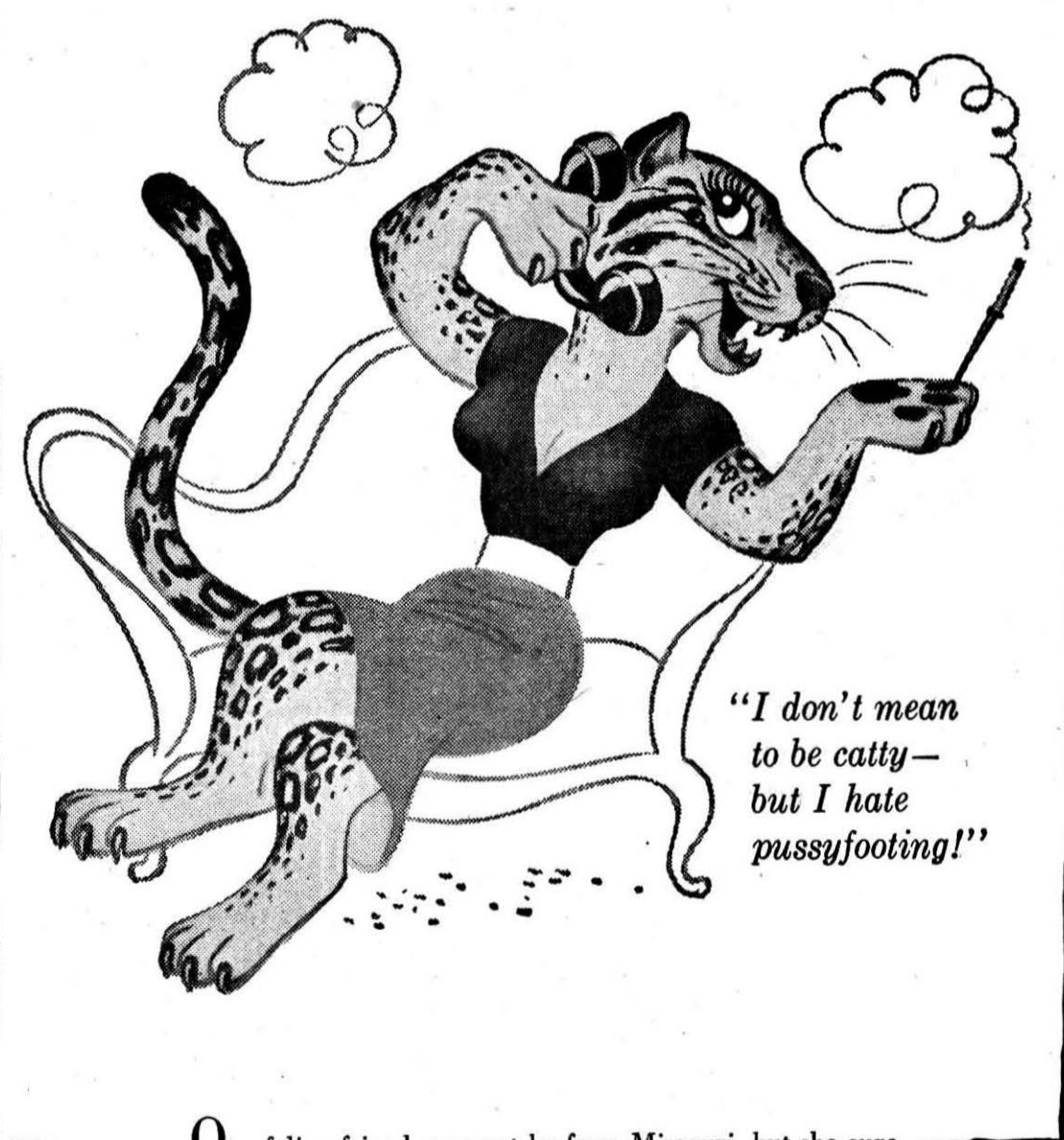
The Interhouse swimming meet will be held Thursday, March 8, with time trials Tuesday, March 6. Coach Don Garman, the Varsity swimming coach, will assist any men requesting help. The PCC pool is available every afternoon for practice starting Monday.

