

The California Tech

California Institute of Technology

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Number 3

Flyboys ready for active year

Founding of a local chapter of a national AFROTC fraternity, renewed operation of Caltech's military ham radio station, and organization of a rifle team highlight the AFROTC unit's plans for the first term.

Thacher takes trip east to TBPi conclave

The annual convention of Tau Beta Pi, the only scholastic honorary society on campus, was held in Wisconsin last week and attended by delegates from all 99 chapters distributed throughout the United States, including Phil Thacher from Tech's California Beta chapter.

Founded in 1885 and established at Tech in 1921, Tau (pronounced tau) Beta Pi is the highest reward for academic achievement and outside interest. Though usually considered an engineering society, Tech's chapter elects from all options except biology on the basis of "distinguished scholarship and exemplary character."

The convention was split between the University of Wisconsin at Madison and Marquette University in Milwaukee. During the business meetings a petition for admission to Tau Beta Pi was accepted from the University of South Carolina making 100 chapters, a new executive council was chosen which included a man initiated by our own chapter, and Boston was chosen as the site of the next convention. Most delegates were utterly confused by a proposed simplification of the constitution, but it, too, was eventually put through.

Besides business there was also a model initiation and several banquets with a great deal of after dinner speaking. A chapter co-ordination discussion was especially interesting where problems of elections, finances, projects and organization were reviewed. Previous to the discussion there was an informative display of various projects by ambitious chapters. M.I.T. received the outstanding chapter award.

After the convention there was an interesting tour of the Schlitz brewery with as much beer as one could drink at the end. The tour was well attended by the delegates.

Wings over Pasadena

by Brad Efron

High over the Pacific a deadly squadron flies through the night. They are five viruses. Asiatic flu viruses. Their destination: The California Institute of Technology.

Squadron leader to honorable crew. Squadron leader to honorable crew. We are approaching final destination. Repeat. We are approaching final destination.

An excited murmur runs through the crew.

Men, I don't have to tell you this is a tough mission. The humans at our destination are a special strain, found nowhere else on earth. Repeat. Nowhere else on earth. They're a very virulent and dangerous strain. Unless we stop them now, they're liable to spread like wildfire. You men know what that means.

More excited murmur.

Yes, another people epidemic. This could be as bad as the great Caucasian people epidemic of the 1800's.

Tremendously excited murmur.

These humans at our destination are nurtured on a very peculiar diet. Repeat. Very peculiar diet. Our scientists

(Continued from Page 7)

Flu epidemic strikes Tech; athletics, initiation curtailed

Virus widespread but not dangerous, say campus medics as cases mount

Knocking out the football team, canceling all water sports, and taking away the water fights from initiation, the Asian flu has completely invaded the campus of Caltech since last Wednesday.

Saturday's football game with Pomona has been canceled, and may be rescheduled for the Wednesday before Thanksgiving. At last report, 12 gridgers had caught "the bug." All water polo and swimming has been canceled. The Fleming section of the soccer team has also been lost.

CCF slates fall meetings

The Caltech Christian Fellowship has scheduled for the rest of the term a program of topics and speakers for its Wednesday noon meetings in the student-house basement dining room:

Oct. 23: "Time Alone With God." Mr. Dwight Paine, Fuller Seminary student.

Oct. 30: "The Death of Christ." Mr. Paul Fromer, staff worker for Inter-Varsity Christian Fellowship.

Nov. 6: "Jesus Christ the High Priest." Dr. Edward Hart, pastor, Immanuel Baptist Church.

Nov. 13: "The Triennial I.V.C.F. Student Missionary Convention." Mr. T. Feistel, Aeronautics Engineer.

Nov. 20: "Jesus Christ as Lord." Mr. Alan Van Collister, assistant minister, Lake Avenue Congregational Church.

Nov. 27: "Jesus Christ the Head of the Church." Mr. Tom Westwood, nationally-known radio Bible commentator.

Dec. 4: "The Condition of the Church Today." Dr. Robert Kofahl, professor, Highland College, Pasadena.

All interested students are invited to come to any or all of these meetings. Sack lunches may be brought, and on-campus students can eat the student-house meal for a waiters' fee.

Institute medical authorities have reported that although the virus is widespread, so far it has been of a mild form.

This week is the peak of the epidemic, according to Dr. Richard Webb, and it is expected to abate by the end of next week. It was especially prevalent among the freshmen, who were made susceptible by the change of climate, schoolwork, rotation and initiation.

The flu struck last Wednesday with about 30 cases with new personnel at the Health Center combating it. At present there are about 60 cases, with 40 of them in the student houses.

Fleming was the first and hardest hit of the four houses. Most house officers were sick, with the house presidents in the lead—only the Blacker president avoided it.

Dabney incorporated the flu into their initiation program by making the frosh serve sick upperclassmen. The Blacker and Fleming softball teams have both been affected by the flu. About five waiters were on the sick list.

The Asiatic influenza is an entirely new strain of virus, a variant of the already known virus A. A mutation of this kind only happens about three times each century.

Vaccination against this new strain will not take effect until six or seven weeks after inoculation and therefore offers little protection for this fall, but will be effective for the following six or seven months. The first round of the flu will attack especially young adults. The spring attack will be more dangerous to older adults, but by that time sufficient vaccine is expected to be available.

Doctor Webb of the Health Department and Dr. George Mayhew, Master of Student Houses, recommended strong precautionary measures by the students.

It is vital, they said, that anyone who is sick stay in his room to avoid spreading the virus. Students should refrain from mixing with others, even if it means some self-sacrifice. Since no one has the necessary resistance against the flu, it is not safe to rely on a long record of previous good health. Much rest is essential for those who are sick—for the duration of the sickness and 24 hours afterwards. Webb recommends much fluid and APC tablets for all those who are sick.

Those who have so far avoided the flu should avoid contact with those who already are sick. As soon as someone feels bad, he should immediately report to the Health Center.

Announcements

Game postponed

Those planning to attend the varsity football game at Pomona this Saturday are advised that the game has been postponed because of the Tech flu epidemic. The game will be played on Wednesday, Nov. 27.

MIXER Dance

A mixer dance, sponsored by the junior class of Immaculate Heart College, will be presented Saturday, Oct. 19 in the I.H.C. social hall. Dancing will begin at 8:00 p.m. and continue until midnight. Dress will sport, such as slacks, sport coats and ties. I.H.C. is located at Western and Franklin in Hollywood. All Techmen are invited to this event.

FROSH Section Leaders

All freshman sections should elect a section leader by Friday, Oct. 18. The section leaders chosen should inform Miss Pond, Deans' Office secretary, of their election.

No talent too small

The drama club has conspired with the English department to present a reading of *Henry IV* to a captive audience, the Junior class, and any erstwhile lovers of Shakespeare on Wednesday, Oct. 23, at 7:30 p.m. in 206 Dabney. Aspiring Falstaffs and Prince Hals are requested to bring a copy of Harrison's Shakespeare.

Everybody is encouraged to attend or participate in the performance. "No talent is too small," stated Wayne Nelson, drama club president.

