

AFROTC to be discontinued

The Scientist and Society subject of McKinney Contest

"The Scientist and Society" is the subject of the 1956 McKinney contest in English. The contest, established by Dr. Samuel P. McKinney in 1946, is open to all undergraduates at Caltech except previous first or second place winners. This is the first year that freshmen and sophomores have been eligible for the contest; participation in previous years was restricted to upperclassmen.

Each Candidate must write an essay of about 1200 words on the subject of the contest, drawing ideas from assigned reading material.

The books that must be read for this year's contest are "The Gadget Maker" by Maxwell Griffith, "The Value of Science" by Richard Feynman which will be published in "Science and Engineering" next month, the autobiography of Robert A. Millikan, and "The Big Secret" by Merle Colby.

Essays must be submitted to Dr. Kent Clark by April 23, 1956. Judging will be done by a five-man committee, consisting of two men from the Humanities Division and three men from outside of Caltech. Prizes will be awarded on the essays only; there will be no oral presentation of the papers.

Four prizes will be awarded, \$75 first prize; \$50 second prize, \$25 third prize and \$15 fourth prize.

Gell-Mann talks to Physics Club

Dr. Murray Gell-Mann, Associate Professor of Physics, will address the Caltech Physics Club at a meeting this evening. The meeting will be held at 7:30 p.m. at the home of Dr. Thomas Lauritsen, 1680 Walworth Avenue. Dr. Gell-Mann will speak on theoretical physics. All undergraduates interested in physics are invited to attend.

Achievements of Tech ROTC unit since origin in 1951 summarized

by Frank Kofsky

In September, 1951, the Air Force ROTC program was instituted on this campus under the command of Lieutenant Colonel Arthur Small, professor of Air Science. At that time, the Caltech squadron, officially known in the Air Force literature as detachment No. 65, numbered one hundred and fifty-five cadets, all freshmen.

At the end of the last school year, the thirty-seven remaining cadets of those who enrolled in 1951 were commissioned, of which nine went into flight training. According to Lieutenant Colonel Lyle F. Johnston, also a professor of air science and present commander of the Caltech squadron, the relatively small number of men left to be commissioned was due to the process of "normal attrition."

The number of freshmen who

enrolled in the ROTC program was highest in the year of its inception. In 1952, the number of new enrollees dropped to one hundred and fifteen, falling to eighty the next year, to a minimum of forty-four in 1954, and finally rising to sixty-one at the beginning of this year.

Despite the fact that it may have been hampered by lack of cadets, the Caltech squadron has been able to do very well for itself during its first three years. Of the less than a dozen highest individual awards given nationally by the AFROTC, four went to Caltech cadet officers last year. The Armed Forces Communications and Electronics Award was won by Cadet Lieutenant Colonel Hugh Leney; an American Military Engineer's Medal was awarded to both Cadet Major James Adams and to Cadet First Lieutenant Richard Johnson; Cadet Major Myron

Air Force announces intention to drop Tech unit due to small number of flight applicants

Dr. Rubin will give tumor talk

Dr. Harry Rubin, research fellow in biology at Caltech, will take on "Tumors and Viruses" at this week's Friday evening demonstration lecture in 201 Bridge at 7:30 p.m. Dr. Rubin will discuss a special class of viruses which causes cancer in animals. The talk will be illustrated with slides showing the tumors growing in chickens.

Dr. Rubin came to Caltech in 1933 from the University of California at Berkeley, where he was working as a post-doctoral fellow. Prior to that he was with the United States Public Health Service doing research on viruses transmissible from animals to human beings. He received his degree from Cornell University in 1947.

Thirty Caltech men to attend annual Asilomar conference

"What does it mean to be?" is the theme for the annual Asilomar Conference to be held December 26 to January 1 near Monterey. Delegates from colleges in Hawaii, California, Nevada and Arizona, about 500, will participate in daily seminars and camp activities. It is a function of the Pacific Southwest YMCA-YWCA.

The theme concerns peoples' relationships to ultimate reality, more specifically to other persons and to the world in general. The first seminar, led by Dr. Bruno Klopfer of UCLA, considers "Man, Woman, and God," a mature understanding

of love and marriage.

"Communism: A World Power" is the subject of a second seminar dealing mainly with theory, practice, and political form of present day Communist ideals and governments. Dr. Frank Munk of Reed College will lead this discussion.