Interhouse Trophy Standings

Throop	88
Blacker	67½
Dabney	66½
Fleming	62½
Ricketts	42½

Campus Interviews on Cigarette Tests

Number 13...THE OCELOT



Our feline friend may not be from Missouri, but she sure

likes to be shown! She saw right through those thin, quick-trick, cigarette tests and realized you couldn't fairly judge a cigarette's mildness with a mere one puff or a swift sniff. Right on the spot, she decided they weren't fur her! Sophisticated, but shrewd, she knew what she wanted.

The Sensible Test . . . the 30-Day Camel Mildness Test, which simply asks you to try Camels as your steady smoke—on a pack after pack, day after day basis.

No snap judgments needed. After you've enjoyed Camels—and only Camels—for 30 days in your "T-Zone" (T for Throat, T for Taste), we believe you'll know why . . .

**More People Smoke Camels
than any other cigarette!**



Poets Edge Beavers 43-41; Bulldogs at PCC

Sereno Shines on Offensive Against Pomona; Team Gunning for Redlands

Next Saturday night at 7:30 p.m. the Caltech five takes the floor against the Redlands Bulldogs in the first half of a big double-header at PCC. The Beavers will be out to avenge an earlier 49-34 loss to the Bulldogs, who now have a 3-2 conference record.

Close to Win

For the greater part of last Saturday's game with Pomona it looked as if Caltech would record its first conference win. However, Lady Luck would not have it that way, for the Beavers were barely nosed out, 41-43.

Frosh Sports Roundup

by Nick Nicholson

With the season half over, Tech's frosh basketballers have a 2-3 win-loss conference record.

Last Saturday we saw them upset Pomona, 67-59, for their second league victory. A change in the line-up, giving Tech three tall men up front, seemed to do the trick.

Johnson High Man

With Curt Johnson starting at forward and Plambeck back at guard, the quintet went to town. Johnson's pivot shots gave him 28 points, high for the evening, while Anson maintained his average with 26 digits. Smith grabbed off eight points while doing some nice defense work, and Watkins got three before fouling out. Plambeck finished up the scoring with two points.

Tech was in serious trouble only at the end of the half, when Pomona led, 34-29. Seven minutes later the Beaverlets grabbed the lead and widened it steadily till the end. The second half saw three of Pomona's starting five foul out in a five-minute stretch.

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Beavers Spurgle

After Pomona had connected

for four points at the start of

the game, guard Dick Libbey,

making his first appearance

since his injury in the Oxy

game, dropped one through from

10 feet out. Only seconds later

the Beavers stole the ball, and

forward Norm Gray tied the

score. A subsequent free throw

by Al Sereno put the Beavers

ahead. Later, Michaelson hit for

two, and Butler hooked one in.

Tech Leads

This caused Pomona to take him out with the score reading 9-5, Tech's favor. Things looked good for a while.

Then with three minutes left in the half, Pomona connected on two long shots and a couple of free throws; so after Butler's tip-in, the half ended with Pomona leading, 21-20.

After intermission the boys were fired up more than ever. Following the tip-off a fast-break was started with Sereno passing off to Butler, who put the Beavers out in front again. Three minutes later the score read Caltech 26, Pomona 24. But there came a partial collapse. Pomona put on a spurge before the Techmen had recovered, they were trailing by five points.