Regatta highlights season of busy Caltech sailors

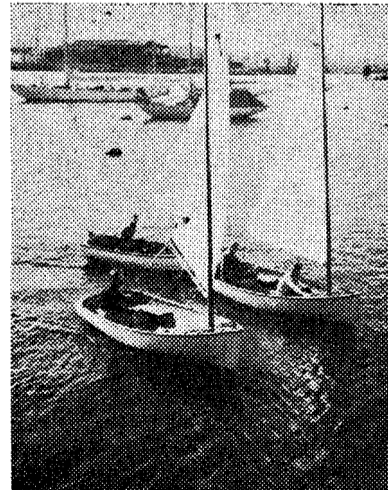
The Caltech-sponsored Invitational Regatta, traditional highlight of the sailing club season, will be this Sunday at the Los Angeles Yacht Club at 11 a.m. Among the participants other than Caltech will be UCLA; Long Beach, Claremont and Santa Barbara.

Tech's sailors, sponsored by the Los Angeles Yacht Club, boast possession of six fiberglass-hulled Glascats and a 17-foot sloop.

Warming up for the regatta, sophomore Ron Arps and a Scripps College crew member guided their 12-foot Glascat to a decisive first place last Sunday at the Newport Harbor Yacht Club in the Caltech Sailing Club's first meet of the season.

Tech's second entry was manned by Paul Widess and Al Lyons, a new member.

Despite the absence of senior club members, the freshmen and sophomore sailors managed a close third place in the field of five. Also participating in the



meet were PCC and Santa Barbara.

This was the first of 12 meets in which the Sailing Club plans to participate this year, according to "Commodore" Jim Weaver. Noting that many freshmen have joined the club, Weaver commented, "I think our racing teams are getting better and better each year because of this new blood."

Editorial

Bookstore held responsible for needless shortage

As many students have noticed in the past few weeks, the Caltech bookstore was caught with an undersupply of various essential textbooks. As a matter of record we print the following list of some of the courses affected by this shortage:

AM 15	Ge 108
AM 115	H 1
AM 116	Hy 1
Ch 41	Hy 2
Ch 46	L 32
EE 1	L 50
EE 4	Ma 108
EE 104	Ma 112
EE 162	ME 15
EE 190	Ph 27
Ge 1	PI 101

This shortage affected nearly the entire undergraduate student body; courses were forced to move slowly for the first weeks, and the text-less students found it difficult to keep pace. In the highly-gearred Caltech curriculum, this situation is a small catastrophe. The work must be done eventually; if work moves slowly at the beginning of the term, the student may reasonably expect to be completely snowed under in the last weeks.

BUT THE SHORTAGE WAS ABSOLUTELY UNNECESSARY. Each term the entire student body preregisters, and the bookstore can determine how many students are expected for each course. The bookstore is, of course, dependent on the various departments; if they do not submit lists in time, the bookstore cannot be expected to order properly. This is evidently part of the cause for his year's shortage. However, it is our opinion that this shortage, damaging as it is to the welfare of the average student, should have been anticipated and alleviated. At an average cost per man of \$10 per day the students here can ill afford the loss of time caused by the shortage of books in required courses.

We sincerely hope that this will not be a continuing situation.

Letters to the Editor

Editor, the California Tech:

In consideration of the editorial, "Interhouse Cross-Country Is No Longer Sport," I would like to say a few words in defense of cross-country. I claim cross-country is a good sport, ideally suited to Interhouse competition.

To begin, the average Tech man is not in prime physical condition. Now, running in smog is not the healthiest thing to do, but most physical educators throughout the country agree that running is one of the best general body conditioners. Assuming a man in good condition feels better, looks better, sleeps more soundly and works more efficiently, it is to one's advantage to exercise regularly. By running one can exercise his entire system while spending minimum of time. Moreover, by starting to get in shape at the beginning of the year during cross-country season, one finds it easier to prepare for the rest of Interhouse athletics, especially for swimming which comes later this term. Thus, the value of cross-country to the average house member is its worth as exercise.

Among Interhouse sports, cross-country is one that requires no special skills; hence, its value to anyone who feels an obligation to his house or school but feels he lacks the required athletic co-ordination to participate in other sports. All running takes is the time and hard work needed to get in shape. Moreover, Interhouse rules state that anyone who runs in a cross-country meet can af-

fect the final score, not necessarily by winning, but by displacing other teams' members. Let it also be said that playing any sport is not limited to its Interhouse season—one goes out for Interhouse athletics not only for pleasure, but to try to give his house the best team they can have; i.e., he goes out because of a responsibility to his house.

In closing, let me emphasize two points: The average Tech man could use a stronger body to go with his reputedly sound mind. Finally, the fact cross-country is not popular as a sport is not the fault of cross-country in the light of the decided advantages listed above—the fault lies with the average house member who is too busy (or lazy, perhaps?) to do the required work.

George Logemann

Any individual interested in this type of conditioning is always free to indulge his whims. But we do not feel that the dull grind of cross-country workouts is a stimulus to the "out-of-condition" Techman. One should also realize that a man competing out of a sense of house responsibility will probably take the minimum workouts and quite possibly harm himself by competing while out of condition.

We firmly believe that cross-country is not in the spirit of our intramural program. It is undeniable that participation in all other Interhouse sports, with the exception of tennis, is at least triple that of cross-country. And the limitation in tennis is caused by the rules—rules that might well be changed. Also, about half of the cross-country participants are members of the freshmen squad, who are using Interhouse as a warm-up.

The Outside World

The news

SPUTNIK

Sputnik continued to make most of the news last week as America realized how powerful the rocket must have been which put it in its orbit, and the Russians exploited this new evidence of superior military technology as the basis for a new tough line. In Washington, officials seemed to adopt an increasingly serious view of the situation, so that by Thursday Neil H. McElroy, the new Secretary of Defense, said that the new Soviet advances in rocketry "made it seem not unimportant to us to try to find the bottlenecks in our missile program and remove them." Others talked of a Congressional investigation and increased missile expenditures.

In the U.N. the U.S. ordered to consider a separate guarantee that outer space would be used only for "peaceful and scientific purposes," a departure from the former American insistence on a package disarmament agreement. Russia's delegate, Andrei Gromyko, his usual encouraging self, replied, "It is time to put trickery aside in the talks and stop making a good face when the game is lost." In Moscow Mr. Krushchev declared, "Turkey is preparing war against Syria and it is certain . . . the U.S.A. is pushing Turkey upon this dangerous path."

Sputnik, the Russians claim, weighs 184 pounds which, if true, means that the three-stage rocket used to launch it may have weighed 100,000 lbs. No one knows how long Sputnik will circle, but the Russians are already planning to launch a second one, two or three times heavier, in a month or two.

FOREIGN NEWS

In other news, Queen Elizabeth flew to Canada, apparently to give Canadians something the U.S. cannot, the pomp and ceremony of monarchy. Characteristically, however, she will spend over half of her ten-day visit in this country.

French President Coty continued to search unsuccessfully among the ranks of ex-premiers for a man who could form a new government.

Ghana's (the Gold Coast's) finance minister was thrown out of a Delaware restaurant because "colored people are not allowed to eat here." The President as well as the State Department spent the rest of the week apologizing.

The anti-communists finally succeeded in taking formal control of the San Marino (Italy) government from the communists.

DOMESTIC NEWS

Little Rock remained calm while Governor Faubus fumed about the "indiscretions" of soldiers who had allegedly entered girls' dressing rooms.

The Teamsters first claimed that election documents had inadvertently been tossed into a hotel incinerator by an unknowing maid, who later died of a heart attack, but later recovered some of them.

The State Department ended fingerprint requirements for most foreign visitors.

