

CALIFORNIA TECH

California Institute of Technology
Pasadena, California, Thursday, December 7, 1950

AT LEAST YOU
MIGHT
PASS ONE EXAM!

Volume LII

No. 10

'War on Brains' Hit by Smith

**Humanities Chairman Is Speaker
As Tau Beta Pi Initiates Twenty**

"There is a new barbarism in American life: essentially it is a war on brains, on reflection, on ideas," Dr. Hallett Smith, Chairman of the Division of Humanities, told a large audience at the Tau Beta Pi Initiation Banquet, held last Friday at Dante's Cafe.

Speaking before a group consisting of Caltech students, instructors, scientists and engineers and their wives, representing the whole Los Angeles area, Dr. Smith continued: "The scientist and engineer is now suspect. The war on brains rightly picks them out as dangerous men. Accordingly, the great temptation is to stick to your specialty, be a mere technician."

Values to Judge

Dr. Smith warned against this attitude, and was pleased that Tau Beta Pi opposed it. "The engineer must increasingly understand society, must be a judge of values."

He suggested several contributions of a general sort which an organization such as Tau Beta Pi might make on the campus of Caltech or of any other college.

Loyalty Is What?

1. "Support actively on the campus an atmosphere of respect for a liberal education and a demand for it."
2. "Maintain an interest which is critical and informed in our society, our means of communication, and our political life."
3. "Demonstrate that a vigorous loyalty to the American way is loyalty to civil liberties, to unhampered science, and to the development of the best brains we have."

Initiation Climax

The banquet followed the formal initiation of twenty men into the national engineering honorary society at a ceremony held earlier in the afternoon.

One of the initiates, Mr. Hall L. Hibbard, vice-president of Lockheed Aircraft Corporation and guest of the evening, was introduced to the group as a man whose "contributions to the field of engineering have been so outstanding that he serves as an inspiration to students who hope to accomplish what he has."

Essay Prize

Al Jackson was announced as the winner of the pledge essay contest, and was awarded the five dollar prize by Bill Whitney, president of the local chapter.

The banquet was followed by dancing and informal conversation.

Tech Junior Class Near Bankruptcy

Last Monday's junior class meeting, declared John Noble, the president, was a fizzle, because Frank Lang, the treasurer, refused to announce dividends to the class members.

It was reported that at least \$800 will be needed in the next two years in order to fill the rapidly dwindling treasury. This is due to two junior-senior garden parties, two junior-senior proms and a Ditch Day which are being planned. Like the junior class before, the class voted an assessment of \$3 for dues this year, this amount to be placed on the Institute bill for the second term.

Notice

Will all those who still have proofs for their yearbook pictures in their possession return them immediately to Drake's, 1005 East Colorado Boulevard. It is solely their responsibility to get these proofs back to the photographer before Christmas recess, if they did not do so while Mr. Drake was on the campus.

Those who do not return their proofs will probably be obliged to pay for them at the rate of four regular retouched prints. Such a fee may be amended to their winter term bill.

Those who have not chosen their yearbook picture may still do so by visiting Drake's office before Christmas.

Ecce! Ecce!

With this issue the California TECH concludes its activities for the fall term. The staff sincerely wishes luck to its readers for examination week, and hopes that this ordeal in no way reduces their full enjoyment of the long-awaited vacation. In short, a MERRY CHRISTMAS and a HAPPY NEW YEAR to all of you here at Caltech!

A Reminder for Exams . . .

As finals draw near, it seems well to remind everyone that, as usual, the honor system will be in full effect during every examination.

In the past a few people have complicated their school lives only because they forgot this fact in a moment of examination tension.

A Minute of Weakness

Don't let a minute of weakness get you into trouble, too! Remember that there is always someone near you to whom the honor system means enough to report any violation that he suspects. This is everybody's duty if the honor system is to remain strong and active.

Ignorance No Excuse

If you are not sure of the procedure to be taken upon observing a suspected violation, or just how the honor system affects you, be absolutely sure that you find out before next week. Ignorance of the honor system can be costly.

Ollie Gardner,
Chairman, Board of Control

Charities Drive Receives \$3000

Nearly complete totals for the Consolidated Charities Drive show that Caltech made donations exceeding the \$2750 goal by more than \$400.

With still more money to be checked in from several sources, the present total to be transmitted to the agencies is \$3197.05.

Over Half to WSSF

The WSSF will receive more than half, \$1626.81, of the amount. The March of Dimes and the Community Chest receive so far \$867.47 and \$702.81, respectively.

The donations, broken down by the groups which gave them, are as follows:

Graduate Students	\$751
Faculty	618
Off-campus	572
Blacker House	386
Ricketts House	364
Dabney House	318
Fleming House	308

The faculty contributions were for WSSF only, since the other agencies solicit faculty members during the regular city-wide drive.

Huge Success

Drive Chairman Ollie Gardner termed the campaign a "huge success" and expressed appreciation to all those who helped and contributed. "Everyone who worked on the drive did a fine job," he said.

CE's Shown Movie

The Civil Engineers sponsored two films in their meeting last Monday. The first was a Standard Oil Co. film on "Water." The second was an informative U.S. Steel picture on the fabrication and erection of the first United Nations Building at Lake Success.

Chemistry Club to Meet

The Caltech chemistry club will hold its first meeting of the year today at 12:40 in 151 Crellin.

The highlights of this meeting will be the election of officers and a welcome to new members. Future activities of the club will include guest speakers, demonstrations, field trips, and related activities.

Y Plans Xmas Vesper Service

The Y's annual Christmas vesper service will be held Sunday, Dec. 10, in the Dabney Hall lounge. Rev. Curtis Beach of the Neighborhood Church will be in charge of the meeting, which will take place at 4:30 p.m. Christmas music will be provided by the Pasadena Quartet.

The Y had its last board meeting of the year Monday in the Athenaeum. The completion of the Y residence at 480 S. Holliston St. last Friday was discussed. The next meeting will be Monday, Feb. 5.

Power Being Piped To Synchrotron Lab

The deep trenches that disturb the landscape in front of the engineering building are not preparations for an atomic war; instead, they are to house the electric conduits to supply power for the new synchrotron.

The power will run from behind the engineering building to the former astro-optical shop. In anticipation of the need for this power, conduits were built into the foundation of the engineering building, and now they are being connected, by way of the steam tunnels, to the synchrotron lab.

Visitors Invade Campus for Students Day Talks, Exhibits

Student Houses, Research, Special Demonstrations Intrigue Highschoolers

Over 700 male high school seniors, prospective Caltech students, stormed the campus Saturday for the first postwar Students Day. The students, who came from high schools as far away as Santa Barbara and San Diego, were accompanied by their science teachers.

