

The California Tech

California Institute of Technology

Volume LX.

Pasadena, California, Thursday, April 2, 1959

Number 22

Caltech To Garner National Publicity

Caltech's leadership in science is due for much national publicity in the next few weeks with four popular magazines planning feature articles, according to the Caltech news bureau.

Color pictures of the larger galaxies and nebulae as seen through the 200-inch Palomar telescope will appear in the April 27 issue of *Life* and the May copy of *National Geographic*. Both *Fortune* and the *Readers Digest* are planning comprehensive articles on Tech.

This week's *TV Guide* carries a picture and feature story of the continuing Caltech TV series, "The Next Hundred Years." The new radio telescope installation in Owens Valley is the cover story of the April *Sky and Telescope*.

Hales Among Highest Five In Math Contest

Al Hales placed among the top five contestants in the recent 19th annual Putnam Mathematical Competition of 506 top collegiate mathematicians of the U.S. and Canada. Caltech's team of Bob Jewett, Tom Morton and Hales placed third behind Harvard and Toronto universities in a 98-team field.

Hales receives \$75 from the Mathematical Association of America for finishing among the five highest — there was no announcement of the order in which the five winners were ranked but with Hales were ranked one entrant from Harvard, two from Toronto, and one from San Diego State.

Dave Handel, Jewett and Morton were rated among the top 25 contestants and awarded honorable mention.

The third-place team score brings a \$300 prize to the school and \$30 to each of the three members. Other ranked teams were Cornell, fourth; Brooklyn Polytechnic Institute, fifth; and honorable mention to Case Institute of Technology, M.I.T., Columbia, University of California (Berkeley), and Yale.

Applications Open For 3 RA Posts

Applications for Resident Associates of Blacker, Fleming and Throop will be open until April 13.

Applicants must be grad students in their second year of grad school or beyond or of higher academic rank up to assistant professors.

A short account of previous experience must be included in the application to be turned in to the Master of Student Houses in Blacker basement. An interview also included in application procedure.

Announcements

Clubs and organizations receiving money from ASCIT should present their budgets for next year by April 6 to the BOD for consideration and inclusion in the ASCIT Budget.

Glee Club To Start On Week-Long Journey; Appear In San Francisco



Singing here for last November's Homecoming dinner is the Caltech Glee Club, under the direction of Olaf Frodsham. This same group

will elave next Wednesday on an extended tour of Southern and Coastal California.

Variety Marks Big Repertoire

The Glee Club will leave next Wednesday on the longest journey of its young career, a state-wide tour of eight singing engagements in high school and churches, culminating in San Francisco the following week end. The 55-man group, directed by Olaf Frodsham, will present selections from its highly varied repertoire of choral music, ranging from polyphonic classics, both religious and secular, to all types of folk and show music.

Two soloists will highlight the club's programs, tenor Paul Weischel and pianist Gary Lorden. Also, the Caltech quartet of Ron Arps, bass; George Muenich, baritone; Dick MacAnally, second tenor, and Weischel are planning a variety of selections as is the octet of first tenors Keith Brown and Steve Imrich, second tenors Bob Thompson and Ken Dinwiddie, baritones Larry Langdon and Muenich, and basses Arps and Ross Carder.

night in Bakersfield, for a high school concert. Thursday's shows for the Clovis Union High School and an engagement at the First Baptist Church of Hanford.

Friday, the Techmen appear at the Patterson Union High School and the Trinity Presbyterian Church of San Carlos. Spending Saturday and Sunday in San Francisco, the Glee Club will sing at the Seventh Avenue Presbyterian Church of San Francisco and the Arlington Community Church in Berkeley. The club returns home to entertain the Fine Arts Club of Pasadena the following Tuesday evening and the Hollywood Women's Club on Wednesday.

McLane, Shakel Win IHC Posts

Doug McLane, president of Fleming House, was chosen president of the Interhouse Committee at the new IHC's first meeting yesterday.

Doug Shakel, a member of Dabney House, was elected secretary.

Caltech Holds Ninety-five Techmen Serve Two-Day Meet As Mobilgas Observers On Space Plans

The Realities of Space Exploration was the subject of a Caltech-sponsored colloquium on campus March 19 and 20. Culminating in a argumentative final session, the conference was aimed to present a balanced view of the U.S. space program to top governmental and industrial executives. Copies of all the speeches presented are available at the news bureau.

Thursday morning's opening session was devoted to a discussion of outer space from an astronaut's viewpoint, and following meetings focused on the U.S. space program, the techniques of space exploration and man's future in space.

The first day's sessions featured speeches by Tech faculty members and visiting scientists and Friday's meetings were devoted to panel discussions with audience participation. T. Keith Glennan, head of the National Aeronautics and Space Administration, closed the colloquium with a speech about the U.S. civilian space program.

Thursday morning's program presented an outline of current scientific knowledge of outer space from the upper atmosphere to a discussion of relativity. Sidney Chapman, head of the IGY central committee, and James Van Allen of the University of Iowa, delivered the first two addresses, concentrating on the atmosphere. Chapman

(Continued on page 5)

Ninety-five Caltech observers on the annual Mobilgas Economy Run are scheduled to leave this Sunday for Kansas City. The observers represent each option and class.

For the past several years, all observers on the run have come exclusively from Caltech.

Hutchins to Speak To YMCA Dinner Tomorrow Evening

Dr. Robert M. Hutchins, President of the Fund for the Republic, will be the guest speaker at the YMCA Centennial dinner tomorrow night at the Atheneum.

Dr. Hutchins, after being decorated with the Cross de Guerra in the First World War, graduated with honors from Yale Law School and became its Dean three years later. At the age of 33 he became the President and Chancellor of the University of Chicago.

The reception for Dr. Hutchins will be at 6:00, with dinner at 6:30. His speech, "The Next Hundred Years," will begin at 7:30. Although tickets are normally \$3.50, students can get them for \$2.50 in the YMCA office. Those who do not care to attend the dinner may come in at 7:30 to hear Dr. Hutchins.

This program is sponsored by the Caltech YMCA, which is now 43 years old. It is celebrating the founding of the first college YMCA in 1848 at the Universities of Virginia and Michigan.

Chosen from approximately 130 students who acted as observers on break-in runs, they are expected to make more than \$5,000 on the two-day trip. In addition to getting a salary of \$1.50 per hour, they will receive free meals and lodging. Observers on the break-in runs made more than \$10,000.

Forty-seven cars are entered in the run this year, more than twice as many as ever before, and there will be two observers in each entry. Although the final destination is Kansas City, the route has not been announced to prevent drivers from making compete practice runs.

Dave Spencer is the student in charge of the program, and it is conducted on the Caltech campus by Mobilgas through the Industrial Associates Office.

ASCIT Jobs Deadline Due

The applications for many of the ASCIT appointive offices are due on the 13th of this month. These include membership on the Executive Committee, Little t editor(s), head of ASCIT Photo, chairman of the election committee, and New Student Camp counselors.