Occidental College's chaplain, Dr. Franklyn Josselyn, will lead a seminar on "The Struggle To Be," involving the question of how well we really know ourselves and religious faith as an integrating force.

Two seminars will be held on the present-day religions. "Living Religions of Mankind" will concentrate on the Middle and Far East. Edward Nestigan, a representative of the National Student YMCA, will lead a seminar on "Contemporary Religious Thought," dealing with views and opinions expressed by modern theological thinkers.

"Race—The Issue of Today," and "Crisis in Freedom" will concern the ideal and actual aspects of these two important

ROTC members

to meet tomorrow

There will be an important meeting of all undergraduates in the AFROTC program tomorrow at 12:30 p.m. on the lawn between Ricketts and the Athenaeum.

The Caltech AFROTC unit is to be discontinued. In a letter to President Lee A. DuBridge David S. Smith, Assistant Secretary of the Air Force, announced the intention of the Air Force to disestablish the AFROTC program at Caltech.

This decision, which is effective July 1, 1957, was made after a team of officers visited the Caltech campus last spring. These officers discussed and evaluated the past performance of the unit and examined future possibilities as well as the 1955 fall enrollment of the Caltech detachment. They found that Caltech was not producing enough qualified applicants for flight training.

Mr. Smith in his letter to Dr. DuBridge said, "In view of the primary mission of the Air Force, constant emphasis must be placed on obtaining these flying personnel. . . The overall evaluation of the AFROTC program has been concluded. After serious and deliberate consideration of all factors, it is with deep regret that the Air Force must give you formal notice of its intent to terminate the written agreement with your institution on 1 July 1957 and to disestablish the unit.

"You may be assured that this action is taken with great reluctance; that the quality of your AFROTC program and caliber of your students, present and past, is not in question. Please allow me to express my deep appreciation for your patriotic support of the AFROTC program."

One of the current requirements for the maintenance of AFROTC unit is that the detachment must produce approximately 25 students annually for flight training. In a typical year, 1955, the unit on the campus commissioned 37 graduating students, only nine of whom volunteered for flight training.

In a statement to The California Tech Dr. DuBridge commented, "The Air Force has decided, as an economy measure, to do away with the smaller units. Since the Caltech unit falls below their minimum standards, there is nothing we can do except to accept their decision.

The Air Force in calculating the size of the units counted only the number of flying candidates. They are apparently not in as great need of engineering and scientific personnel as they

(Continued on page 3)

Reps picked for ASME

House chairmen for the Caltech Student Branch of the American Society of Mechanical Engineers were elected this week. They are: Joe Gibbs, Blacker; Curt Schulze, Dabney; Steve Mager, Fleming; Doug Ritchie, Ricketts, and Jim Lloyd.

Activities of the Chapter next term will begin with a field trip to the plant of Air Research Division of the Garrett Corporation in Los Angeles. The trip will include lunch and a tour of the plant. The Los Angeles division of AiResearch produces actuators, regulators, transducers; a variety of cooling turbines and compressors, and stainless steel separators and heat exchangers. The exact date of the trip will be announced next term.

Illustration exhibit in Dabney Lounge

A two-week exhibit of technical book illustrations is being held at Caltech, in the lounge of Dabney Hall of Humanities.

The exhibit opened Saturday, December 3 is in the form of original drawings, accompanied by captions, showing the makings of good illustrations for technical books. It is open to the public and is of special interest to students and professors of science and engineering.

The exhibit has been prepared by the Addison-Wesley Publishing Company, Inc., of Cambridge, Massachusetts.

Black received the Armed Forces Society of Military Chemical Engineers' Award.

Taken as a whole, the unit itself has been quite successful also. The Inter-Fraternity Council Drill Team Trophy resides permanently at Caltech as a result of the Drill Team having taken first place every year from 1952 through 1954 inclusive, in competition with similar teams for Occidental, Loyola, USC, UCLA and San Diego State College. Although the Caltech team did not win last year, they placed a very close second.

Two trophies, the Outstanding Squadron Trophy and the Outstanding Flight Award, are awarded annually by the Pasadena Squadron of the Air Forces Association, and these also have gone to Caltech ever since 1951. The judging is on the basis of precision movements, execution

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California Tech

Editors-in-Chief—Dick Hundley and Marty Tangora
Business Manager—John Bailey

Entered as second-class matter November 22, 1947, at the Post Office in Pasadena, California, under the Act of March 3, 1879.