Guided Tours

The guests spent the morning on guided tours of the various departmental exhibits. Among the exhibits commented on as being very interesting were the Van de Graaf generator, the working model of Apra harbor in the hydraulic structures lab, and the crushing of a block of concrete in the materials testing lab.

The mad frosh chemists working away in 101 Gates, chlorinating tin, taught safe and sane lab technique to the student visitors. Visitors learned of the idiosyncrasies of the analog computer, the high-speed water tunnel, and a Chevrolet test automobile engine, and saw slides in Dabney lounge depicting many of the phases of student life, both peaceful and violent. Many of them were clutching vials of bacteria in which a full-scale germ warfare was taking place.

Over Their Heads

Most of the visitors found the demonstrations both entertaining and instructive, although several complained that some of the talks were beyond them as they had had very little background in science.

At noon the students enjoyed individual student house box lunches consisting of ham and cheese sandwiches, orange, cake, and milk, which was eaten in the student house courts and lounges with the men in the houses. This way, the visitors had a chance to make acquaintances with some of the Tech students, and talk with them first-hand about the school, its academic and extracurricular life.

Speeches After Lunch

After lunch the group assembled on the lawn between Ricketts and the Athenaeum, and heard short talks from Ulrich Merten, ASCIT president, and Dr. Lee A. DuBridge, president of Caltech. Mert discussed the student life at Caltech, disclaiming the notion all to prevalent among prospective students that Caltech is a "grind" school, and emphasizing the enormous opportunities for social, athletic, and other extracurricular life here, together with the excellent chance for student leadership inherent in a small school like Tech for a man with reasonable aggressive ability.

Booklet Popular

Many of the students visiting asked that the booklet, "Facts About Caltech," containing information on admission, be sent to them, and it may be that, through the cooperation of the ASCIT and the Institute in planning this Students Day, some good local high school students will apply for admission, where they would not have otherwise.

DuBridge Gives Welcome

In his welcoming address, Dr. DuBridge discussed the opportunities for students in the present world situation. "Many of you," he said, "may be worried about the question of whether you individually may be called to military service in view of the present critical world situation. There is no use trying to cover up the blunt facts of the situation.

"We are faced with what may be a very prolonged era of emergency status. If we are to have the armed forces which are required to maintain our strength during this era, practically every young man sometime between the ages of 18 and 26 will have to spend something like

Draft a Privilege

"This is an obligation, but it is also a privilege. Many of you may ask, therefore, what is the use of going to college if you are to be called into service. The answer is clear. Your value to your country, your value to yourself, will be greatly enhanced by continuing your education as far as it is possible to do so.

"Even though it may be interrupted and have to be completed after a period of military service, you will be a better soldier and a more mature man by having continued as far in your educational career as it is possible for you.

US Needs Scientists

"Particularly for those of you who plan to go on in science and engineering, this country needs your talents whether we are at war or at peace. Even though it is not clear where your future service to your country may be, whether in a civilian or military capacity, I urge each of you to proceed with your plan for an educational career aimed to develop your particular talent and ability in whatever field it may lie."

Pauling Addresses Teachers

"Also during the noon hour, at a luncheon given for the visiting teachers in the Athenaeum, Dr. Linus Pauling, head of the division of chemistry and chemical engineering, told how he and his division had developed a promising substitute for blood plasma, explaining that the substitute, developed at the end of the last war, requires further research.

In the afternoon the visitors had their choice of any three of ten demonstration lectures given in the various lecture halls. Some of the subjects were, "What Biologists Do," by Dr. Owen, "Aeronautics at Caltech," by Dr. Felberg, and "Crystal Structure," by Dr. Donahue.

Liquid Air Lectures

There were two lectures telling of the work in the geology department, and two very popular physics demonstration lectures given by students, "Liquid Air," by Pete Mason, who did a fine job on Dean Watson's most popular lecture, according to students who attended, and "Electrostatic Phenomena," given by Dick Waters.

The movie, "The Story of Palomar," with its accompanying slides taken through the 200 inch telescope was well attended by many who were interested in Caltech's most publicized off-campus facility.

Lighting Attracts Crowds

By far the most popular demonstration was the high voltage lab, where 600 watched the sparks fly from floor to ceiling when the 2,000,000 volt surge generator was put into action.

Ricketts Crew Wins At Fall Barn Dance

representatives of the 10 cooperating companies. The morning meeting included reports on the molecular structure of metals and alloys by Dr. Linus Pauling, chairman of the division of chemistry, and on the effect of smog on plants by Dr. George W. Beadle, chairman of the division of biology. After luncheon at the Athenaeum, Dr. Robert F. Bacher, chairman of the division of physics, mathematics and astronomy, spoke on high-energy nuclear physics. The session closed with a talk on the use of modern electrical computers in engineering problems by Dr. Fred C. Lindvall, chairman of the division of engineering. Other members of the Institute

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search in various fields of science and technology.

The funds pledged by the industrial associates, which to date total \$115,000 for the current year, will be used for the support of research in science and technology at the California Institute. The ten member companies who are now participating in this plan are Standard Oil Co. of California, E. I. DuPont de Nemours Co., Union Oil Co., Socony-Vacuum Laboratories, Douglas Aircraft Co., Lockheed Aircraft Co., North American Aircraft Co., Republic Aviation Corp., Richfield Oil Co., and Shell Development Co.

A corporation may become an industrial associate through the payment of an annual fee ranging from a minimum of \$10,000 to a maximum of \$25,000. In return for these payments, the representatives of the corporation are invited to the Institute campus twice a year to discuss with members of the Caltech faculty recent progress in re-

Interview Schedule

Any student interested in working on Rose Parade Floats or selling programs at the Rose Parade please contact the Placement Office for further details.

Uncle Sam Wants You!

For the past week bull sessions at Caltech have all been concentrating on one subject—the draft. "How soon am I going to go?" is the No. 1 question in every Techman's mind at the moment.

Dianetics and the Draft?

We can take any of three different attitudes about the problem. The first is that it is one's patriotic duty to serve his country in time of war, no matter what value he is at home; so he goes in when he is drafted, even though under present regulations his induction may be postponed or deferred.

This attitude is not too prevalent at Caltech, although several students have taken it—interestingly enough, those who have an avid interest in dianetics.

We All Go Sometime

The second point of view, very prominent at Caltech, is that we all must go some time, so it is better to enlist in a more favorable service than the army just before induction time and thus go to school or otherwise stay out of action for a little while.

Although this attitude may not be "patriotic," as interpreted by many outsiders, when one considers that the chances are better than one in ten that he will not return alive, it is only too understandable.

Chicken

The third attitude is that as scientists and engineers we should be exempt from serving on the front because we are more valuable at home. There is obvious evidence that such a case is true to a certain extent, but if we tried to explain it to the public we would be immediately accused of being just plain "chicken."