April 20 marks the deadline for the Educational Policies Committee, and editor and business manager of the Big T.

Anyone interested in the above offices should place letters of application in the H box in Blacker House as soon as possible. The letters need merely be a state-

ment of interest in the position. The applicants will be interviewed individually by one or two members of the BOD and the present office holders. These committees will then make their recommendations to the BOD, and the appointments will be made immediately.

• BOC Seeks Applicant

The Board of Control will be accepting applications from juniors this week to fill the opening created by the loss of one of the junior representatives. The new appointee will serve the remainder of third term.

The California Tech

Published weekly during the school year by the Associated Students of the California Institute of Technology, Incorporated.

Editorial Board

Cleve Moler, Editor
John Todoroff, News Editor
Lance Taylor, Assistant News Editor
Martin Carnoy, Feature Editor
Roger Noll, Sports Editor

Editorial Staff

Carl Gottschall, Bob Koh, Carl Rovainen,
Tom Tisch, Geary Younce, Kerry Donovan

Business Staff

Howard Weisberg, Manager

Sid Leibovich, Neil Sheeley, Circulation

Entered as second-class matter November 22, 1947, at the Post Office in Pasadena, California, under the act of March 3, 1879.
Printed by Bickley Printing Co.
Represented nationally by National Advertising Service, Inc.

Editorial

It's That Time Of Year

Tom Jovin, in this week's President Column, makes brief mention of a few problems which the BOD and ExComm cannot continue to ignore. He almost sounds sincere and, if he can follow through with some constructive action, he will have accomplished something.

Jovin may not realize it, but there is some basis for the comments made in the article he referred to. (March Engineering and Science, p. 36.) The Board member who, once he is elected, loses all sense of perspective about his job and becomes interested only in increasing his already overwhelming popularity with the student body is not nonexistent.

We've seen some recent student body projects, like the committee on New Student Camp, be quite successful. We hope that Jovin, and the rest of the ASCIT officers, can accomplish something with the goals they've set for themselves.

It might be added in passing that the new Editorial Board of the California Tech has a few campaigns that, if nothing else, we'll be commenting upon in future issues. The operation of the student houses, the inter-house relations situation and the ever-present student attitude problem are among the questions we hope to consider.

President's Column

A friend of mine recently wrote an article about student elections at Caltech. In it, he painted a rather interesting picture of candidates and their motivations in running for office. It was not flattering and in many respects, justifiably so. Yet it is absurd and unfair to state that a person seeking a position in ASCIT is devoid of principles and consumed, instead, with a burning passion for power and prestige.

Governments can never be popular because they imply and apply restrictions on individuals. Yet they do fulfill a necessary function — that of meeting certain basic needs common to all. In addition, they can and should serve as centers of stimulus for advancement and improvement in areas that are important and relevant.

I have stated in the past, and will continue to do so, the opinion that ASCIT, as a governmental agency, is meaningless and of no consequence. But as a means to an end, a vehicle through which officers and students can mature by the application of responsibility and expression of constructive opinion, it possesses great value.

In all fairness, one should realize that the men who sit on the Board of Directors, the ExComm, and other agencies do not devote 100 per cent of their time toward self-glorification. Many of them spend long hours in a sincere effort to do a good, and if possible, a better job. They do not always succeed. But making mistakes is a human failing, which we all possess.

I hope we receive much criticisms this year, but of a type

which will inform and assist our efforts, not destroy them. The shorter the BOD meetings and the less detail and routine dealt with, the better. There are far more important and interesting questions to consider than whether a new hose for the car wash should be 10 or 20 feet long. Here are but a few:

a) One-third of Tech undergraduates leave before graduation. Why?

b) There are no Negro undergraduates at Tech. Why?

c) California is offering financial aid to students; the catch is that they must sign a loyalty oath. Is this O.K.? If not, what are we going to do about it?

d) Few students know about or are interested in the research conducted at Tech; fewer know one or more faculty people well. Why?

See you around.

Tom Jovin
ASCIT President

Welcome to

**THE CAMPUS
BARBER SHOP**
(In the Old Dorm)

**ALL HAIRCUTS
\$1.50**

Two Barbers to Serve You

Drugs Sundries Cosmetics Tobaccos
**CALIFORNIA REXALL
PHARMACY**
555 S. Lake SY 2-3156
Breakfast Lunch Dinner

ASCIT New Student Camp Committee Submits Report

This is a condensation of the report submitted last term by the ASCIT Committee on New Student Camp.

The report was approved, with one addition, by the BOD and submitted to Dean Strong who accepted it with thanks and congratulations to the committee.

The report culminates a year-and-a-half study and reorganization of the camp.

Report of the ASCIT New Student Camp Committee

I. Purpose of the Camp

The basic purpose of the Camp, as seen by the Committee, is to integrate new students into the Caltech community — to make their transition into what is essentially a new way of life as smooth, stimulating, and challenging as possible. This means that the Camp must communicate the atmosphere, ideas, and values of Caltech. It must introduce the new student to the opportunities available at the Institute, and to the problems associated with these opportunities. It must present a suitable number of the basic "facts of Caltech life," and break down a number of harmful preconceptions and stereotypes. It must attempt to answer both the immediate and long-range questions of the new students. Finally, it must provide a congenial, relaxed, recreational atmosphere in which new students, upperclassmen, and faculty can mingle freely, with a minimum of constraint.

II. General Recommendations

The Camp is an activity which calls for the active participation of the Institute administration, faculty and students. In order to insure the enthusiastic support of these three groups, and in order to distribute the considerable work of organization and preparation for the Camp as equitably as possible, the Committee recommends the following changes in over-all responsibility for the Camp:

This Committee recommends the formation of a Student-Faculty Committee for the New Student Camp. This Camp Committee, appointed annually, would be under the chairmanship of the Dean of Freshmen. The faculty members would be appointed by the Dean of Freshmen (the Dean of Students serving as an ex-officio member), and the students by the ASCIT President. The Committee would normally be appointed at the close of each Camp. It would have the responsibility to evaluate the past Camp, plan the program for the following Camp, and make the final selection of the faculty and upperclass participants in the Camp. The student members of the Committee would have the responsibility of interviewing all applicants for the position of upperclass counselor, and presenting their nominations to the Committee. The students on the Committee would be seniors who had attended the past Camp, and the faculty members would also be past Camp attendees.

We clearly see the need for a single administrator of the Camp and commend very highly the work of the Dean of Freshmen in this regard. We also see the need for responsible student and faculty participation in the operation of the Camp. We feel that the great enthusiasm which the upperclass students had for the Camp this past year was directly related to the fact that they had a definite responsibility for the selection of the students as well as for a portion of the program. We feel that one of the best methods for making sure that the Camp is continuously related to student needs and interest as well as those of the faculty would be by the creation of the above committee.