Finally, New York City had a bad week, first at the hands of the Milwaukee Braves, then the Dodgers, who moved to Los Angeles, and finally by the Census Bureau, which in a city-financed report declared that the city's population had declined, although the city refused to certify it in order to keep its full state subsidy.

The missiles game

The recent appearance of a Russian earth satellite is just one more piece of evidence of Russia's increasing lead in military technology. Unfortunately, there have been quite a few others; compare, for example, the triumphant Soviet inter-continental ballistic missile (ICBM) announcement of August 26 with last week's report that Atlas II lived only 35 seconds before it had to be destroyed.

This was fourth time that Russia has surprised us with her military technology. The first was the 1949 atomic explosion, which was explained away as the result of espionage or the work of German scientists (even though there is probably a more brilliant group working for us). However, it was a little harder to explain the 1953 thermonuclear explosion less than a year after our own. Then, the 1955 appearance of the Bison, a long-range bomber with the world's most powerful jet engines, just 45 days after the first production model of our B-52 rolled off the assembly line, opened still more eyes. Finally, it appears that the successful testing of an ICBM marks an actual Soviet lead in military technology.

U.S. MISSILES

Since missiles appear to be the key to future military superiority, let's examine the relative positions of the two major powers. We have the following offensive, long-range missiles under development:

- (1) Atlas—a 1500-mile ICBM now undergoing prototype tests in Florida.
- (2) Titan—another ICBM, six months to a year behind Atlas.
- (3) Jupiter—Air Force 1500-mile intermediate-range (LRBM; successful prototype tests including modified version fired 3600 miles last fall; production model probably available in 1960 or 1961.
- (4) Thor—Army 100-mile IRBM still undergoing prototype tests.
- (5) Polaris—1000-mile Navy IRBM designed to be fired from a submarine.
- (6) Snark—600 m.p.h. guided missile with 5000-mile range; production model is now or soon will be available; slow speed is its major disadvantage.

RUSSIAN MISSILES

Russia, on the other hand, is believed to have test-fired at least four 4000-mile ICBM prototypes this summer, at least one of which was successful. She is also known to have tested numerous 900-mile IRBMs.

Thus, it seems clear that the Soviets are slightly ahead. But how significant is this? The answer seems to be that we are in no danger as our IRBMs, launched from foreign bases will prove enough of a deterrent so that the Soviets will not dare to use their ICBMs, which will probably not be in production until the early '60s. In the near future, it also seems unlikely that they could destroy enough of our Strategic Air Command bases quickly enough to escape effective retaliation even though they are expected to have twice as many heavy jet bombers by 1960 as well as a stockpile of IRBMs. The Pentagon also believes that it is possible to produce an anti-missile missile (the Nike-Zeus).

The obvious question is why the Russians have overtaken the U.S., technologically the most advanced nation. The answer

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seems to be two-fold, in the order of decreasing importance:

- (1) Russia's ability and desire to concentrate on a few objectives, the first of which is military superiority.
- (2) American bureaucratic inefficiency.

Next week we will consider these in more detail.

(3) An understandable American reluctance to undertake the development of these new, terrifying weapons.

Let's consider these in more detail. First, like other totalitarian dictatorship, the Soviet Union can force its people to do without some of the luxuries Americans enjoy so that it can concentrate its personnel, plant capacity and educational facilities on a limited number of long-range national objectives. The American defense establishment, on the other hand, is subject to economy drives and spending ceilings.

Pentagon confusion

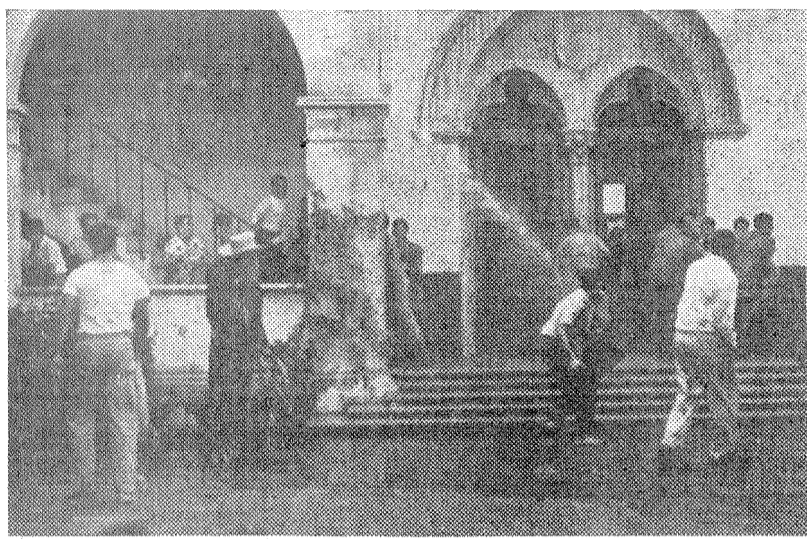
Secondly, the American missile program has suffered from the lack of a strong focal point for program guidance in the Pentagon, resulting in an unnecessary proliferation of committees and projects as well as too much fragmentation in the letting of contracts. The first hint of this unfortunate Pentagon situation came in February, 1956, when Trevor Gardner, then Assistant Secretary of the Air Force for Research and Development resigned because of differences with Secretary Wilson, charging that the U.S. lagged behind Russia in missile development because of a lack of organization and money. This resulted in the appointment of a special Assistant to the Secretary of Defense to be in charge of missile development.

But a year and a half later a Congressional committee found "little evidence that the office of the Special Assistant for Guided Missiles had been successful in eliminating duplication or unnecessary programs." Another Congressional report last winter found considerable overlap and squabbling among Wilson's assistants.

Ray of hope

Since this weak American competitive position stems mainly from built-in disadvantages of a free nation, we can only hope that some of the basic weaknesses of a totalitarian regime may yet bring Russia's downfall or even a change of character. One is the problem of succession; another is the tension created by the scarcity of consumer goods. A third is that totalitarianism is probably disliked by the newly educated groups. In the meantime we can hope that the arms stalemate will continue. Or better yet, maybe Sputnik will jolt America out of her current complacency.

Caltech renews Pajamarino tradition



House life rushes on

On-campus students, particularly freshmen, found the first weeks of Caltech life to be incredibly hectic, as the furor of rotation melted into the greater furor of initiation. Water-fights, as shown above, were the order of each day, and various frosh were heard to mumble, "Are we supposed to study, too?"

The unprepared found fuses, light bulbs, shower heads, door knobs and paintings missing.

All hands were up by seven Monday morning for the first full-scale battle of the year. Frosh began showing up in class in very unusual attire, ranging from devil's tails to corn cob pipes.

Some, however, could still recall the more humorous aspects of rotation, such as this incongruous photo (below) of a most unlikely person being snowed by enemy propaganda.



Last week Pajamarino returned to the Caltech campus, and the newly-formed ASCIT photo division was on hand for complete coverage of the event.

Below: Head Football Coach Bert LaBrucherie, silhouetted by the roaring rally bonfire, speaks to the student body.