Your Number

Anyway, since all of us, veterans included, are seriously worried about going to certain death (the prevailing attitude, and not "going off to fight," as it should be) the following sure statement can be made: No one knows what is going to happen after the end of the school year.

The best thing to do right now is to check up with your draft board to see how far from the fatal number yours lies. If you live out of this area and are registered at home, your chances are probably better, since Southern California is using up its available 1-A's at an alarming rate.

Caltech Will Suffer

If the proposed law that the lower half of the freshman class, the lower third of the sophomore class, and the lower fourth of the junior class is inducted before graduation, Caltech will be one of the greatest sufferers, since students who would be exempt at other schools would be taken from Caltech, and as a result, the enrollment here might decline tremendously for just that one reason.

The Dark Picture

This paints a pretty dark picture of the situation, but it is the sad truth, as student house members who have seen their fellow members go can testify. Therefore let us close with the optimistic lines from the Gilbert and Sullivan operetta, **The Mikado**—"Long life to you . . . till then."

—Chuck Benjamin

ON THE RECORD

by George Abell

Violinist, Zino Francescatti, owing to a sudden attack of the flu, was unable to appear as guest artist with the Los Angeles Philharmonic Orchestra last Thursday and Friday, as originally scheduled. Music Director Alfred Wallenstein, finding himself soloist-less at eleven o'clock Thursday morning, attempted to fill the vacancy by enlisting the services of any one of several artists, but to no avail. In the emergency, to replace the two violin concertos Francescatti was to perform, Mr. Wallenstein substituted Weber's Overture to "Der Freischütz" and Dvorak's Symphony Number 5 (from the New World).

Program Well Played

If a disappointment over the originally scheduled program, the concert was by no means a complete let-down. A faster reading than we are used to of the

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Nuts and Bolts

—by Carl Hildabrand

Comments

One of the rewards of having as many visitors on campus as were here last Saturday is the remarks and comments that always come from such people.

This one, instead of being funny, provides an insight into what people think about and would like to know about Caltech. Quite a number of the visitors found occasion to ask about student life.

Student Life

Part of the regular program last Saturday was a ten minute talk, illustrated with slides, on student life given by Dick Libbey.

Many of us had expected that Dick would have to close up shop early. It just did not seem that these people would be coming all the way over here just to be told about student life.

As it turned out, this was one

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Who Dealt This Mess

by John Rogers

Most defeated contracts are followed by a rhetoric gem such as, "Well-it-had-to-be-bid-but-everything-was-on-the-wrong-side-so-we-couldn't-make-it."

Admittedly this is, on some occasions, true. But there are probably far more instances in which the acquired deficit of tricks is completely unnecessary.

Inspiration

This week's hand illustrates a common occurrence:

North	East
S 8 7 2	S 6 5
H A 8 5 3	H K 9 4 2
D 9 8 6	D A K 7 5
C 9 8 5	C 7 6 4

West	South
S Q 10 4	S A K J 9 3
H J 10 6	H Q 7 2
D Q J 10 4	D 3
C Q J 10	C A K 3 2

South deals and, in a flash of inspiration, resists the urge to bid two spades. North should pass the bid but could hardly be blamed for returning one notrump.

South must now realize the weakness of his partner's hand and merely make the overcall of two clubs—the shift in suits showing some extra strength. North would then bid two spades and the hand would be played at three spades, a contract which can be made.

Up, Up and Away

But in most instances, South will become so fond of his hand that his second bid will be a jump to three clubs, and North will be forced to continue until a game contract at four spades is reached. This bid cannot be made.

The opening lead will be the club queen, which South wins. Declarer should now lead the ace and king of spades; his one entry to dummy should not be used merely to try the finesse for the spade queen.

South now leads his last high club and then the two, noticing that the three is the last club and is, therefore, good. West now leads the queen of spades, and the queen and jack of diamonds in that order.

The Play

South trumps the jack and leads his club three. He now must lead his two of hearts to the board's ace and return the three to his queen. In this situation, in which declarer has neither the jack or ten of hearts, it is definitely a mistake to lead the queen toward the ace and expect any kind of finesse to work; for if East has the king, he will use it to take the queen; and if West has the king, he

(Continued on Page 6)

of the best attended features of the whole program. Many student visitors and some of their teachers expressed the desire to hear more about student life at Caltech.

It is heartening to know that prospective students have an interest in what they will be doing, other than study, if they come here. Next year perhaps one of the longer afternoon lectures can be devoted to this. That is provided we have a student body next year.

Fooled You

Before Students Day there was a feeling here and there that there would not be enough cooperation between students and faculty to make the day successful. No public opinion poll was taken in this case but we can well remember how wrong Dr. Gallup was in 1948. There was only one case in which one kind man thought that we were being "very" presumptuous in assuming something or other. Sterling

(Continued on Page 6)

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Offices: Lower Fleming Telephone: SYcamore 6-7121 Ext. 180

Bob Kurland, Editor

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Locusts, et. al.

The week was thereafter uneventful, and, save for a meeting of the Y cabinet, the bon ton went undisturbed. Feverish preparations for Students Day were well in progress by then, and the Beak takes pleasure in reporting that this afforded a great many Techmen the opportunity to vent their unparalleled altruism.

The Assyrian came down like the wolf on the fold, guides and exhibitors were plentiful, and a good time was had by all.

Rowdies Brawl

Friday night saw a big brawl in Ricketts, which, albeit of Promethean dimensions, did not reach the ears of the Beak. We cannot but weep with bated breath, as we are wont, and conjecture that little worth relating happened anyway.

As far as Blacker is concerned, the Beak takes it upon himself to realize that the troops had to wait half an hour for beer, and that this was due to the Social Committee's usual unconcern about aforesaid troops.

The crew race was won by Ricketts, whereas the flamers contest floundered in a draw. Bart Stryker was seen about one a.m. on the corner of Colorado and

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—by Carl Hildabrand

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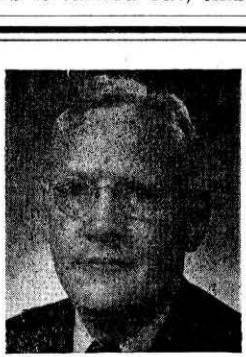
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HOW THE OTHER HALF LIVES

EDITORIAL NOTE: This week the other half will be observed in action both at MIT at the present and at Caltech in the past. The Cambridge exchange concerns a recent effect of astrological happenings on MITechmen, while the other selection is a letter written to the Pasadena police dept. by the editor of the Tech 'way back in 1941. Think about the police chief's answer next time you go over to Tournay!

November 9, 1941.

Mr. Neil F. Anderson,
Chief of Police,
Pasadena, California.