III. Summary of 1958 Camp

The 1958 New Student Camp was evidently far better than its immediate predecessors, and it should be considered in general successful. The outstanding strong point was the partici-

pation and enthusiasm of the upperclassmen. In addition, the general congenial atmosphere and discussion group method of communication were important to the success of the Camp.

Features that could stand improvement were, specifically, the presentation of the honor spirit and the Honor System and getting the opening discussion group "off the ground." Also, the student leadership, while good, was predominantly from the student houses, while the student population (and especially the incoming freshmen) lives in considerable part off-campus. Finally, the pre-discussion lecture programs, while valuable, were felt to be a little sketchy and even considering the hard seats and the bright sun, these lectures could be weightier. A lecture on the history of Caltech would be much to the point in this series.

IV. Recommendation for the 1959 Camp

The new student should be more adequately forewarned of the problems he will face at Caltech. Such problems as academic competition, motivation in science, or pressures of diverse interests could be touched upon in a general way.

The music to the school song should be mimeographed and distributed to the freshmen, rather than teaching it "by ear."

Preknowledge of main points of keynote speeches. This enables discussion leaders to organize their thinking in relation to these points.

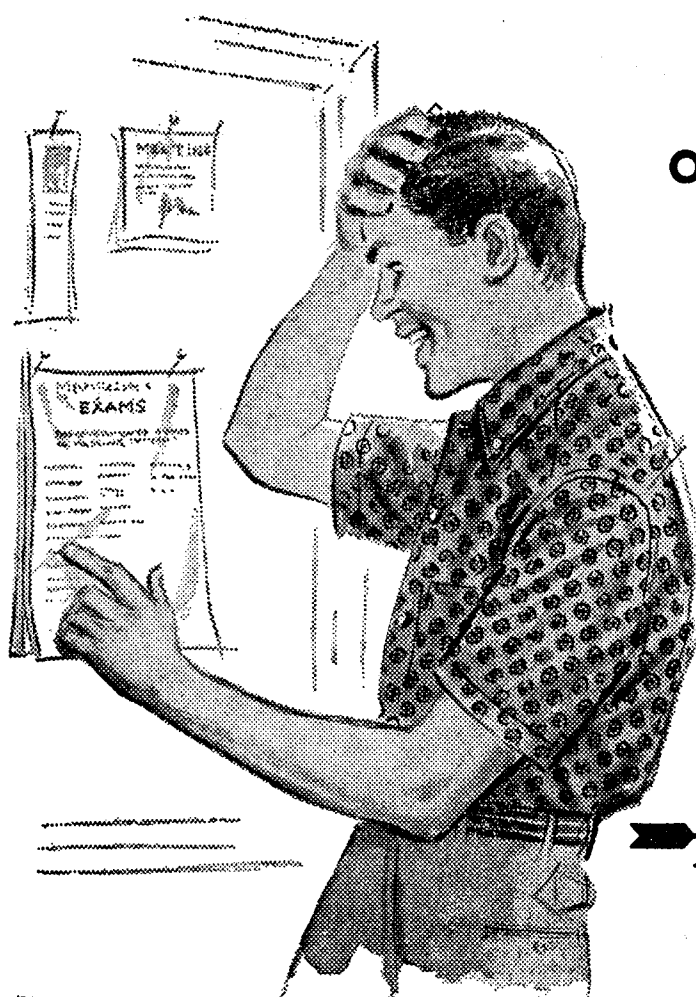
More complete familiarization of faculty and students with just what exists at Tech—both academic and extra-curricular.

Student leaders should be better informed on the mechanics of discussion leading.

Along with topics included last year, discussion groups should include comments on future goals of students.

Considerable value could be

(Continued on page 5)



Obviously,
he makes the grade

We don't mean just at exam time, either. The comfort-conscious guy can tell at a glance that these smart Arrow shirts make warm weather a breeze. The medium-spread collar and fresh patterns are just right, alone or with a casual jacket. Arrow sports shirts come in a variety of fine patterns, priced from \$4.00 up.

→ ARROW →

first in fashion

Steps Forward

New Instructor Sets Pace

By John Soule

Around the middle of last term observers in Culbertson Hall could have witnessed a rather prosaic spectacle; the sight of Techmen being snowed. The source of the blizzard would plainly have been a substitute dancing teacher demonstrating — with the help of an attractive assistant conveniently borrowed from Mark Boyd's Studio — how the awe-stricken Techmen might some day dance if they worked hard and came to ASCIT Dance Class every week.

His optimism was probably inspired by his own experience. Eleven years ago he was a frustrated shoe salesman; since then he has gone from feet to steps.

Main Theme

"It isn't what you do, but how you do it," is his main theme. In addition to learning in four lessons as many new steps as he had learned in the previous 15, all but the most mechanical Techman in the beginners' class was able to slither sinusoidally across the floor with encouraging proficiency. This emphasis on **how** to dance is only one of the new ideas that have transformed a repetitious two-hour party into a course of

study which could easily become as popular at Tech as beer.

Projected for third term are more demonstrations with attractive assistants and occasional contest in both beginners and advanced course, which will feature private dancing lessons as prizes. The beginners' course will be directed more at the Techman who has special difficulty in dancing, and the advanced course will be more sophisticated, for the man who finds dancing trivial. An elaborate effort is being made to increase the attendance of college-age women, particularly from PCC and Oxy, by the good report of those already attending and a campaign of what the ADC, Publicity Manager described as "personal contact."

Further Exhortation

We asked one of the co-chairmen of the class if he wanted to include a further exhortation in this article. "Do you think all Techmen should attend the ASCIT Dance Classes?" we asked.

The co-chairman examined an expensive cigar. "I think every Techman should come and decide for himself," he said.

So do we.



By McClure

Not too long ago — a week, in fact — a friend of mine and I made acquaintance with the fabled wonders of Mexico and her fishing. The fishing left nothing to be desired; neither, unfortunately, did the other wonders of the country. During one of our stints in the cantinas of Encinada and Estero (one grocery store in the latter) we made the acquaintance of tequila. Now, if you wish to drink tequila, you may. I certainly don't discourage it, if for no other reason than to bring prosperity to our southern cousins.

However, even after some of the finest Rhum Negrita it has ever been my pleasure to sample, the stuff tasted like a pepper extract left around too long by some absent-minded chemist. You may still like tequila — some people even claim to enjoy milk with their Scotch. If so, I would like to put forth some of the more palatable methods by which it may be consumed.

First, we have the ancient, time-tried way of partaking, using a dash of lemon, a pinch of salt, and a shot of tequila. There are many ways and means of moving these things from the outside world to the inside, but any which accomplishes the desired transfer is acceptable. Usually one bites a lemon, licks up some salt from the back of his hand, and downs a shot of liquor in the Western fashion with none of this sipping stuff.