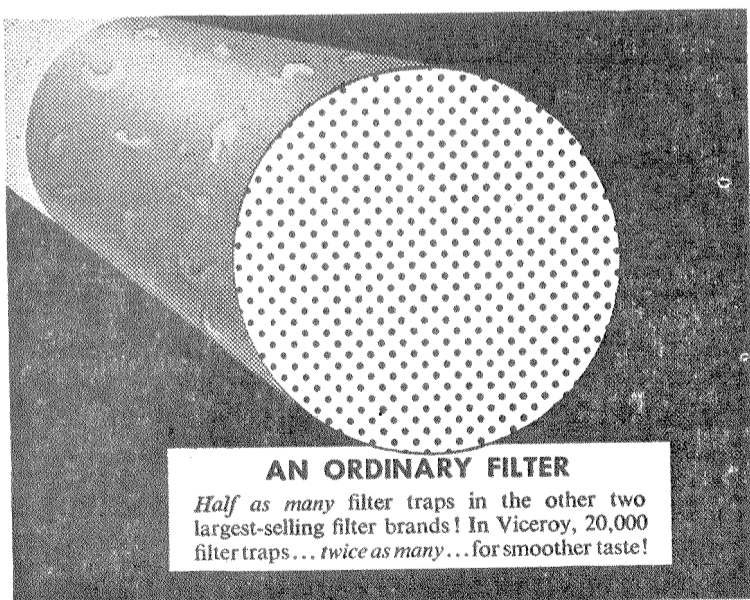
Left: The cheerleaders and songleaders, led by John Bard and Wild Jon Kelly (3rd man), inspire the fans to greater frenzy. The songleaders were particularly inspiring.

Below, left: The Caltech Marching Band, attired in "crazy" pajamas, prepares to "take the field."

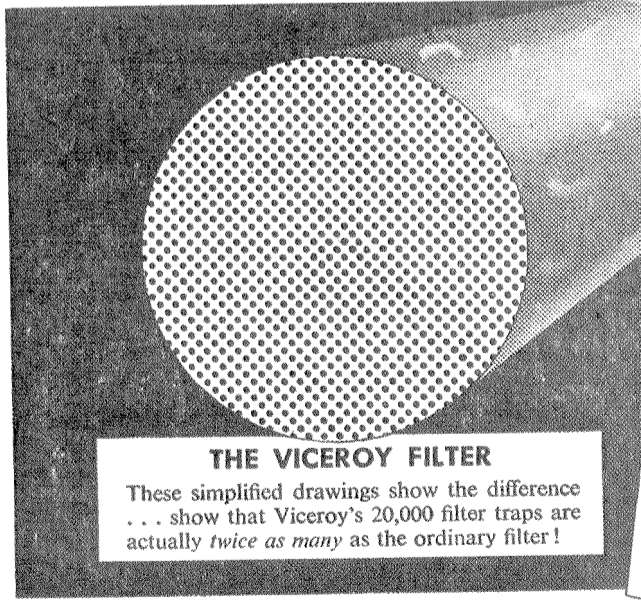
The Beavers, however, succumbed to Redlands, 39-13, the next night. But some Beavers noted that the fire was still burning.



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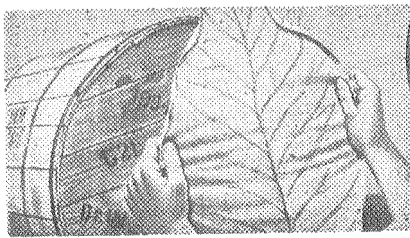


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Campus Brewins

Five freshmen ballistics experts gathered at random, and exuding the odors of cheap gin, collected behind Throop last Saturday night for an all out assault on Sputnik. Owing to a Miss-read slide-rule, the attempt failed.

((Hoohah))

It was Monday night in the Tech office, and Lieut. Milder was fuming in impotent rage: "Where the hell is Weisberg? Peon, find Weisberg!" Peon, grasping phone, managed to dial Fleming, alley 19 or something, and initiated the following charming tableau:

Peon: This is Yerbovsky. Get me Weisberg's phone number, like quick.

Frosh Voice: Yerbovsky? Weisberg?

Peon: Don't you know me yet, frosh, man? House list!

House list!

Frosh Voice: Waitaminnit.

(Dishevelled personage bursts into Tech office, pauses, speaks:)

Frosh Voice, In Person: Say, Weisberg works down here, doesn't he? Can you tell me what his phone number is?

Peon: (Handing him the phone.) Here. Ask this guy. Then go throw yourself in the shower. (With felling.)

Useful information

Phillips, pg. 243: "Since no function may exist, the method of finding it cannot be entirely systematic." EE 1b book (1952) "When short circuited, it drops its load automatically because of lack of excitation." Radio Amateur's Handbook: "When under modulation, the plate cur-

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Caltech expert analyzes intricacies of patent law in effort to enlighten future engineers

The following is the first in a series of articles dealing with patents and inventions, a series that promises to be of particular interest and value to Caltech undergraduates. The author is Roland N. Smoot, BS '50. Smoot holds an LLB degree from Georgetown University, and is serving as Associate Patent Counsel for the Institute.

by Roland Smoot

Last year graduates of Caltech and similar engineering schools lost for their employers potential income estimated to be in excess of Fifty Million Dollars. This amount is in addition to the cost of broken equipment, expense accounts and the occasional hangover. The loss resulted from the failure of the

average engineer or scientist to protect his commercially useful ideas, to appreciate the importance of protection of such industrial property in a competitive economy, and to understand how his ideas may be protected.

It shall be the purpose of this series of articles to introduce the concepts upon which the protection of industrial property are based and to illustrate the importance of such protection, not only to potential employers, but to the working engineer and scientist.

Major industrial corporations use three main techniques to protect commercially useful ideas: patents, trade secrets and employee contracts. These techniques, though closely interrelated, will be discussed individual-

ly, and their relative importance and features noted.

In 1938, before a Congressional Committee, Mr. Conway P. Coe, then the Commissioner of Patents in the Department of Commerce, made the following statement:

"It is hardly necessary to tell you that nearly every major industry in the United States and, for that matter, in the civilized world, owes its existence to inventions once protected by patents.