Dear Mr. Anderson,

Last Wednesday I was in to see Captain Morris of the traffic detail regarding a traffic hazard affecting Caltech students, and I desire to emphasize the matter in your mind so that some immediate effort will be made to correct it.

The hazard is the pedestrian cross walk on California street opposite the entrance to Tournament Park. This crossing is used continuously from 3:30 to 6:30 p.m. by Caltech men going to Tournament Park for athletic work. At this time traffic conditions on the street are heavy. In the past the Institute has been permitted to place a sign in the street warning motorists and this has been effective in controlling the traffic. But as will always occur to such a sign, this one was destroyed by collision, I understand.

Captain Morris tells me that the police department is reluctant to permit the sign to be replaced because 1) it is a hazard in itself, 2) it develops in drivers the attitude that they need stop only at cross walks so

marked. (They have that attitude now). He said that he had recommended words be painted on the pavement approaching this cross walk announcing a "school crossing," and that an effort would then be made to enforce caution at this point. If this did not correct the situation, then something else would be done.

As yet no painting has been done. The walk remains a critical and constant hazard to our students, as you can ascertain if you spend a half hour any week day afternoon at this point. This newspaper has received 18 different communications requesting that something be done.

Any effort you can make in seeing that this cross walk is protected, and that the recommendation of Captain Morris is not pigeon-holed in the usual red tape, will be appreciated by the Caltech student body.

Bill Turner,
Editor.

November 10, 1941
Mr. Bill Turner, Editor,
The California Tech,
1201 East California Street,
Pasadena, California

Dear Mr. Turner:

We wish to acknowledge your communication of November 9th
(Continued on Page 3)

THE SQUARES' CIRCLE

The following letter was originally addressed to the Caltech faculty and has been forwarded to the Tech by Dean Franklin Thomas, who also supplied the accompanying explanatory note.

The accompanying letter is from Dave Carlisle, Negro graduate of West Point who had two years at Caltech then in 1945 was appointed to the military academy.

While he was a cadet, Major General Taylor, commandant, wrote to me that Carlisle ranked in the upper 5 percent of his class and was making the best all-around record ever made by a Negro at the academy.

Near Kunuri, Korea
November 24, 1950

Dear Folks,

This is just a note to say "hello" and to serve as something of a Christmas greeting.

Life here in Korea is far from pleasant. Still, we all have the satisfaction of knowing that our mission is one of vital importance. The job that our forces have done here is nothing short of marvelous.

I am a platoon leader in the 77th Engineers, a 25th Division unit that is probably the most decorated company in Korea, bar none. We are now driving north toward the Manchurian border.

Yesterday, Thanksgiving Day, was both solemn and joyous. Solemn, traditionally so; joyous, for the ever-brighter hope of an early cessation of hostilities.

Thanksgiving dinner was wonderful—turkey and all the trimmings, and far more than we could ever eat at one sitting.

Every good wish always.

(sgd) Dave Carlisle

1st Lt. David K. Carlisle, 0-6234
77th Engr. Combat Company
APO 25, %PM
San Francisco, Calif.

THANK YOU'S

Dear Sir,

We should like to take this opportunity to thank the members of the staff of the Tech for the very fine piece of work they did in preparing last week's issue as a special edition for Students Day. The full coverage given to each department and its exhibits was an exceptional job of reporting.

On behalf of the faculty and

the ASCIT we wish to extend our thanks to all those who contribute to the success of Students Day. The fact that some 150 persons were involved prohibits the mention of each name but we would like to single out three whose contributions are especially appreciated: Miss Betty Pond of the Deans' office, for her innumerable hours at the typewriter; Kent Stratton for his tremendous job of organizing the guide service, and Don Tautz for his very effective work in organizing the exhibits.

Our heartfelt thanks to all.
**Wilbur R. Varney,
Carl Hildabrand,
Students Day Chairmen.**

The ASCIT consolidated charities drive for this year has proven to be a great success thanks to the many people who willingly donated much of their valuable time.

I personally, as well as the ASCIT board of directors, hereby extend sincere thanks in an effort to make it so, and appreciation to each and every man who actively participated in the drive. Each one deserves hearty commendation for a job well done. Thanks a lot.