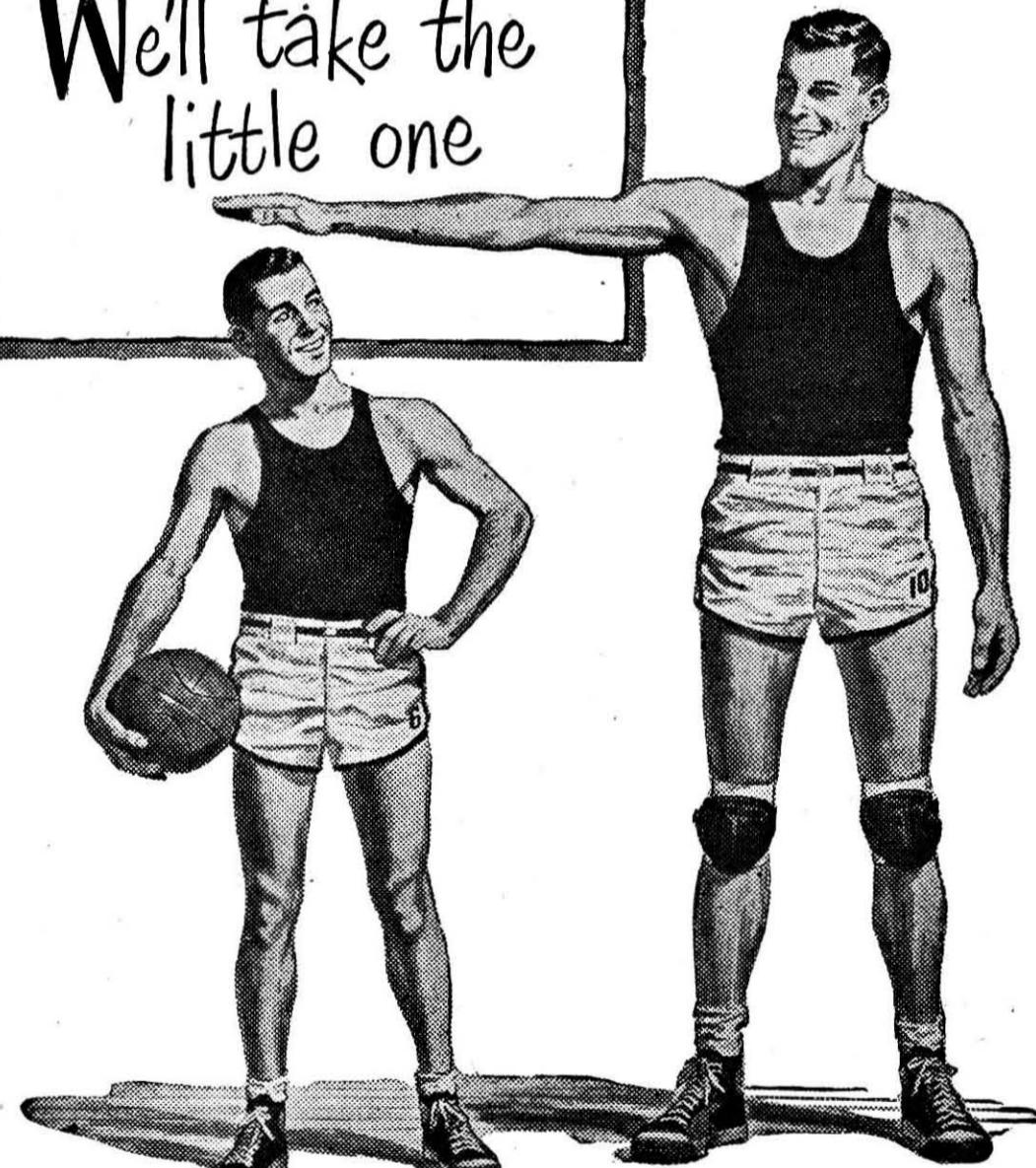
Three fast-breaks followed, gaining six points for the Bea-

(Continued on Page 4)

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little one



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You see, telephone equipment occupies valuable space, uses costly materials. Paring down its size helps keep down the cost of telephone service.

Take voice amplifiers, for example. Telephone engineers put the squeeze

on size, came up with a new small type. When 600 of these new amplifiers are mounted on a frame two feet wide and eleven feet high, they do a job which once required a roomful of equipment. Size was cut—but not performance!

This is one of many cases where the Bell System has made big things small to help keep the cost of telephone service low.

BELL TELEPHONE SYSTEM



Film Will Depict Mission of Christ

Caltech students will have the opportunity to see a new film entitled "Upon This Rock" in Culbertson on Sunday, Feb. 25, at 8:00 p.m.

This is a Technicolor film on the life of Christ as seen through the eyes of the Apostle Peter. "Upon This Rock" is somewhat unique among religious pictures in that the best modern cinema techniques are used in the production of it, according to Newman Club President Tom Janssen.