As far as I could tell — the bartender's English was almost as bad as my Spanish — we had the following:

Tequila Sling

Place in a highball glass:
 Juice of ½ lemon
 1 teaspoon sugar
 1 dash Angostura bitters
 Add several ice cubes and two jiggers (about 2½ to 3 ounces) of tequila. Fill with plain water, stir, and enjoy.



Following Estes' instruction Dance Class practices cha-cha. ASCIT photo

The Music Scene

By David Schuster

Recently, a series of extraordinary recording sessions was held in Hollywood by Columbia Records and featured Bruno Walter conducting the Columbia Symphony Orchestra in many of the masterpieces of music with which Dr. Walter has been identified for over half a century. This music lover was extremely fortunate in being able to attend many of these sessions and will present his impressions of them in a series of articles, of which this is the first.

The Columbia Symphony Orchestra is a catch-all name for a conglomeration of musicians especially gathered by Columbia to make these recordings. Many of the men are from the Philharmoni players. The bulk of the oboe, clarinet, horn and tympanic players. The bulk of the musicians, however, work regularly in orchestras at the movie studios and also participate for fun in such outside enterprises as the Glendale and Pasadena Symphony Orchestras. These men are at least as good musically as the average Philharmonic members, and often they are a lot better. The net result is that as fine an orchestra as could be gathered in Southern California was brought together to make music under Dr. Walter.

Sessions Held in Auditorium

The sessions were held in the auditorium of an American Legion Hall in Hollywood. This might seem like an odd place to use as a recording studio, but the acoustics in the auditorium are exceptionally good. They are so good, in fact, that a reduced orchestra of about 50 musicians was sufficient to produce the sound of a full symphony orchestra of 100. By using this smaller

orchestra, it was also possible to obtain a sound in which each instrumental part was clearly heard, while the balances between the various sections of the orchestra were also perfectly maintained. The auditorium floor was littered with microphones and cables, used by Columbia for their three-channel stereo recordings. The actual recording equipment was in a smaller room in a separate building, and telephones and loud speakers were used to communicate between the engineers and the producer in the recording room and the musicians in the auditorium.

Walter Stars

The star of the recordings is, of course, Dr. Walter, and everything was geared so as to cause him the least inconvenience and trouble. Anything he needed or wanted was there instantly and, in fact, he was treated in many ways like a precious antique. He is such a humble person and that he never adopted any kind of an authoritarian attitude, even though he was completely in charge of the show. The orchestra members obviously love Dr. Walter and they went out of their way to give him the best playing of which they are capable. The result was playing of the greatest vibrancy and vitality and a striving in all the participants for perfection in the production of this great music. It was a labor of love on all parts.

FLY TO EUROPE SUMMER '59 \$149 One Way from N.Y. AX 1-8952

LINK

A
GENERAL PRECISION COMPANY

engineering students:

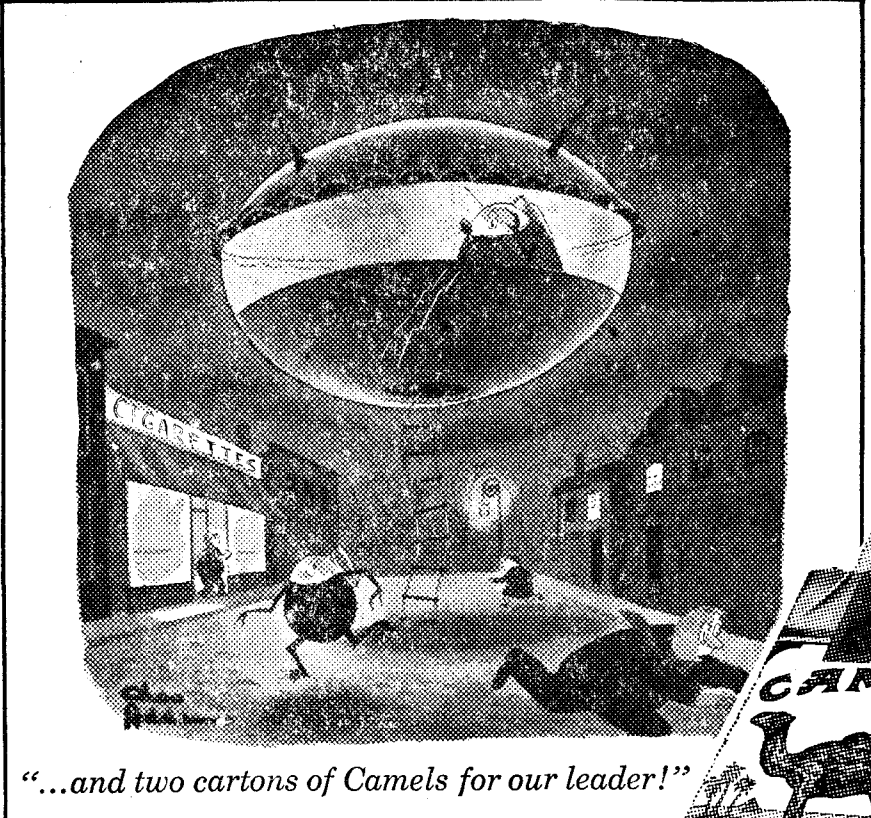
Important career opportunities await you at Link Aviation. Link's increasing prominence and diversification in electronics enable it to offer promising career opportunities to engineering students. Link, a leading producer of electronic flight simulators, has expanded into many fields, including automatic control, optical and visual display systems, digital computers, instrumentation, and is now the world's largest producer of analog computing equipment.

Engineering graduates joining the Link organization are assured that their special interests and skills will be utilized to the best advantage. Link offers supplemental training designed for engineers, by engineers. The company also provides a financial assistance program to encourage its engineers to undertake graduate studies.

The working atmosphere at Link is thoroughly professional, because management men are engineers and understand the engineer's viewpoint and ambitions. Salaries are excellent, fringe benefits ample. Link's locations in Binghamton, in the heart of New York State's vacationland, and in Palo Alto, California, in the beautiful San Francisco Bay area, make it an ideal place to live, work and play.

A Link representative will be on the **CALTECH** campus on **APRIL 13** Make your appointment with your placement office now.

LINK AVIATION INCORPORATED, BINGHAMTON, N. Y.
 A subsidiary of General Precision Equipment Corporation.



More people drop in for Camels than any other cigarette on earth. It stands to reason: the best tobacco makes the best smoke. The Camel blend of costly tobaccos has never been equalled for rich flavor and easygoing mildness.

Put fads and fancy stuff in the past . . .

B. J. Reynolds Tobacco Co., Winston-Salem, N. C.

Have a real cigarette — have a CAMEL



Price Fastball Tames Sagehens

Mound Ace In Fourth Victory

Lanky John Price, pitching his best ball game yet this year, hurled the Caltech baseball squad to an easy 10-3 conference win over Pomona College last Monday at TP. Price limited the Sagehense to but five hits, only one going for extra bases.