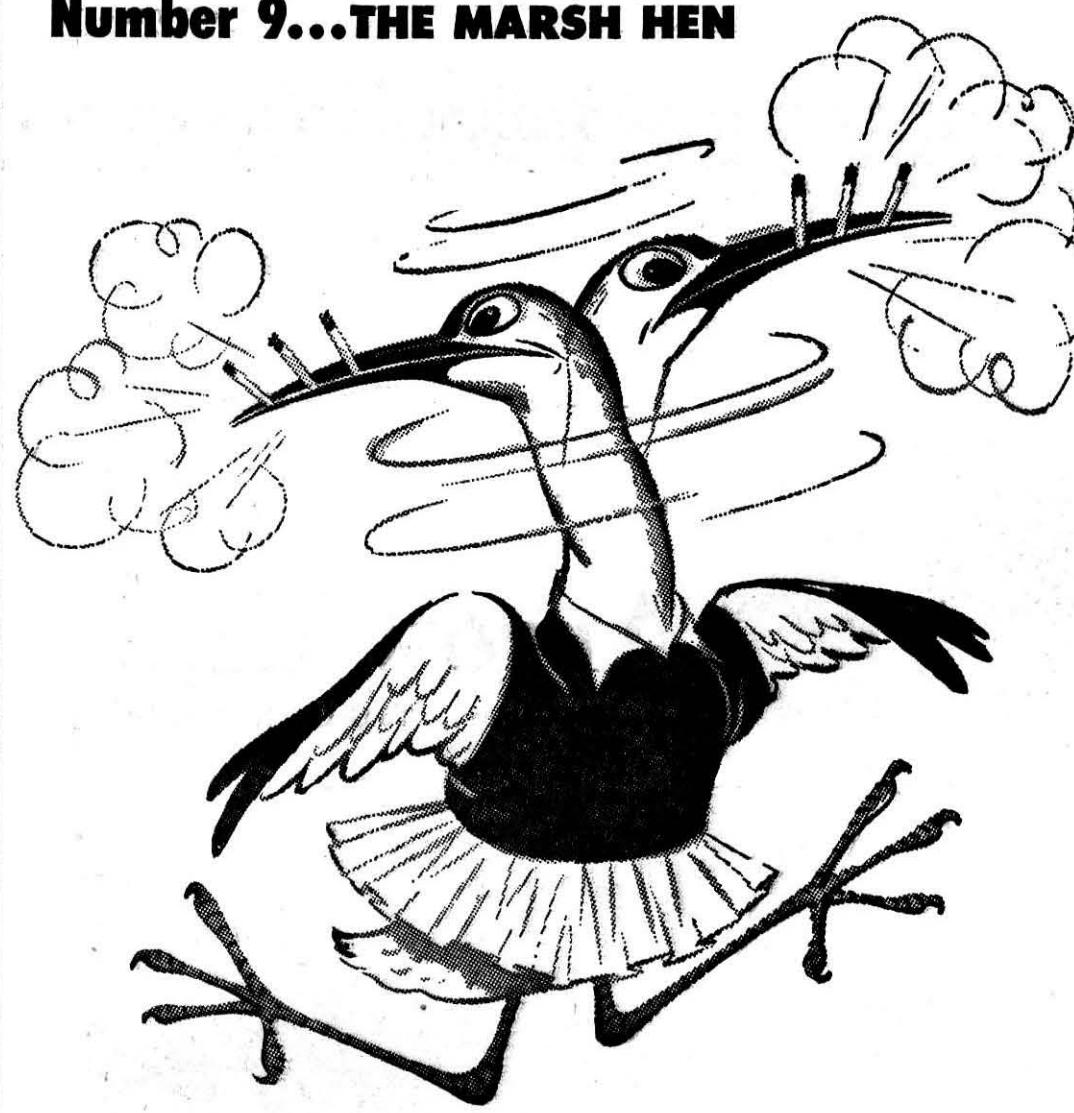
**Drive Chairman,
Olly Gardner,**

To All Exhibitors and Exhibit Committeemen:

I want to take this opportunity to thank each of you for the splendid job you did with the exhibits for Students Day. It was only through your unselfish co-operation that the exhibits and afternoon lectures were possible. The success of Students Day is attributable, in a large measure, to you.

I would like to add a special note of thanks to the members of the Student Exhibit Committee: Bill Blodget, Mike Callaghan, Kyle Catterlin, Ed Davis, John McCourt, Phil Orville and Don Stewart.

**Don Tautz,
Student Exhibit Committee.**

Campus Interviews on Cigarette Tests**Number 9...THE MARSH HEN**

"For a while they had me swamped!"

Seems like this confused fowl got mixed in a metaphor and was almost turned into a guinea pig. The story goes she got caught in a welter of quick-trick cigarette tests... one puff of this brand, then a puff of that... a sniff, a whiff — a fast inhale and exhale. And then she was supposed to know all about cigarette mildness! Is that the way to treat a lady?

And is that the way to judge a cigarette?

We think not. That's why we suggest:

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!**



JEWELER
American and Swiss Watches
Watch, Clock and Jewelry Repairing
Selection of Jewelry
BINLEY'S JEWELRY STORE
885 E. Colorado St.
SY. 3-1853



The famous Rose Bowl
Seats 95,000 people.
Yet it would take
More than ten Rose Bowls
To hold
All the parents
And merchants
And farmers
And everyday people
In all walks of life
Who are
Bell System stockholders.
About 975,000 people—including
200,000 telephone employees—
Have invested
A part of their savings
In the telephone business.
It's their money
That helps make possible
This country's
Top-notch telephone service—
A service vital to our
National defense effort.



BELL TELEPHONE SYSTEM

The Engineer

Who comes with Fabor
sharpened keen,
With profile long and sober mien;
With transit, level, book and
tape
And glittering axe to swat the
stake?

The Engineer!
Who sets the level, bonds his
spine,
Squints through the glass along
the line,
Swings both his arms with rapid
gait
Yells: "Hold that 'God Damn' rod
up straight!"

The Engineer!
Who raves and snorts like one
insane,
Jumps in the air and claws his
mane,
When e'er he sees a scraper take
A whack at his most cherished
stake?

The Engineer!
Who swears he'll charge an even
ten
For stakes destroyed by mules
or men,

While on all fours he tries in
vain
To find the vanished stake again!

The Engineer!
Who saws the air with maddened
rage,

And turns with hate the figured
page,
And then with patience out of
joint,

Ties in another reference point?

The Engineer!
Who calls it your unrivaled gall
Whene'er you kick for overhaul,
And gives your spine a frigid
chill
Whene'er you spring the extra
bill?

The Engineer!
Who deals with figures quite
profuse

And tells you solid rock is loose,
That hardpan is no more than
loam,
Dhile gumbo's lighter than sea-
foam?

The Engineer!
Who after all commands your
praise,
In spite of his peculiar ways,
While other harvest all the gain,
That springs from his prolific
brain?

The Engineer!
Registrations made last
term in the Placement Office
for assistance in obtaining
part-time work are no longer
valid. Should applicants still
be interested, it is necessary
to register again and also to
inform us of their new sched-
ule.

Notice

Headquarters for the
best selections in
RECORDS - RADIOS
TELEVISION

L. C. TAYLOR CO.
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Open Evenings

**YOUR COLLEGE
RECORD SHOP**

Arrive home . . . with your gift shopping
complete for the man in the family. Come in after
classes today . . . and let us show you our com-
plete gift line-up. Arrow shirts . . . sports shirts . . .
ties . . . handkerchiefs! Bring in your Christmas
list . . . now.

**Start Your Xmas
Layaways Now**

**Watches
& Jewelry**

- Nationally Advertised
Watches

- All Types of Watches
Repaired

- Fine Diamonds

- Diamond Setting Done

- All Types Jewelry
Repair

10% DISCOUNT
on Merchandise
to

CALTECH

Students and Personnel

WIN LYONS

JEWELRY CO.

742 East Colorado

SYcamore 3-2667

HOW OTHER HALF LIVES

(Continued from Page 3)
and assure you that some action
will be taken.

Very truly yours,
NEIL F. ANDERSON,
Chief of Police.

Moon Madness . . .

In the rockets' red glare and
the din of wailing fire sirens and
home-made atom bombs, Tech-
men staged another of their fre-
quent celebrations last Monday
night. The occasion—the last
total lunar eclipse until January
of 1953.

Nine thirty was the jump-off
time as men gathered from all
dorms for the spontaneous party
between the undergraduate
buildings on Ames Street. At
9:35 p.m. the fire sirens atop
Wood and Munroe dormitories
heralded the opening of general
chaos. Shortly thereafter bombs
made from materials supplied by
various labs around the school
began to wreak the customary
havoc.

Water bombs seemed to be the
ammunition of the evening and
gathering crowds of dorm men
made an ideal target. From vantage
points on Munroe and Wal-
cott dormitories aspiring course
XIX men practiced rainmaking,
much to the discomfort of those
below.

In an attempt to grab some of
the glory of the evening, the
MIT Agenda staged their own
demonstration at one end of the
court. Several members rushed
into the end zone of the yard,
set up a ten foot wooden "A"
wrapped in kerosene soaked
rags, and touched a match to it.
This flaming spectacle was cut
short by a group of freshmen
who tore away the supports.