Conflict of objectives

The dissolving of the Caltech AFROTC unit comes largely as a surprise. Yet an editorial appearing in these pages over a year ago—on October 14, 1954—laid forth a number of criticisms of the Air Force unit here, pointed to a fundamental clash of objectives, and stopped just short of predicting the demise which has now actually occurred.

The criticisms which were leveled then at the AFROTC were legitimate then, and remain legitimate now; so that in a sense we may be glad that the arguments we discussed that day have been reviewed by the national military organization and found to be sufficient. However, in many ways the loss of the AFROTC unit will be a real loss to Caltech.

Many successes achieved

The unit brought honors to Tech, particularly its drill team, whose record was as fine as that of any other college drill team in California. The unit brought many fine officers to this campus, such as Col. Small, Col. Johnstone, Maj. Renth, Maj. Steffey, and the others. The unit may have developed an *esprit de corps* among the men which otherwise would not have existed, and it surely has provided opportunity for broadening and educational experiences, such as weekend flights, summer camp, and what not.

The original purpose of the unit at Caltech was sound. This purpose, as we interpret it, was multifold. The unit provided the Air Force with a source of top-notch scientific and technical personnel on a scale that could not be realized otherwise. It gave the Air Force a good mechanism for utilizing the special skills and talents of Caltech men in the best possible way—in their special fields, rather than in random and unselected fields. It gave Techmen a chance to satisfy their military obligations in a manner that was the most convenient and the most interesting for the students, and the most efficient and profitable for the government.

Shift of emphasis toward flight training

These purposes are sound. But the Caltech AFROTC unit began to drift away from these lines. Gradually the emphasis shifted from technical trainees to flight trainees. The quotas of men who were to be accepted into advanced technical training shrank to ridiculously low figures. The unit began to lose much of its value to the Institute.

It would seem as if the shift of emphasis away from technical training would be a basically inefficient move on the part of the Air Force, and would lead to a loss or waste of valuable scientific and technical manpower. But it is hardly our place to criticize the national policy from our provincial point of view. However, once the shift in emphasis from technical training to flight training took place, the decline of the Caltech Air Force program began promptly and swiftly. Enrollments fell off drastically, interest dropped, students at every stage of the program pulled out.

It simply is not realistic to expect Caltech to turn out a large number of flight officers. Caltech students are far more interested in their professional fields, and they want to serve their military years doing work related closely if possible to their careers. On the other hand, the Air Force needs only a limited number of technically trained recruits, and is always in need of more skilled pilots.

Nobody at the Institute to be blamed

Thus this basic conflict of motives and objectives was really behind the move to discontinue the Air Force unit here. It is not the fault of anybody at the Institute. It cannot be the fault of the students, who are only acting in the best interests of themselves and their country both; it is hardly the fault of the Caltech administration, which did everything it could in support of the AFROTC program; and it should not be blamed on the officers who ran the program, who were in the main capable and adaptable.

Now it would certainly be futile to continue a unit here, under the circumstances. The conditions would force a decrease in enrollment, a decline in interest, and a general lack of effectiveness. No, we agree with the authorities that the Caltech AFROTC no longer serves the Institute in a valuable way.

The officers who have served here and worked with Caltech students do deserve a sort of vote of confidence. We wish them good luck, one and all, in the two "lame duck" years they have remaining here, and in all their future assignments. Perhaps the day will come when again the need for technical manpower brings the Air Force back to Caltech.

Campus Brewins

"Fun Is Sin" Scripps Girls at Christmas Dance

Much Sin Was Had by All
The preceding quotation deserves some explanation.

The conversation went like this, starting with she:

"Why do you think sin is always evil? I think it's fun sometimes." "Tell me, fair damsel, what is your definition of fun." That stumped her for a while (as what logical Tech mind doesn't) until this resourceful femme came up with the above quote.

Compiled It Pretty Deep

The Beak was stumped by the above situation until he realized that perhaps the course in biology offered at Tech didn't cover all the questions concerning the female sex that might arise in the Tech man's mind. Therefore: to add another bit of wisdom to the total compost on campus and to better equip our students for life "outside" the Beak has compiled the following useful information on:

Chemical Analysis of Women

Symbol: Woo. Thought to be

a member of the human family.

Atomic Weight: Accepted at 120 although known isotopes vary from 100 to 180.

Occurrence: Found both free and combined, usually with man.

Physical Properties

Seldom found in pure state. All colors. Surface usually covered with a film of paint or oxide. Boils at nothing, and freezes without reason. Heat of combination varies with specimen. Unpolished specimens tend to turn green when in the presence of a highly polished one. All varieties melt with proper treatment. Very bitter if not used correctly. Density is not as great as generally supposed.