The Beavers won the game at the outset, pouncing on the Pomona pitchers for five runs in the first three innngs. The winners grabbed a three-run lead in the initial frame on back-to-back singles by Dave Blackemore and Mel Holland, a ringing triple by John Walsh, and a single by Skip Stenbit. Walsh was the hitting star of the game, belting a triple, a double and two singles in four trips to the plate.

Pomona scored two gift runs in the second inning on one lone hit, accompanied by two errors by pitcher Price.

Running score:

Pomona	020	000	001
Caltech	311	010	40x

Southern Swing

Taking a southern swing during spring vacation, Caltech's baseball squad compiled a 1-3 record, the lone win coming against Miramar Naval Air Station.

John Price's fireballing right arm fanned eight in picking up a narrow 5-4 decision against Miramar of San Diego. A well-balanced 13-hit attack was featured by Dave Blakemore's three hits.

The Beavers grabbed a one-run advantage in the intial inning and tacked on two runs each in the fifth and eighth frames to beat off a Miramar rally.

Skip Stenbit cracked a double to left field to drive in a pair of tallies in the eighth inning to clinch the win.

In the first game of the trip, Riverside capitalized on seven walks issued by Marty Kaplan and John Walsh and sloppy fielding by the losers, to win in a 10-7 slugfest.

Walsh's two-run single in the first frame sparked the Techmen to a short-lived 2-0 lead. UCR scored three runs in the third inning and two more in the

(Continued on page 5)



ASCIT Photo

Caltech's number one pitcher, John Price, rears back and fires at hapless batters in recent game. Price has accounted for all four Beaver hardball victories, including a 10-3 triumph over Pomona



Swimmer Bob Blandford butterflies to finish line in recent meet held at Tech which saw several school records smashed.

Swimmers Sink Santa Barbara, Aim For University of Arizona

Arizona University, loaded with talent in the sprints and diving, visits the Tech tank Friday for what should be a close contest, judging from comparative times.

At the close of last term, the Caltech varsity soundly defeated Santa Barbara in the home pool. Highlighting the victory were two records set by star swimmers, Don Owings and Gary Tibbetts.

Don broke the former conference standard of 2:36.8 he set last year in the 200 yard breast stroke by a full three seconds.

Gary clipped 6.2 seconds from Rees' former school record in posting his 5:04.4 winning time in the 440 yard freestyle event.

The Santa Barbara meet got off to the usual good start with the 400 yard medley team of Bland, Owings, Blandford, and Rony winning. Other firsts were then accumulated by Tibbetts in the 220, McLennen, diving; Blandford, in the 200 yard butterfly, and Bland, in the 200 yard backstroke. The only events not won by Caltech were the 100 yard freestyle and the 400 yard freestyle relay.

The little Beavers emulated the varsity in also handily defeating the Santa Barbara frosh by the score of 51-23. The dependable aces, Howard, Turner, Buck and Mitchell, captured the medley race as a team. Howard later copped the 200 yard butter-

fly, Turner took the 200 yard backstroke, Buck won the 200 yard breast stroke, and Mitchell finished first in the 100 yard freestyle. With Sallee, who gained two second places, replacing Buck, the combination was a winner in the 400 yard freestyle relay. Weihofen also won the diving honors for the frosh.

Beaver Trackmen Round Into Shape

Friday afternoon a three way meet takes place at the Caltech track. Claremont-Mudd will be combining their frosh and varsity to compete against the Beaver varsity and frosh teams. With strength from their frosh distance runners, Coach La Brucherie feels the Claremont-Mudd aggregate is favored.

Top varsity performances are expected from Forbess in the 220, Kyle in the 440, and Leonard in the 880. Price should also do well in the hurdles and Newman has been steadily improving in the broad and high jumps.

Top duel of the meet should be between Claremont's ace javelin man Frye and Tech's Purnell. Weaver might also clear 13 feet in the pole vault.

The frosh team relies heavily on sprinter Klett, 880 man Tuft and Gerber in the hurdles and javelin. Kline and Rux have also been impressive in the pole vault.

As I See It

by Russ Pitzer

Cal's NCAA Triumph

The thing that most impressed me about the NCAA basketball tournament was the manner in which it illustrated the point that there are more important qualities for a team to possess than individual ability. The California team that won had much more in the way of teamwork and organization than they had players that could hit the basket from any corner of the court.

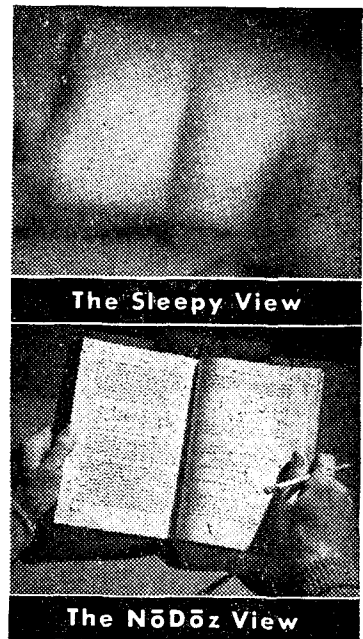
Another apparent quality was the way they weren't thrown off their game in the least when they were behind. Their performance against Cincinnati and West Virginia, teams with more individual talent, was quite impressive and is the type of thing I would like to see more of in the SCIAC. I think their success was primarily due to the ability of their coach, Pete Newell, to develop players. I can remember seeing several members of this year's team during previous seasons, and their performances were really mediocre in comparison.

Baseball Fortunes

The Beaver baseball team, after a not-too-successful trip to San Diego, is developing well this year. Several players are hitting the ball solidly. Pitcher John Price has shown improved control, especially in the game against Pomona last Monday, in which he walked only five batters. Herm Hartung has shown considerable improvement at second base, and John Walsh seems bound for another good season at the plate. These things should make it more interesting to watch the baseball team this year — it will definately be worthwhile to take in a few games this year.

Beavers At Home

- April 2—Varsity Tennis vs. Arizona, 3:15 p.m.
- April 3—Varsity Track vs. Claremont-Harvey Mudd, 3:00 p.m.
- April 3—Varsity Swimming vs. Arizona, 4:15 p.m.
- April 4—Varsity Baseball vs. San Diego (2), 12:30 p.m.
- April 4—Frosh Tennis vs. Redlands, 1:30 p.m.
- April 7—Frosh Baseball vs. La Pacific, 4:00 p.m.
- April 8—Varsity Baseball vs. Whittier, 3:00 p.m.