In the rapid development of this divine narrative retold from Gospel stories, the audience is carried in spirit from Bethlehem and Nazareth to the Mount of Olives and Calvary.

The Newman Club is sponsoring the full-length movie on the life of Christ, and they will be obliged to charge 50 cents a ticket to meet rental expenses.

TECH REPORTER GETS DOPE

(Continued from Page 1)

Where Our Money Goes

In order to see just where your room and board dollar goes, Mr. Green has provided the Tech with the summary of accounts listed above, giving the actual first term statement and his estimated for the second two terms. As you can see, the houses are definitely self-sufficient, but little or no nonessential expense is included.

We're at a Loss

From budget outlined above we see that, with present services, the houses are losing money. The reasons for the loss are: 1) Increased food costs and wage rates, and 2) 20 vacancies in the houses.

It is rather astounding to note that we are paying more for employees than for food, but unfortunately the houses cannot run without sufficient employees and supervision. "Provision for Repairs" is an annual percentage saved each year for such long-term repairs as painting the houses (two were painted last summer), and furniture, linen, and kitchen replacements, all necessary to prevent the houses from becoming rundown. It is likely that the actual loss will

not be as great as in this estimate because of a) less dropouts than anticipated and b) the cut in bedmaking services.

To justify his statement that costs had increased, Mr. Green cited the recent 13-point rise in the government food index, and an average 4% wage boost in November.

Complaints Were Aired

At a meeting held by Mr. Tanham and Mr. Green at Arden House to discuss the rates situation, and (in response to a that, while it was impossible to number of complaints regarding the food), Mr. Tanham stated improve the red meat situation due to high costs, he would have a ballot in the near future to determine if any very unpopular meals such as chop suey should be eliminated.

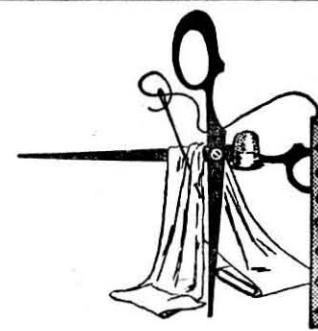
In response to complaints regarding the buildings and grounds monopoly, Mr. Green said the houses were charged only for one part-time gardener for work in the courts, and it was his opinion "that B & G did a more conscientious job repairing damage than might an outside contractor." Mr. Green has offered, and the Interhouse Committee has accepted, a plan whereby the houses may install their own windowpanes, thus saving money, providing it was done promptly and correctly.

Beefs?

Any complaints regarding food, rates, B & G workers, or excessive damage charges should be taken directly to George Tanham, who as Master of the Houses, is available and willing to discuss any such complaint, and to take such action as seems advisable. However, no complaints should be taken directly to the employees or to the manager.

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



POOR Paul was having a fowl time because his down was up. All the chicks made wise quacks about his upswept hairdo until his shellmate suggested he duck over to the drugstore. "Waddle I do?" he asked. "Get Wildroot Cream-Oil!" the druggist answered. "Non-alcoholic. Made with soothing lanolin. Grooms your hair neatly and naturally without that plastered-down look. Removes ugly ducklings—I mean ugly dandruff! Helps pass the fingernail test!" Now he's engaged—he's lovely—he uses ponds—to swim in! (Isn't he decoy one?) So water you waiting for? Get a tube or bottle of Wildroot Cream-Oil Hair Tonic at any drug or toilet goods counter today. Ask your barber for professional applications. And tell all your webfooted friends it's eggzactly what the ducktor ordered!

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

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

BILLION ELECTRON VOLTS

(Continued from Page 1) a short time ago. The working pressure in the chamber will be the order of 10.5 mm of mercury—something not easy to accomplish in a large cavity.

The machine is expected to be in operation sometime this year at the 500 million electron volt level. This phase of the operation will last for perhaps a year to iron out the "bugs" before proceeding to operation at the 1 to 1.5 billion volt level. It is expected that the lower energy problems will present the most difficulties.