Bonfire building began to get
under way at that point, and the
traditional fires were soon going
strong. Freshman Dormitory
Advisors and the Cambridge
Fire Department, however, kept
a watchful eye on proceedings
and the flames began to die down
from lack of fuel.

With nothing left to do in the
way of entertainment, the men
soon turned on the Cambridge
police, traditional inhibitors of
Tech celebrations. One fresh-
man, in an attempt to join the
line of hallowed heroes, casually
dropped a firecracker at the feet
of one unsuspecting cop and
faded into the crowd. The situ-

**Welding Research
Contest Announced**

The fourth competition in the
Annual Engineering Undergrad-
uate Award and Scholarship Pro-
gram has been announced by
The James F. Lincoln Arc Weld-
ing Foundation, Cleveland, Ohio.
The dates for the competition
have been extended this year to
include one entire year, June 1,
1950, to May 31, 1951.

Eligible

All resident engineering under-
graduates registered in any
college offering a degree in any
branch of engineering are eligi-
ble to participate. Awards totaling
\$6750 will be made for the
best papers on arc welding de-
sign, maintenance, fabrication or
research. Awards range from
\$1000 to \$25 for students and du-
plicate awards in scholarship
funds will be made to the schools
in which the main award win-
ners are enrolled.

Purpose

The Foundation states that it
is not necessary to know how to
weld or to be enrolled in a course
studying some phase of welding.
The purpose of the program is
to stimulate independent study
and investigation by engineering
undergraduates into the science
of arc welding and its possible
application in industry and agri-
culture.

Rules for the program are
available in an illustrated book-
let giving suggestions for paper
subjects, bibliography, and show-
ing examples of award winning
papers. Write:

A. F. Davis, Secretary, James
F. Lincoln Arc Welding Founda-
tion, Cleveland 1, Ohio.

Or see **The California Tech**
staff Monday nights.

tion was tense for a moment,
until the dynamite went off.

Winding up about 12:00, the
evening was a social success;
total number of men left to be
bailed out—zero.

Gad!

"So you want to marry my
daughter, eh, young man? That's
ridiculous. Preposterous. Why,
you couldn't even keep her in
underwear."

"You haven't been doing too
well yourself, sir."

Service League**Provides \$2900****For Student Aid**

The sum of \$2900 was the
total amount voted for direct
aid to students and the In-
stitute by the Caltech Service
League, an organization of par-
ents and friends of Caltech stu-
dents, it was announced recently.

Qualified applicants, upon fin-
ishing their courses, have an
opportunity to learn about all
aspects of aviation while they
earn in the U.S. Air Force.

College men have two choices
—they enter into a year's avia-
tion cadet pilot or navigator
training course. As a cadet in
either course, they will be paid
\$105 a month and upon gradu-
ation they will be awarded a sec-
ond lieutenant's commission.

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—they enter into a year's avia-
tion cadet pilot or navigator
training course. As a cadet in
either course, they will be paid
\$105 a month and upon gradu-
ation they will be awarded a sec-
ond lieutenant's commission. Or-
dered to active duty, their pay
and allowances will amount to
about \$5000 a year. Applicants
must be between the ages of 20
and 26½, single, citizens, and
have two years of college work
completed.

The Baby Furniture Pool also
continued services during the
summer. "Helpful Hints" was
again brought up to date and
circulated. This is a 20-page
pamphlet containing informa-
tion on services available to stu-
dents from the Service League.

Industrialists Collaborate

(Continued from Page 1)
faculty and research staff were
available for discussion of spe-
cific problems.

In announcing the industrial
associates plan, Dr. DuBridge
said, "The inauguration of the
industrial associates constitutes
a forward step on the part of
the Institute in bringing indus-
trial and academic scientists to-
gether. Through this plan, indus-
trial corporations that depend
heavily for future develop-
ment on the advances of science
and technology are afforded an
opportunity of contributing to
the support of research and also
of keeping in touch with its re-
sults. The continued strength of
research and education in sci-
ence and technology is essential
to the future development of in-

**USAF Interviewing
Cadet Applicants**

Two U.S. Air Force officers,
Capt. W. A. Ham and Capt. V.
K. Shero, arrived on campus last
Monday to interview students
interested in officer training
programs offered by the Air
Force. They are located in the
entrance to Throop Hall, and
will be available from 9 a.m. to
4 p.m. week days.

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and allowances will amount to
about \$5000 a year. Applicants
must be between the ages of 20
and 26½, single, citizens, and
have two years of college work
completed.

The frosh'll be meeting all
their opponents in prelims to
the varsity matches, with the
first regular game tomorrow at
La Verne, time 6:30 p.m.

Cross-country running fin-
ishes up Saturday with the All-
Conference meet held here at
Tech at 10:00. We don't have a
full team running, but there will
be one man at least out there
for a time record.

Tennis, Track Soon

Tennis and track will be on
the sports schedule beginning
soon after Christmas vacation.

Gad!

She: What are you thinking of?

He: The same thing you are.

She: Goodness, if you do any-

thing like that I'll scream.

**Big T Honored
By Nat'l Society**

The 1950 Big T has been
awarded a first-class rating by
the National Scholastic Press
Association, judging on the basis
of coverage, makeup, theme, ty-
pography, photography and gen-
eral quality of book. Orchids to
Jon Goerke and his staff for
bringing such an honor to Tech.

dustry, and industry is now rec-
ognizing its debt to the contribu-

Start Hinting Now For Your**Arrow Gifts**

Best Choice . . . To Get . . . To Give!

**ARROW SHIRTS & TIES**

UNDERWEAR • HANDKERCHIEFS • SPORTS SHIRTS

**FOR DAD, BROTHER,
UNCLE, FRIEND . . .**

**Come Here For
ARROWS . . .**

Best Christmas Gifts We Know!

Arrive home . . . with your gift shopping
complete for the man in the family. Come in after
classes today . . . and let us show you our com-
plete gift line-up. Arrow shirts . . . sports shirts . . .
ties . . . handkerchiefs! Bring in your Christmas
list . . . now.

Shirts \$3.65 up
Ties \$1.00 up
Sports Shirts \$3.95 up
Handkerchiefs 35¢ up

HOTALING'S
921 EAST COLORADO ST.
Free Parking Rear of Store

FOR ARROW UNIVERSITY STYLES

X-Country Co-Champs; Redlands Latest Victim

Caltech's cross-country squad is ready to deck the halls and produce all the other evidences of merriment and joy. They got themselves a share of the championship with Oxy last Saturday morning by trimming Redlands 25-33.