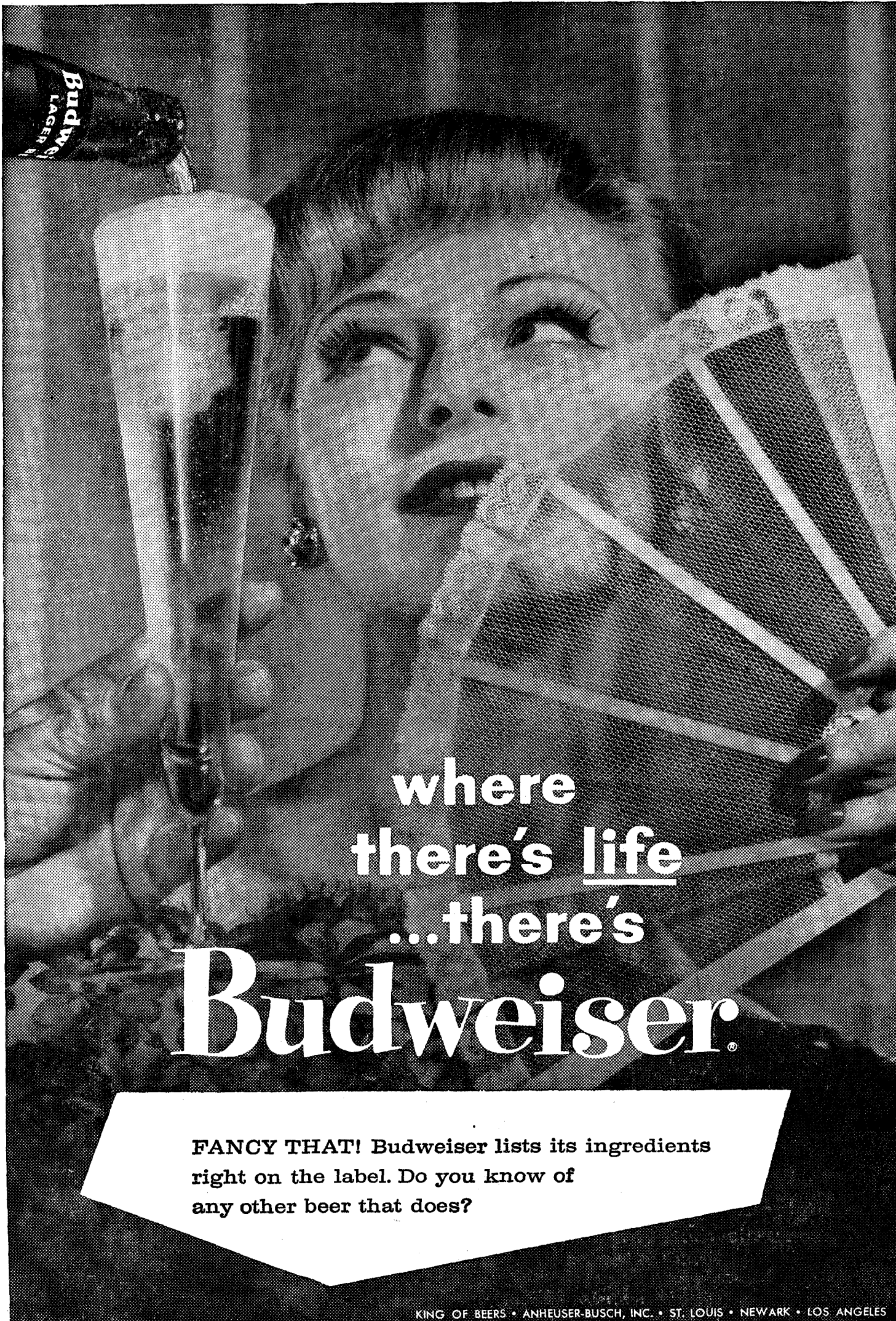
However, it may be well to remind, if not to inform you, that American agriculture is indebted to the gin (cotton), the reaper, the tractor and many other machines that facilitate larger production of the crops which our farmers must exchange for their own numerous needs.

Communication depends on the telegraph, the telephone and the radio, and other inventions necessary to their successful operation. In the field of chemistry there are vulcanized rubber, celluloid and bakelite as the expressions of immense investments of money and employment of thousands of workers.

Modern transportation, though an industry in itself, depends to some degree on scores of other industries based on patents.

In short, every industry in America depends to some degree on others for its operation and all of them are beholden to patents. Every in-

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Next Door to
Caltech Barber Shop

Human Review

by Bob Blandford

There are two ends which most people will agree are suitable for an honor system. The first is to insure fair play while in college and the second is to insure that this spirit of fair play is carried over into life outside the college. To restate these—the first is to insure equal opportunity for all students and the second is to guide the development of a personal code of ethics in a path leading to honesty and fair play in life after college.

Now, there are at least two ways of insuring fair play in college; the honor system as practiced at Tech and the protering system as it is practiced, for example, at UCLA. Both of these set up an authority whose job is to punish and/or rehabilitate offenders. Both systems try to prevent offenses, in practice mostly by efficient use of their powers and by threats of varying degrees of subtlety.

It is clear that if there were no violations the honor system would be the better mechanism. All of us at Tech know the reasons: the absence of suspicion, take home tests, and so forth.

However, comments like, "The faculty has the honor and the students have the system," and stories about writing on cuffs and bits of paper, which one reads and hears about from students at other colleges indicate that cheating is rather widespread.

Dishonesty admitted

This is supported by research condensed in the book, "Changing Values in College Students." There we see that "frequent" cheating is admitted by 40% or more at a large number of colleges, often with no apology or sense of wrong doing. A survey at Cornell, where I believe there is no honor system, found that only 34% would report an offending student if he were a personal friend, even assuming no public knowledge of the entire incident. However, if the offender were not a personal friend, 84% would report him.

Finally, only 5% would report a stranger if the reporting conflicted with what their friends approved, and virtually no one would report a friend under those conditions.

Cheating minor at Tech

Well, surely we do better than this at Tech. It is probably true that there are few major violations of the honor system. There are probably some good reasons for this. First, excellent students are seldom tempted to cheat in high-school and do not form habits of cheating. Secondly, we are well indoctrinated at freshman camp where student public opinion is emphasized. Thirdly, there is not much opportunity

or profit in cheating at Tech. Finally, of course, there is the student's realization of the system's value. Of course all the above reasons apply to most high-grade schools and indeed Pomona and Oxy have reputable systems.

I would like to develop one more idea before going on. That is that there are fewer opportunities for clear-cut cheating in real life than in college. That is, in life it is true that there are bad practices but they are more subtle and far between, and their rewards are not often so immediate. Indeed, in most technical occupations, the temptation to cheat is slight because it is easily found out. In a job the requirement is to produce, no matter how. In college it is to reproduce in one strict way—which is liable to cheating.

In the light of the above, one wants to say that students are constantly being exposed to un-world-like temptation. This probably weakens their morals instead of strengthening them. After all, slums may yield a few moral giants, but gangsters are more in the pattern.

The engineering approach

Here is a parable to illustrate a point. The transit company of San Francisco was worried about people being brushed off the streetcar running boards. So they put up signs, "Please do not stand on the running boards." Still people stood on them, so the company put up more signs, some saying, "Do not stand on the running boards." Then more when the customers still did not obey saying, "Keep off the running boards."

Nothing seemed to work—the customers remained on the running boards. Finally the company called in an engineer. "This seems easy enough," said the engineer. He took off the running boards.

Caltech is better off

Let me sum the article up to now. In colleges throughout the nation the first goal of fair play is clearly not being attained. In these schools, students are essentially being given training in cheating. This situation is clearly detrimental to the second goal: building a moral code for real life. Caltech and similar schools are better off chiefly because of better students and more "cheat-proof" subjects and methods of examination.

More lifelike testing

So here comes the small, but I hope well developed, point. Let's take off the "running boards." Honor and protering systems have a small error of emphasis. In addition to detection and immediate punishment and or rehabili-

(Continued on page 8)

The Bull Pen

by Ford Holtzman

Now that fall and the football season are upon us, we are treated regularly to the plaintif cries of the athletes and their little friends to get out and rooty toot toot for the boys in chartreuse. And all you will get is a collection of plaintif cries and appeals to your conscience as a law abiding, God fearing, Tech loving citizen. You certainly will not get any good reasons why you should "get out and support the team," because there aren't any.

Some people contend that, by going to the games and throwing a fit in the grandstands, we can help the team win. In the first place, all the yelling in the world can't do much for our football team; even athletes are not such complete egotists that they must have the adulation of the mob to keep them going. In the second place, who really cares whether they win or not, besides the participants themselves. Will it make any difference in anybody's life? If you can find any joy in the team's winning, then it must be a second-hand joy assumed from a spurious association between you and the athletes. Such a joy is pathetic at best. This joy can come only by usurping the glory to which only the participants have any claim.