Power Room in Basement

A room has been prepared for the installation of the power supply which is being developed by General Electric. The power supply will be installed within the next few months. Other units of the machine are being assembled and tested. These include the radio-frequency cavity and the electron gun. The vacuum pumps are assembled on the main floor of the lab at present, but will be moved to the basement later.

Dr. R. V. Langmuir, who is in charge of the project, stated, "We are slightly behind schedule, but that is to be expected." He was pleased with the progress that has been made since the project was started last year. Dr. Langmuir worked on the 70 million electron volt synchrotron built by General Electric Co.

AEC, ONR Responsible

The machine was developed

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through a joint survey by the Office of Naval Research and the Atomic Energy Commission, who are providing most of the million dollars required for construction. The general design was suggested by Dr. H. R. Crane, now a research associate at Caltech. The machine itself was obtained from Berkeley where it was originally a quarter 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.

By using the synchrotron principle of phase stability, electron and X-ray energies up to 1.5 billion electron volts may be produced. Electrons will be injected into the "race-track" at energy of about 1.5 million electron volts by a special accelerator, or "gun." At this energy level, the electrons will have a velocity of about 0.966 times the velocity of light. With such high velocity, the electrons can gain appreciable energy only by increasing their masses, a relativistic effect.

How It Works

Upon being injected into the vacuum chamber, the electrons will be forced around into an orbit of essentially constant radius by the action of the magnetic field produced by the huge magnet which surrounds the chamber. In this case the radius will be about 138 inches. Since the radius and the velocity of the electrons are to remain constant, the angular velocity must

BUTTIN' IN

(Continued from Page 3) the IH trophy for that organization. No doubt heads will roll in Fleming as zealous alumni try to find out what happened to Fleming's "perpetual" trophy. Of course, the boys from the Red machine will toss this prediction out the window as pure poppycock. But men, I got this one figured. Last place Ricketts holds the key the well known skill of the Rowdy volleyball team will stave off any bid to overcome the off-campus club's lead.

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 of about ten megacycles is produced at such a time that energy is picked up from the electric field.

X-Rays Produced

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.

It is hoped that this machine will be able to produce mesons, which seem to hold the secret of the "nuclear glue" that makes atoms what they are.

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POETS EDGE BEAVERS

(Continued from Page 3) vers. With twenty seconds to play, Gray made the score Pomona 43, Caltech 41. The gun went off, and that was all.

Sereno Hot

As usual, Butler, who is third in conference scoring, led the Beavers with 14 points. Besides playing an outstanding game, Al Sereno's nine points were enough to make him runner-up to Butler. Lineups:

Pomona (43)	Caltech (41)
8 Cooper	F. Gray
7 Peter	F. Michaelson
7 Woods	F. Sutton
10 Allen	G. Sereno
4 Hamond	G. Libby
2 Half-time score: Pomona 21	Caltech 20.
Scoring subs: Pomona—Deis 1.	Caltech—Libby 2, Tautz 2.

THROOP TAKES IH MEET

(Continued from Page 3) ed it to Fleming in spite of loud but obviously mistaken claims to the contrary by the timers.

Final results were:

Throop 52	F. Pine (F)
Fleming 42	7. B. Munn (D)
Dabney 33	220 yd. Wash. time 23.8, B. Munn (D)
Blacker 24	330 yd. Run, time 39.4, R. Gutierrez (D)
Ricketts 3	660 yd. Run, time 1:31.0, P. Asgaard (T)
	1320 yd. Run, time 3:40.0, A. Pine (F)
	70 yd. HI. Hurdle, time 10.0, D. Sutton (F)
	120 yd. Low Hrd., time 14.7, G. Kitching (T)
	High Jump, 5' 5 1/4", H. Kamel (B), D. Sutton (F)
	Broad Jump, 39 1/4", R. Heacock (T)
	Pole Vault, 10' 9", D. Riggs (T)
	Discus, 10' 9", R. Heacock (T)
	Javelin, 155' 3 1/4", S. Middlebrook (B)
	880 yd. Relay, 1:37.8, D. Stewart, A. Snider, B. Munn, R. Gutierrez



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