The Sleepy View

The NoDōz View

Millions of times a year drivers and students keep awake with safe NoDōz

Let NoDōz® alert you through college, too

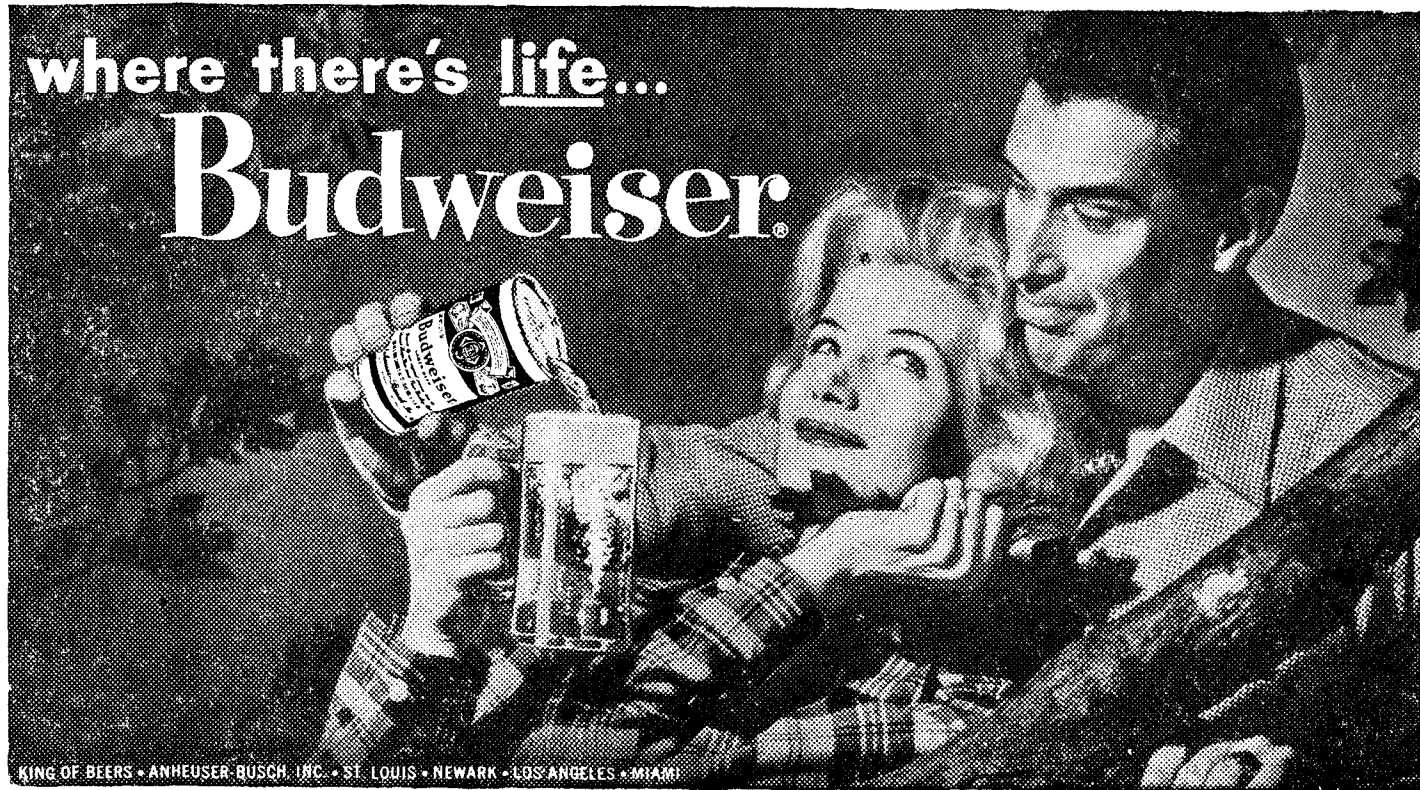
NoDoz keeps you alert with caffeine—the same pleasant stimulant you enjoy in coffee. Faster, handier, more reliable: non-habit-forming NoDoz delivers an accurate amount of dependable stimulation to keep your mind and body alert during study and exams until you can rest or sleep.

P. S.: When you need NoDoz, it'll probably be late. Play safe. Keep a supply handy.



The safe stay awake tablet—available everywhere

where there's life...
Budweiser



KING OF BEERS • ANHEUSER-BUSCH, INC. • ST. LOUIS • NEWARK • LOS ANGELES • MIAMI

Spacemen Meet At Tech

(Continued from page 1)

man discussed concentrations of dust and gas in the outer atmosphere, while Van Allen spoke on the newly discovered radiation belts in the upper atmosphere. Both speakers agreed that further research in the upper atmosphere by unmanned rockets and satellites is needed before any men venture there.

Jesse L. Greenstein, Professor of Astrophysics, followed with a description of the solar system and the surface conditions on the moon, Venus and Mars. Leo Goldberg, director of the astronomical observatory of the University of Michigan, closed the morning's meeting by suggesting possible experiments to be conducted from an orbiting satellite observatory.

H. P. Robertson, Professor of Mathematical Physics, gave the luncheon address on outer space-time.

Under the chairmanship of

Caltech Seniors Awarded Wilson Fellowship Grants

Eight Caltech seniors have been named Woodrow Wilson Fellows for 1959-60. They are among 1200 American and Canadian students receiving the awards.

The Woodrow Wilson Fellowship program is supported by a \$25 million grant from the Ford Foundation. Fellows were named from 80 universities and will receive living allowances of \$1500, plus tuition and fees.

Caltech students named Woodrow Wilson Fellows for 1958-59 include Keith S. Brown, Jr., in the chemistry option; Robert V. Lange, physics; Thomas E. Morton, mathematics; John C. Price, physics; Steven E. Schwartz, physics; John D. Stack, physics; I. Tammaru, physics, and David Teal, physics.

Race Issues Aired In Tonight's Y Film

"Burden of Truth," a film on racial discrimination, will be shown in Dabney Hall at 7:30 tonight. The film looks at issues from several viewpoints. It does not answer the questions brought up, but leaves them to be discussed. The film is sponsored by the Public Affairs Commission of the YMCA. There is no admission charge.

Camp Committee

(Continued from page 1)

derived from further meetings of the discussion groups, including faculty and upperclass leaders, during the school year.

Submitted by Dr. R. V. Langmuir, Dr. A. C. Ingersoll, Dr. J. K. Clark, Mr. W. L. Hershey, Michael D. Godfrey, John Everett, Cleve Moler, Thomas Tebben, Roger Noll, William Howard.

Addition Recommended by ASCIT BOD

The student members of the Student-Faculty Committee of the New Student Camp will be appointed by the ASCIT President from the counselors at the previous camp — these will not necessarily be exclusively seniors. In addition he will appoint a committee composed exclusively of seniors — counselors at the last camp — for the purpose of interviewing applicants for the position of upperclass counselors and presenting nominations to the student-faculty committee.

JPL head William Pickering, the afternoon's program concentrated on the U.S. space program. William Kellogg, research scientist for the Rand Corporation, summarized scientific results of the International Geophysical Year; W. L. Whitson, of the Advanced Research Projects Agency, outlined the U.S. Military Space Exploration program and Abe Silverstein of NASA described the civilian space program.