Others will tell you that by attending athletic events in large quantities we enhance our reputation with other schools. I hate to be a spoil sport, but it is going to take a lot more than that to raise our reputation. The main reason why people in other schools think poorly of us is, purely and simply, due to a jealousy which they feel because of the reputed intellectual capabilities of the Tech student. They would seize upon any available excuse in order to entertain a low opinion of us. We would have to conform completely before we would be accepted. And it's better to have a somewhat unsatisfactory reputation than it is to become another Oxy.

The individual Techman does not have any sort of duty to "support the team." He should do so only if he finds it to be personally rewarding. And I do not see how watching fotoball games can be personally rewarding, if we are really honest with ourselves.

As a means of wasting time athletic events are as good as anything else. But you don't have to go to such trouble just to waste time.

As anything else, athletic events rank far below other forms of entertainment. The stage and movies can have a great deal of emotional and intellectual valu. Music is completely emotional, but one can get a certain "emotional education" from a good concert. Dancing serves the same purpose, though, perhaps, to a lesser extent. But what emotion can you feel during a football game except excitement or the lack of it? Such a similar form of entertainment as dancing affords, as well as excitement, a myriad of other emotional and intellectual value. Music is completely emotional, but

(Continued on page 8)

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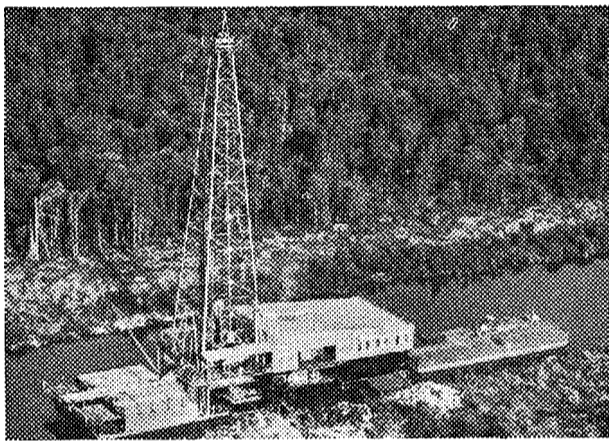


George Veazey

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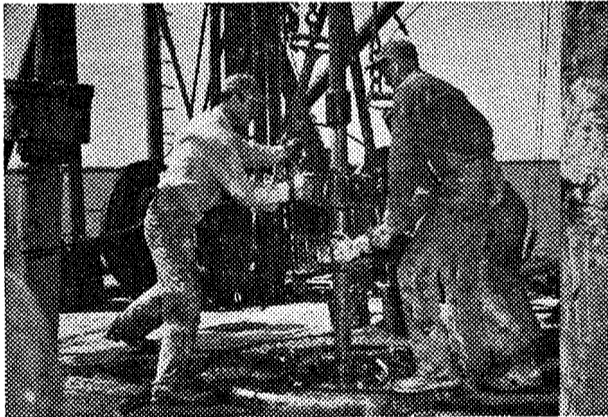
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AS I SEE IT

Every team, they say, no matter what sport you're considering, has at least one bad game in its system each season. Some athletic giants, like the Oklahoma Sooners, have the material to weather these "off days" and still come out on top. In the case of Caltech's varsity footballers, a bad day for a few key players can result in a sound licking, such as the one administered by Redlands last weekend.

At their best the Beavers could have handled the Bulldogs. Not easily, by any means, but Caltech had the potential to take the game. Unfortunately, the Beavers played dead while the Bulldogs scored three times. But then Tech fought them evenly until the Beavers were too tired to be at all effective, at which point Redlands piled on their last two touchdowns. Redlands didn't "back into" the victory. They displayed a fine set of fast backs and accurate passers, plus a hustling line that could hit hard when the occasion demanded. As I see it, the team wasn't really "up" for the Redlands game. Let's hope the Pomona-Claremont game is a different story.

In and around the SCC . . . I defy anyone to predict the outcome of this year's conference football schedule. Redlands, a preseason favorite, lost to Barstow and Flagstaff before overcoming Caltech. Whittier, figured by most to be weaker lost to Santa Barbara, then defeated Barstow, 51-0. Pomona lost to Barstow and Occidental defeated Santa Barbara and lost to Cal Poly. If these comparative scores mean anything, look for Whittier and Occidental to battle for the conference crown.

Basketball practice opened this week at Caltech, with new Head Coach Gene Rock directing the workouts. Rock expects the turnouts to be a bit slim for a while, with three of the four returning lettermen out for fall sports, but he plans to waste as little time as possible in preparing for the season opener Dec. 3 against Cal Poly. All interested candidates can report to Coach Rock at 4 p.m. any afternoon in the gym.

Look for the grudge match of the year when Caltech meets Oxy in basketball this season. Two former Occidental athletes,

Beavers bow to Bulldogs 39-13

The Redlands Bulldogs, eager for their second straight conference championship, overwhelmed the Caltech Varsity, 39-13, last Friday night at the winners field. This was the league opener for both teams.

Interhouse Sports Throop Downs Fleming 24-1

Interhouse softball got off to a one-sided start last Monday as Throop Club managed to edge past Fleming, 24-1. The off-campus men had each player up twice in the first inning and was well into its lineup for the third time before they were finally retired. They scored eighteen runs. Throoper Bob Emmerling kept the Phlegms well in line, allowing only two hits and one run. Fleming settled down in the later innings after substituting Mike Turner for Al Laderman at pitcher.

Redlands took the offensive right away, driving to a touchdown from the opening kickoff. Tim Burroughs went over for the Bulldogs less than six minutes after the whistle. Redlands scored twice more before the Beavers managed to wipe the goose egg from their half of the scoreboard.

The Bulldogs tallied again in the first quarter on a pass play from John Janewicz to Ken Nakauchi. The next time they got the ball, they marched steadily for 55 yards to their third TD. They missed the conversion and the score stood 20-0.

After an exchange of punts and fumbles, Hal Forsen ran a Bulldog punt down to the winner's nine-yard line. Three plays later Forsen went over with one minute to go in the half. He converted, and the score was 20-7, at the end of the half.

Early in the second half Redlands had the ball on their own 36; a couple of plays later, Howard Tipton ran sixty yards to make the score 26-7. Quickly retaliating, Dick Van Kirk scampered around right end for Tech's second score. The conversion was no good and it was 26-13, Redlands.

During the fourth quarter, although the score doesn't show it, the Beavers tightened up and played better ball. Janewicz scored again on a fifty yard run from scrimmage. He also converted. With six minutes to go in the game, halfback Merv Lovenberg intercepted a pass in Tech territory and ran it back for the final tally of the game. The score stood 39-13, Redlands when the gun sounded.

End Fred Newman was outstanding for the Beavers, especially on defense. His quick reflexes and shiftiness made him a bear on offense also.

The game originally scheduled for this Saturday at Pomona has been postponed because of the Tech flu epidemic until Wednesday, Nov. 27.

Ricketts Beats Dabney 13-4

Favored Ricketts jumped to an early lead and went on to down Dabney's softball nine 13-4 Tuesday on the baseball field.

Weak pitching for the losers made much of the difference, as wildness gave the Rowdies walk after walk. Dabney showed good fielding but very weak hitting against the steady throwing of Rowdie Lou Montoya. On the other side of the ledger, the Maroon team hit well, with at least three Rowdies having a perfect day at the plate, and a definite sharpness on the basepaths was seen. Ricketts appears a good bet over all competition but Throop.