Tech Bunched

Although Redlands' Don Crecy took first in 22:24.5 for the four mile run, the Tech team finished strong behind him to win an easy victory. Results found Mason second, Pilkington third, Tanner of Redlands fourth, Bob Cobb fifth, Francis Scott seventh for Tech, Dick Dickinson eighth, Gene Shakespeare ninth, and Ray Bowerman eleventh.

Unlike most of our runs, Tech was not outspinted at the start. Redlands is another notoriously slow starter, so there was a battle to see who would stay behind. Crecy eventually won out, only to pull in front at the two-mile mark.

Conference Meet

This next Saturday comes the all important conference meet, to be held here at Tech. The distance will be four miles and the competition keen. Meet time is 10:00 a.m. With the meet goes a one-third leg on the perpetual trophy, so the Tech team is gunning for a win.

Results:

1. Crecy R 22:24.5
2. Mason T 22:54
3. Pilkington T
4. Tanner R
5. Cobb R
6. Flint R
7. Scott T
8. Dickinson T
9. Shakespeare T
10. Wagner R
11. Bowerman T
12. Porter R
13. Parker R
14. Morten T
15. Marshall T

BUTTIN' IN

—by Butler

The lads who missed the Athletic Banquet two weeks ago really lost out on a fine evening. While the steak dinner was excellent, the speakers of the evening were loaded with many, many interesting sport stories.

Those two professional after dinner speakers, Eato and LaBrucherie, appeared to have stolen the show, until soccer's unknown coach, Bob Hottenback, took the floor to put the troops into stitches.

Philosophy

While Bob did a grand job of pulling laughs, he did make one really important statement. "We are not character building, we are winning games." I would like to see more of that philosophy spread among Tech teams.

Phelan

Jimmy Phelan, the guest speaker, also had much to say about what makes an athlete. While Mr. Phelan went to considerable detail, he did emphasize that it is the guy who is willing to make sacrifices for his team that is the real athlete. The kid that gives up those late dates, beers, and other trivial pleasures is the one who will be ready to give his all when game time comes around. There were not

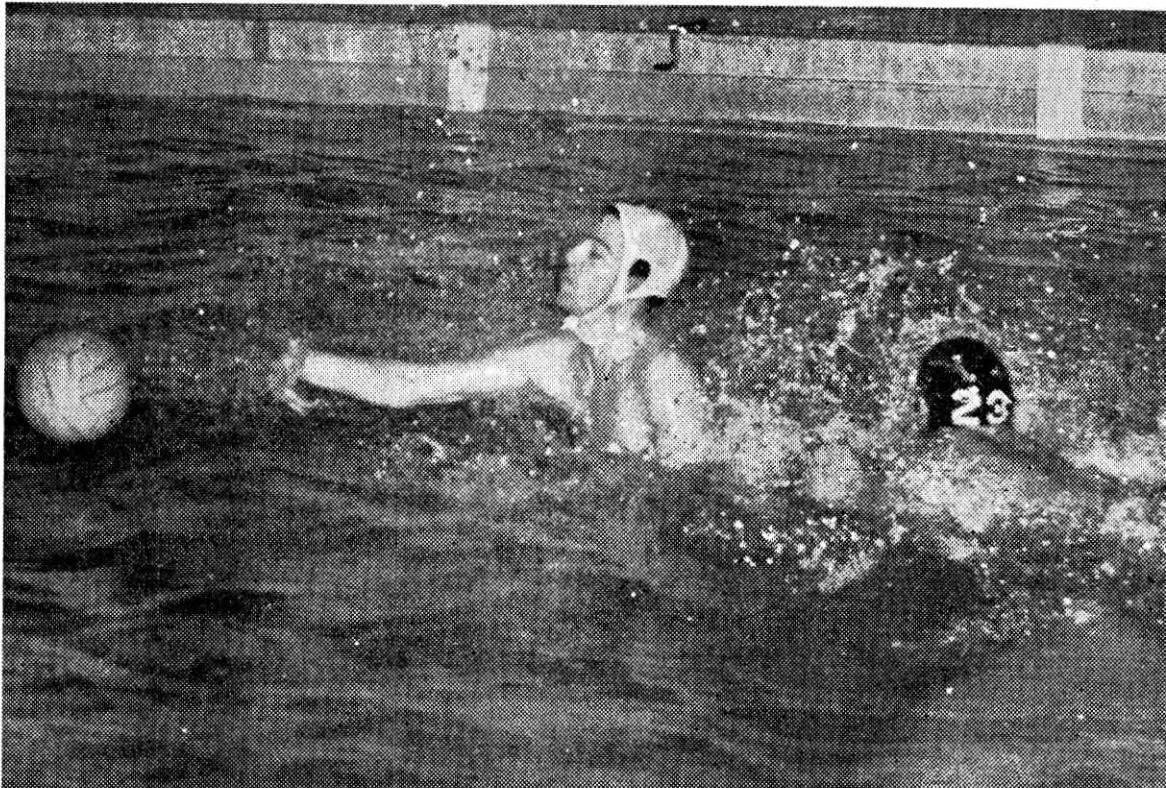
(Continued on Page 6)

At A Glance

SOCER Caltech, 4; Southern Calif., 3.
CROSS-COUNTRY Caltech, 25; Redlands, 33.
WATER-POLO Fullerton, 9; Caltech, 2.
BASKETBALL Loyola, 68; Caltech, 21.

Beaver Sports

POWER SHOT AT THE GOAL



Forward Bill Barmore whirls to slam a sidearm shot at the Fullerton goal, as the Hornet guard flounders in the water.

Beaver Waterpolo Team Takes 2nd in Loop; Ends Season with 9-4 Record

There was no question which was the better team in the Southern California Water Polo Conference finals held at Fullerton last Thursday evening. The Hornets were good, but not as good as the 9-2 score indicates.

Long Shots

It was mainly in their ability to shoot hard and accurately from the middle of the pool that they surpassed the Engineers. Their defense was no better than ours; we didn't score be-

cause we bobbed the ball whenever we had a good shot.

Connor, Von Herzen and Armstrong did good jobs on defense, keeping the Fullerton forwards covered like bugs in a rug. It was their guards and sprint breaking in to shoot from mid-pool that did the damage.

Our forward line of Libbey, Barmore and Haire was closely covered, but not so close that it couldn't get free for an occasional shot. But when it did get free, it developed buck fever. Libbey scored one goal and Armstrong the other.

Best Season

All in all, it was the most suc-

(Continued on Page 6)

THE DU PONT DIGEST

The Teflon* Problem:

Given a plastic for which there is no known solvent, how would you turn it into a coating?

Some time ago Du Pont research discovered a new plastic—"Teflon" tetrafluoroethylene resin. It had temperature resistance beyond the range of any previous plastic, excellent electrical characteristics, and the highest degree of chemical inertness among commercial plastics.