Friday morning's meeting featured a panel discussion on the techniques of space exploration, under the chairmanship of Clark B. Millikan, head of Guggenheim Aeronautical Laboratory. Topics discussed included ionic drive, communication while in space, and instrumentation on space ships.

Friday afternoon's panel discussion on the future of astronautics, under the chairmanship of W. Duncan Rannie, Goddard Professor of Jet Propulsion, included speeches by Pickering, Simon Ramo of Thompson-Ramo Wooldridge and Louis N. Ride-nour, Jr., of Lockheed Aircraft.

Baseballers 1-3 on Road

(Continued from page 4)

fourth to move ahead permanently.

Brown was credited with the triumph but yielded to Robinson in the sixth when the visitors scored a pair of runs to shove the game to a close 7-6 margin.

Four crucial errors, plus two hit batsmen, hurt the visitors' chances considerably.

Cal Western Takes Pair

Cal Western provided the opposition in a two-game set with the Westerners completely smashing the hapless visitors by scores of 14-5 and 19-11.

Buzz Merrill, normally an outfielder, was called on for mound duties in the first game to fill out the meager pitching staff. He walked nine and allowed eight runs before giving way to Kaplan, who was the victim of three costly bobbles in yielding another six runs.

Only bright spot for the over-powered Beavers was the hot hitting of Walsh, who belted a round-tripper and a double in three trips.

The second game saw catcher

Blakemore attempting to switch batterey positions with disastrous results. Blakemore allowed nine runs in four innings before giving way to Walsh.

Walsh, normally accurate, couldn't find the plate as he walked 11 men. In the Westerners' seventh, with seven runs already in on three hits and four consecutive walks, ambidextrous Walsh switched to right-handed hurling to retire the side.

On the other side of the ledger, Holland smashed a two-run homer for the big blow in the Caltech offense.

The quality of the pitching in the comedy of errors can be evidenced by the list of 24 walks, three wild pitches and three hit batsmne for both sides.

Merrill Leads Batters

In all games played so far, the leading Tech hitter has been Buzz Merrill, who is hitting at a .395 clip. John Walsh at .378 and Dave Blakemore at .356 have also sparked the Beaver offensive threat. Cleanup-hitter Walsh leads the team in runs batted in with 16.

Blacker, Flems Set Discobolus Softball Play

Discobolus matches resume this week with a softball game between Fleming, the current trophy holders, and Blacker, which challenged in softball, ping pong and tennis. The game is to be played tomorrow afternoon.

The Klokeken pulled into a first-place tie with Dabney at the end of last term by thumping Ricketts in ping pong. The present point standings in the trophy dash show Fleming and Dabney ahead with 17 points, with Ricketts, Blacker and Throop following with five, two and one points, respectively.

The next item on the Inter-house sports scene will be Inter-house football, with practice plans already formulating. Defending champion is Throop Club.

They said it couldn't
be done...
They said nobody
could do it... but -

L&M is
Low
in tar

with
MORE
taste to it

Don't settle for one without the other

THE MIRACLE TIP
L&M
FILTERS
LIGGETT & MYERS TOBACCO CO.

©1959 Liggett & Myers Tobacco Company



"L&M is kindest to your taste," says James Arness. "There are two good reasons why I know you'll like 'em. They're truly low in tar, with more exciting taste than you'll find in any other cigarette."

LOW TAR: L&M's patented filtering process adds extra filter fibers electrostatically, crosswise to the stream of smoke . . . makes L&M truly low in tar.

MORE TASTE: L&M's rich mixture of slow burning tobaccos brings you more exciting taste than any other cigarette.

LIVE MODERN...CHANGE TO MODERN L&M

Crazy Third Swings

By Griffen

And there is another one. Los Angeles has its first rainless March or something like that, and the lamb comes in in resplendent glory bringing beautiful new courses that smack of possible success. What is there that makes third term so optimistic? Maybe, it is the seniors who unselfishly decide to drag some juniors into their muck and fury. Maybe it is the necessity for some of going out to P.E. 51 times this term in 50 possible days. Even the freshmen, who plod blindly on, not remembering the past or predicting the future, seem to sense something in the darkness.

There is a rumor that this year the annual May Day Parade and Flag Raising will be held a day early as a surprise move against the campus police force. The event will be especially significant to the residents of Pasadena in this time of world crisis. "Independent Star News" reporters have been given special priority because of their unusually accurate descriptions in the past.

Another embroilment under the spring sun will be noticeably missing. It seems that in the confusion of second term, the seniors ditched, and to be as inconspicuous as possible, only three or four ditched at a time. This was certainly in keeping with the intrigue that has been such an important part of Caltech life in the past few years. Lately, large bands of students have been traveling to class incognito to avoid identification by overly friendly instructors.

May brings to frustrated un-

dergraduates an unusual opportunity to seek personal fulfillment with the opposite sex. Contrary to the policy of the previous seven months which required local foraging for physical companionship, the boys away from home attain their glory by importing raw material for the Lost Week End. Now they have a chance to show the jeering, jibing masses what they left back home. Yes. Oh, yes.

Yet, one question hangs suspended above all others. In an unusual administrative slipup during the first term, the junior, for the third year in a row, won the Mudeo in a walkaway, thus creating a rare problem. Now, will the freshmen have to pay for the Frosh-Soph Hop? Will the Sophomores have to subsidize the Junior-Senior Prom, but not be able to come? Will the Seniors invite the Freshmen to the new Frosh-Senior Ball, ignoring the Juniors completely? Or will Walsh fight Sajdera in a duel to the death?

Third term lives.

Cassel Heads YMCA Board; Klein Veep

Dave Cassel was named president of the Caltech YMCA on March 12. The other five executive officers were also elected at that time. Dave was unopposed for the office.

Also elected on a white ballot was Stan Klein, Blacker sophomore, who will take over the position of YMCA vice-president. Stan will also head the YMCA Public Affairs Commission for the coming year.

Out of a field of four, Bob Heath of Fleming was elected secretary, Bob was assistant editor of the Beaver last year. Bob Nason of Blacker was chosen as YMCA treasurer; he will be in charge of next years Y finance drive. Pete Meyer, sophomore in Fleming, was selected as publicity manager and will publish the Y Beaver. Carl Rovainen, Ricketts freshman, was chosen as YMCA National Representative.

Speakers Highlight Annual Alumni Day

Caltech Alumni will gather on campus Saturday, April 11, for the Twenty-Second Annual Alumni Seminar Day.

An evening dinner held at the Pasadena Elk's Club and keynote speech by Maj. General John Medaris will top the day's program, which includes 12 available lectures and a guided tour through the Jet Propulsion Lab.

After the evening meal, General Medaris, Commanding General of the U.S. Army Ordnance Missile Command, will talk on the "Exploration of Space."