Bob Emmerling and John Stene, are transfers at Caltech on the 3-2 plan, and are candidates for the varsity basketball squad; both are reportedly pointing for the Occidental clashes.

The Sports Beat

by Steve Emanuel

Near the end of last term and during the first two weeks of this one, there has been some discussion on dropping interhouse cross-country in favor of some other sport. This is okay except that no one yet has come up with a sound "other sport."

Wrestling has been suggested, but while this is good in theory, it does not work out too well in practice. In the first place, I doubt that there are more than a dozen students at Tech right now who know enough about college wrestling to compete in a meet, even an interhouse meet. This means that about thirty men must be taught how to wrestle. Who's going to teach them and when? In the second place, since there are about eight weight classes, one man from each house in each class, and one mat, the interhouse wrestling match should only take about six hours. I doubt if there are very many people who are so interested in wrestling that they are willing to watch six hours of very amateur amateurs.

Bowling, even though it is a discobolus sport, and there is a bowling trophy, is one sport which has not received much attention. This is a sport which almost everyone in school enjoys and plays. It would be no trouble at all for a house to get up the necessary five men it takes to make a team.

There are, however, a few drawbacks. One is cost. If a man were to bowl say about fifteen practice games and then twelve games in competition, this would cost him about \$12.00, assuming forty cents a line. The individual house could pay all or part of the costs. If it were to pay for all the competition games of its members, this would run each house about \$25.00.

Another thing is that several years ago bowling was an interhouse sport. The main reason that it no longer exists is that the bowling matches rapidly turned into crew races. This is by far the greatest drawback in adopting bowling. However, if all the houses are so violently opposed to cross-country, I can't see much harm in dropping it for a year or two and trying out some other sport such as wrestling or bowling or ping-pong or even nothing if cross-country is really odious.

Soccer team to start season on another uncertain footing

Back from last year's Varsity squad are MVP's Larry Tenn and Phil Thacher, as well as other standards who include Dick Dietz, Jim Weaver, Glenn Converse, Lewis Linson, Brent Banta, Luis Baez-Duarte and George Ilves. Possible prospects up from the JV's are Mac Poor, Wayne Nelson and Neville Black. Other JV players who might see some service are Jerry Arenson, Gene Robkin, Jim Wilkinson, Al Carlin, John Lango, Mike Levine, Darrell Fleischman, Clark Carroll, Ty Jacobson and Dick MacAnally.

The first game for the Varsity is this Saturday morning at Pomona. The ensuing schedule in-

cludes games with UCLA, USC and Cal Poly (SLO). The JV's begin on the same date with a game at UCLA, and then go on to play Thacher, Midlands and Webb. Nearly all the opposition promises to be as strong or stronger than last year's teams.

Because of the small number of returning lettermen and experienced JV's, there is a great need for new players, experienced or not. No special talent is needed—just come on out, learn as you play, and have fun. Everyone is eligible to play, including graduate students. See you on the baseball field at 4:00 p.m.

WINGS OVER PASADENA

(Continued from page 1)

haven't been able to crack it yet, but it seems to employ slow internal poisoning to build up resistance against external poisoning.

Murmur turns into high pitched whine.

Yes, men, this is going to be a tough mission. But if anyone can do it, you can do it. You represent the top one-tenth of one percent of all the viruses in Asia. You scored an average of 794 on your college board infectious aptitude tests. Remember, if you're good enough to get into a Caltech human, you're good enough to stay in a Caltech human.

Whine subsides into pleased murmur.

You men won't be fighting alone, either. Our sympathizers are everywhere. I am allowed to tell you this now: Webb is on our side!

Tremendous shout of approval.

Yes, he'll do his best to keep those we infect first in their rooms and out of the way. That way, no one will waste his efforts on a human that's already hooked. Webb's publicly come out for 150 cases by weekend, and we can't afford to make him look bad. You'll have to work hard, men.

We are now directly over destination. Repeat. We are now directly over destination. Final check, men. Have you all had your anti-anti flu shot shot?

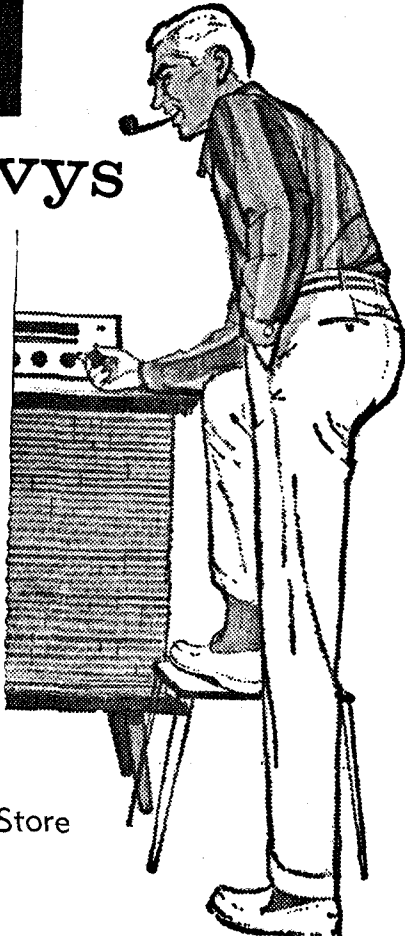
Crew: check . . . check . . . check . . . check.

Good. Choose your targets carefully. Newspaper staff, freshmen, and above all, people a week behind on their work. We'll really wipe them out. Stay away from grad students. Nobody will notice they're sick.

For the emperor, men.

BANZAI!!

HMMMMMMMMMM



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THE BARFLY

by Gene Cordes

This week's drink is respectfully dedicated to a crazy Oriental who for three years floated about our gay campus only to be sunk at last by a Maraschino cherry. To the soul of one Kaytaro Sugarhara we pay our humble tribute in the form of the smoothest gin drink this side of New Rochelle.

Sugahara Sling

- 1½ jiggers dry gin
- 1 jigger fresh lemon juice
- ½ jigger Cherry Brandy
- ½ jigger Creme de Cassis
- 1 ounce sweet soda

The drink should be mixed in a tall slender 10 oz. glass filled with finely cracked ice. The gin is the base of the drink and is added first, followed by the lemon juice. The Cherry Brandy and the sweet soda are then added at which point the drink is stirred well with a long, frosted spoon. The Creme de Cassis is slowly poured on top and allowed to diffuse slowly down the length of the drink. Do not stir. Garnish with a Maraschino cherry and an orange slice. If the drink is made properly it should be a medium red with streaks of deep scarlet reaching the bottom of the drink. Once the masterpiece is complete it should be consumed slowly through two red plastic drinking straws.

This drink is actually a personal perversion of an old standard known as a Singapore Sling. It is suitable for both gents and party dolls and is at its peak in a semi-dark bar. The version of this drink served in the local pubs is at best a poor substitute for the above drink properly prepared. It is therefore suggested that the reader will gain maximum satisfaction by mastering the art of mixing the Sugahara Sling himself. For the drinker liking a tad of variation here and there, I recommend substituting Cherry Kijaffa for the Creme de Cassis. This results in an exciting innovation without destroying the bouquet of the drink.

This is a blend of fine ingredients that will satisfy the old master Migishura himself, may he rest in peace.

PATENTS

(Continued from page 4)

dividual in the United States, young or old, rich or poor, is in some form from birth to death, a used and a beneficiary of patents. Indeed, it would be all but impossible for any of us to free ourselves from this daily dependence on patents, for our very escape beyond the confines of civilization would itself require the use of some patented invention."