But tough-guy "Teflon" was almost too tough. It wouldn't melt and flow like other plastics. Hence, it could be molded only in simple shapes. There was no existing technique by which it could be made into thin coatings. Unless this difficulty could be overcome, the very properties that made "Teflon" so promising narrowed its usefulness.

"Teflon" Won't Dissolve

In the past, problems like this have been handled by dissolving plastics in a suitable solvent and using them as the base for enamels and similar coatings. But "Teflon" will not dissolve in any solvent yet known. It even stands up to nitric acid.

At this point Du Pont physical chemists suggested dispersions—minute particles suspended in a liquid—as the answer. After much study, scientists of the Polymers Department learned how to suspend "Teflon" particles about 1/125,000 of an inch in diameter. Aided by the fundamental studies of Chemical Department scientists, they devised today's commercial scale process.

Meanwhile Du Pont's Fabrics and Finishes Department was keeping pace with the development. Their contributions to formulating the new products did much to establish "Teflon" polytetrafluoroethylene coatings and wire enamels in many special uses.

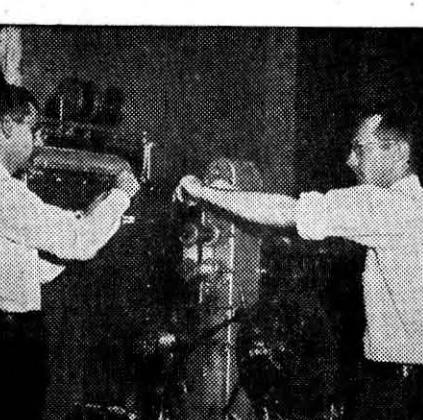
In electric motors, for instance, these enamels are used on wire so the motor can be operated at higher temperatures and will deliver more power per unit of weight. Such motors are more compact and sometimes cost less.

Other uses include non-sticking coatings that cut costs when applied to bakery rolls, rubber molds, heat-sealing machinery and similar equipment. Corrosion-resistant "Teflon" coatings for special uses are currently being investigated.

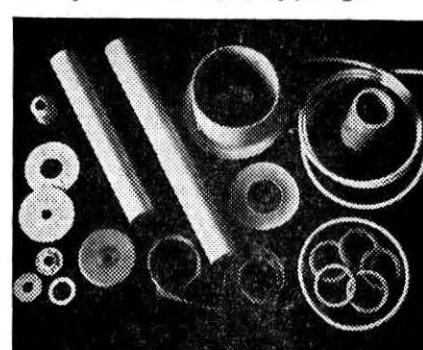
Product of Teamwork

"Teflon" finishes are a typical fruit of the close teamwork of Du Pont technicalmen of diverse backgrounds. Organic and physical chemists played a major role. Physicists participated by developing fundamental information on the nature of the dispersion. Chemical and mechanical engineers designed the manufacturing apparatus. Working together, they made possible this new and important addition to the Du Pont family of "Better Things for Better Living . . . through Chemistry."

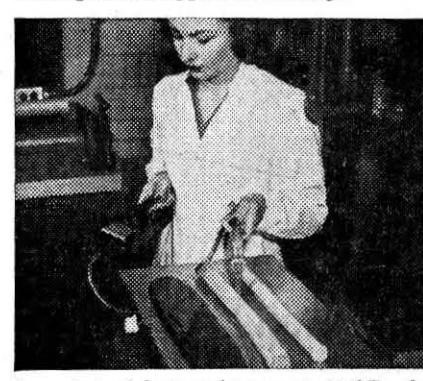
*Reg. U. S. Patent Off.



Philip S. Sanders, left, A.B. in Chemistry, University of Pennsylvania, 1944, supervises operation of a special dipping machine used to coat wire with "Teflon" enamel in the laboratory. Enamel is "dried" by fusing.



Number one plastic in resistance to heat, chemicals and moisture, "Teflon" is shown in forms of gaskets, coaxial cable spacers, tape, rod, pipe, flared tubing, valve stem packing, beading as it is supplied to industry.



In a test of heat resistance at 390°F., the "Teflon" rod (right) remains intact while two other plastics melt or swell out of shape.

DID YOU KNOW . . .

...76 students at 47 universities are currently pursuing post-graduate work as holders of Du Pont Fellowships in science. Awards for 1950-51 total \$224,000.



BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Trojans Lose Again 4-3; UCLA Here Sat. Weber Leaves Infirmary; Sparks Soccer Squad to Come from Behind

The last soccer game of the season will be played this Thursday at Caltech. The Bruins are to journey to Tournament Park to wind up the Beaver's season. This will be our third game with UCLA and by all indications, the one we're going to win.

Last Saturday, the Tech booters invaded the Rancho La Cienega stadium and won a very close game from the Trojans. USC, after a very thorough defeat at our hands two weeks ago, talked all of its ringers into coming out, and an excellent team faced the Beavers last Saturday.

SC Scores First

SC drew first blood when a goal was scored after a big muddle in front of the Tech uprights. The ball dribbled out of the maze of feet and came to rest about a foot in front of the goal. Goalie Chuck Miller dove for it but not quite in time to keep an SC forward from tapping it through. Then, they scored their second goal on a penalty kick.

Tech retaliated with a goal, but before the half was over, the score read 3-1 for the Trojans. The ball seesawed back and forth until half way through the fourth period.

Weber Inspires Techmen

Then Captain Ernie Weber, who had been sick in bed all week, came into the game and proceeded to score a goal right off the bat. This inspired the team to further efforts and by the closing whistle, Reinaldo Gutierrez had pushed through two more Tech tallies, making the final score 4-3, for the Beavers.

The whole game was evenly matched. The ball constantly changed hands, and scoring threats were at a minimum. The team showed a lot of fire and

(Continued on Page 6)



"Of course he was subversive! He was ruining morale by making Old Fashioneds without enough Angostura!"

ANGOSTURA

AROMATIC BITTERS

MAKES BETTER DRINKS

*It's the zesty tang of Angostura that puts so much morale in an Old Fashioned. Try it on fruit pies, in puddings and hard sauces, too!

Ice Skating

Daily 2:30 to 5, 7:45 to 10:45

Sat. & Sun. Mon. 10 to 12:30

Skates for Rent

Instructions

Beginners Welcome

Pasadena Winter

Gardens

171 South Arroyo Pkwy.

SY. 2-3331 RY. 1-6066

Fall Sports Equipment

BASKETBALL SHOES

TENNIS & GOLF EQUIPMENT

COMPLETE SKI DEPARTMENT

CHAMBERLAIN ATHLETIC CO.

Phone SY. 6-4161

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YOUR COLLEGE SHOP

—DRESS WEAR—

—SPORTSWEAR

—CASUAL CLOTHES



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Fowler's

"Men's Distinctive Fashions"

Open
Fri. Nights