A great variety of lectures has been prepared for visiting Alumni and guests. Included in the lecture series are talks by Dr. Linus Pauling on "Carbon 14 and Society," discussing the biological effects of nuclear fallout; Dr. Allen Sweezy on, "Will World Leadership Lead Us to the Poorhouse," and Dr. Harrison Brown on, "Will the Space Program Explain the Evolution of Our Solar System."

Other featured speakers of the

day include Dr. Frank Marble, talking on propulsion systems; Dr. Frank Press, looking at methods of detecting nuclear explosions, and Dr. Pol Duwez, who will discuss some of the complicated metallurgy involved in building space vehicles.

For those interested Alumni, tours of the Caltech JPL facility will be provided all day.

Debators Enter National Tourney

Carl Hamilton and Carl Rovainen represented Caltech at the National Pi Kappa Delta Debate Tournament held at Bowling Green State University, March 22-27.

Caltech won three of the eight rounds of debate. Hamilton received a rating of "good" in extemporaneous speaking, and Rovainen entered oratory. Over 500 students from 194 schools attended the convention.

Caltech Drill Team Entered In Annual Drill Competition

The AFROTC drill team is applying an extra coat of spit and polish this week in final preparation for the Southern California sub-area drill competition to be held at UCLA next Tuesday. The Techmen will compete with 15 minutes of marching and rifle maneuvers against Air Force teams from Occidental, San Diego State, Loyola University and UCLA in this first round of the annual national drill competition.

Caltech's teams have dominated the local first round, winning four of the past eight sub-area meets. The 1957 team, advancing to the next higher level, the Area J meet, placed a close second to the University of Hawaii in a field from six of the far-western states.

Greenman Heads TBPi Officers

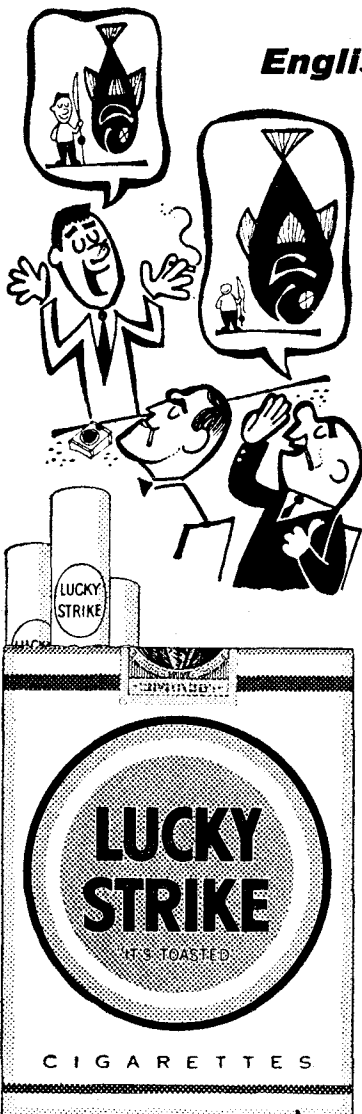
Tau Beta Pi, national engineering and science honorary, elected 1959-60 officers March 15.

Frank Greenman was named president; Lou Toth, vice-president; Dave Cassel, secretary; Jim Wooster, treasurer; John Munson, corresponding secretary, and Howard Weisburg, cataloger.

'Red River of Life' To Be Seen Tomorrow

This Friday, April 3, the Moody Institute of Science film, "Red River of Life," comes to the Caltech campus under the auspices of the Caltech Christian Fellowship. This one-hour movie will be shown at 11:55 a.m. and 7:30 p.m. in the 155 Arms Lecture Hall.

THINKKLISH



English: LIARS' CLUB

Thinklish translation: These guys know stories so tall they tell 'em with skywriting! Their imaginations are so wild they keep them in cages! The one thing they don't lie about—as you might have guessed—is the honest taste of a Lucky Strike. (Fine tobacco is fine with them!) In Thinklish, this bunch is a *braggregation!* And that's no lie.

MAKE \$25

Start talking our language—we've got hundreds of checks just itching to go! We're paying \$25 each for the Thinklish words judged best! Thinklish is easy: it's new words from two words—like those on this page. Send yours to Lucky Strike, Box 67A, Mt. Vernon, N. Y. Enclose your name, address, college and class.

Get the genuine article
Get the honest taste
of a **LUCKY STRIKE**

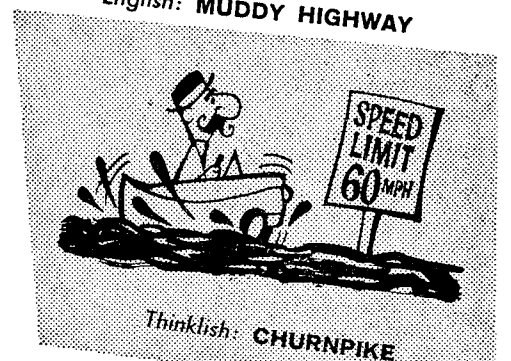
English: HOG WITH TWO WIVES



Thinklish: PIGAMIST

CHRISTINE JENSEN, MONTANA STATE U.

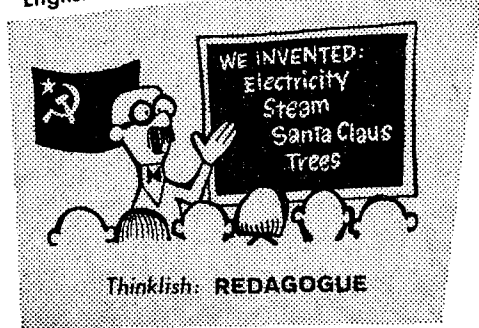
English: MUDDY HIGHWAY



Thinklish: CHURNPIKE

ELMER FROEWISS, SEATTLE U.

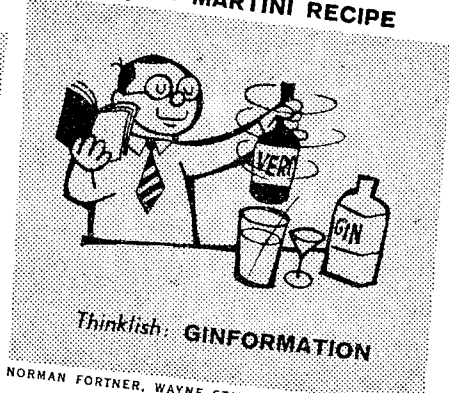
English: RUSSIAN SCHOOLTEACHER



Thinklish: REDAGOGUE

RONALD GODDARD, KANSAS CITY JR. COLL.

English: MARTINI RECIPE



Thinklish: GINFORMATION

NORMAN FORTNER, WAYNE STATE U.

English: STUDY OF CHICKEN FEED



Thinklish: PECKNOMICS

JEFF FISCHER, TEMPLE U.

Product of The American Tobacco Company — "Tobacco is our middle name"