What is this patent that is so important? Where did it come from? What does it do? And how do you get it?

Article I, Section 8 of the Constitution provides in part:

"The Congress shall have the power . . . to promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

Based on this provision, a number of Patent Laws have been passed whereby the inventor has, for a period of seventeen years, the exclusive right to use, make and sell his invention. A patent is a contract between the Government and the inventor wherein the inventor tells the Government all about

HUMAN REVIEW

(Continued from page 5)

tation and instead of prevention by subtle threats, boards of control should look actively for ways to put into effect, whenever practical, more lifelike methods of estimating ability—such as monographs at the end of a course. This kind of work would be consistent with our second end, would eliminate some temptation, and yield more fair play and more moral citizens.

Next time I'll try to give one or two practical suggestions which could be taken up quickly here at Tech.

his invention and in return the Government grants a patent. Once you have obtained this patent for your invention you can prevent anybody else in the United States from making, using or selling your invention. The advantages to such a system are obvious. The patent on a transistor, the boby pin or the aerosol bomb has enabled the inventor or at least the stockholders of the corporation employing the inventor to make more than one trip to Paris, Rome or the sinful islands of the South Pacific.

Next time we will discuss how you, as an engineer, obtain a patent.

THE BULL PEN

(Continued from page 5)

a little excitement and a lot of boredom.

The argument that watching athletic events is worthwhile because you can observe the skill of the players in playing the game according to the rules is ridiculous. It would be equally correct to say you should go to a concert in order to admire the composer's technical skill. Granted, if you have some skill in music or athletics, then you can appreciate the craftsman's proficiency. But a knowledge of musical technology is worthwhile only if music is worthwhile. Likewise, knowing the rules of a sport is worthwhile only if watching the sport is worthwhile, unless you are actively participating.

Sports are worthwhile for the participants, not for the observers. So, let's all get out and not support the team.

BREWINS

(Continued from page 4)

rent will either rise, stay the same, or decrease."

Not as a rule

Feature Ed. (Dumming a page.) I've got five inches here that I don't know what to do with!

Managing Ed.: Great! Put that in Brewin's.

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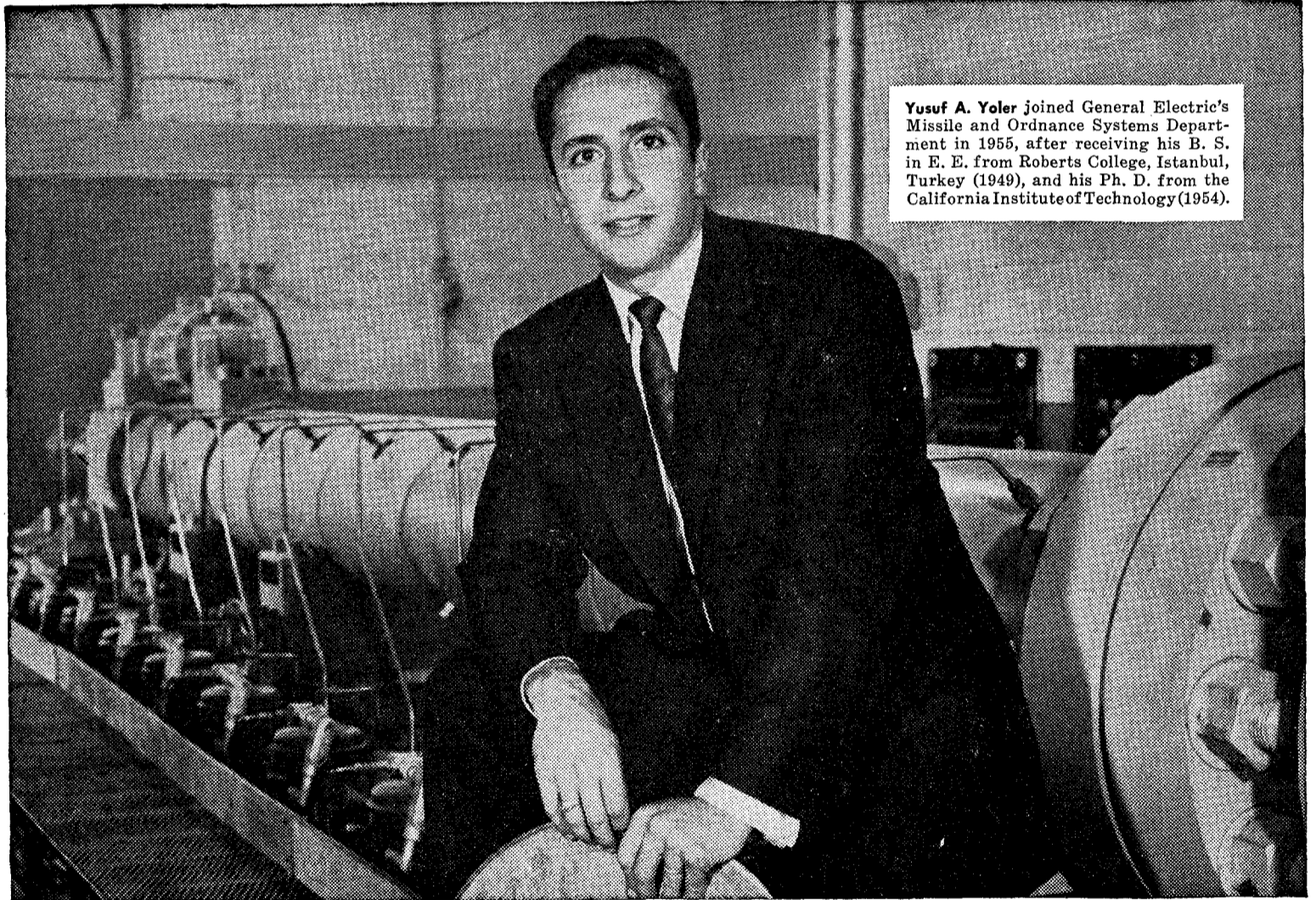
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Yusuf A. Yoler joined General Electric's Missile and Ordnance Systems Department in 1955, after receiving his B. S. in E. E. from Roberts College, Istanbul, Turkey (1949), and his Ph. D. from the California Institute of Technology (1954).

"In a big company, a young man can get to tackle big jobs"

"The thing that has impressed me most in my two years at General Electric," says 28-year-old Yusuf A. Yoler, manager of Aerodynamics Laboratory Investigations, "is the challenging opportunity open to young people here. My field is guided-missile research—the nation's top-priority defense job. Because of the scope of the company's research and development program, I've had the opportunity to work with technical experts in many related fields. And I've seen at first hand the responsibility which General Electric has given to younger men—proof to me that in a big company a young man can get to tackle big jobs."

The research being done by Dr. Yusuf A. Yoler is significant not only to himself, but to General Electric and the security of the nation as well. At present, the company is participating as a prime contractor on three of the four long-range ballistic missiles pro-

grammed by the U. S. government. Yoler, who is playing an important role in this work, directed the design and development of the world's largest hypersonic shock tunnel—a device which will "test-fly" missile nose cones at speeds over 15,000 mph.

Progress in research and development—as well as in every other field of endeavor—depends on how well young minds meet the challenge of self-development. At General Electric there are more than 29,000 college graduates, each of whom is given the opportunity to develop to his fullest abilities. In this way, we believe, everybody benefits—the individual, the company, and the country.

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