Chemical Properties

Highly explosive and dangerous in inexperienced hands. Extremely active in the presence of Man. May explode spontaneously when left alone with Man. Possesses great affinity for gold, silver, platinum, and precious stones. Has the ability to absorb great quantities of the most

expensive foods. Undissolved by liquids, but activity greatly increased when saturated with a spirit solution. Sometimes yields to pressure. Fresh variety has great magnetic attraction. Ages rapidly. Valence equals plus one. Single bond, combines with one negative Man.

What Next

Now you understand the make-up of Women, what do you do when one approaches you? The answer is **don't talk!** If she still wants to communicate make her write. Then in answer you might whip off some English theme such as the following:

MORE MORE MORE MORE M
California Institute

Dear — — :

This writer seldom receives letters from pretty girls (He gets all sorts from grunts.) so your last letter caused quite a stir in the halls of Caltech.

The many things you intimated quite took my breath away because your intimate feeling had been concealed from my eyes until then. Rest assured this writer returns to you many of these same thoughts and emotions which you poured upon him.

Realizing these parting words will reach no farther than your pink ears, I take my leave.

With love,

(NAME WITHHELD UPON REQUEST)

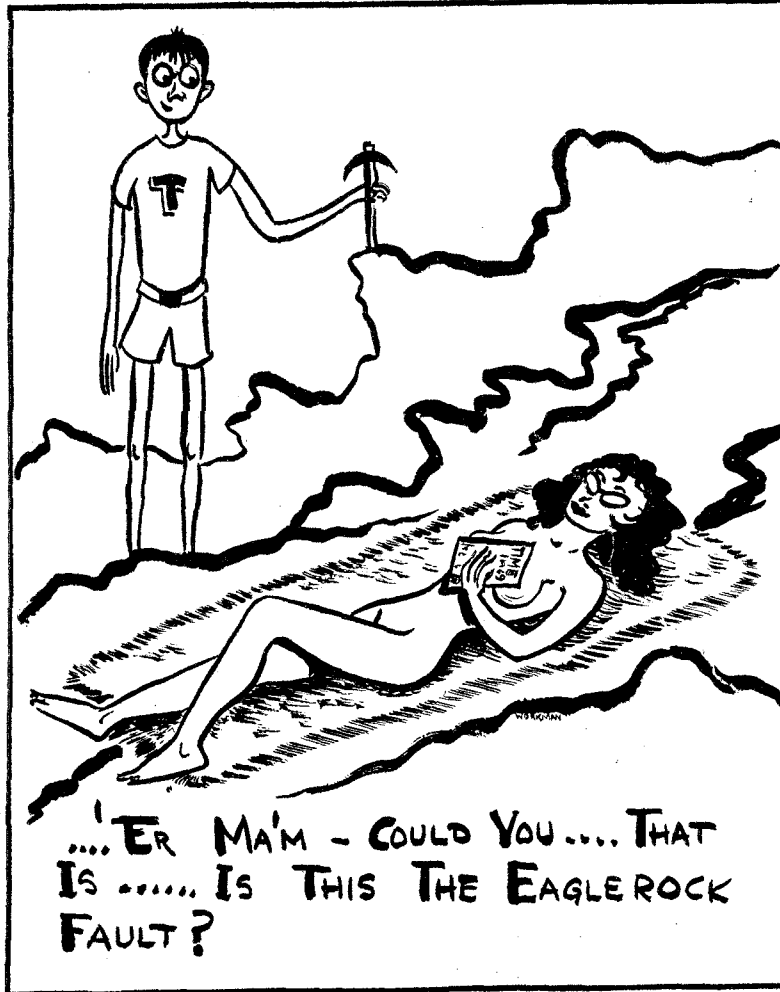
Jim Sent Me

The Beak is reminded of his many narrow escapes during the days of "rot gut" (even worse than student house sauerkraut juice) and Prohibition. Why? Well, it seems that one well rounded student has taken to importing beverages "wet-back" style across the border patrol. This time they stopped the car, and much to everyone's surprise, found many gallons of undeclared rum. Only that Tech flair for words saved said rounder from spending the evening as guest of the government. It's a good thing officer Newton wasn't there or the culprit and the secretaries in the Greasy would never have gotten away.

WINTER MAROONS OLD TIME TRAPPER

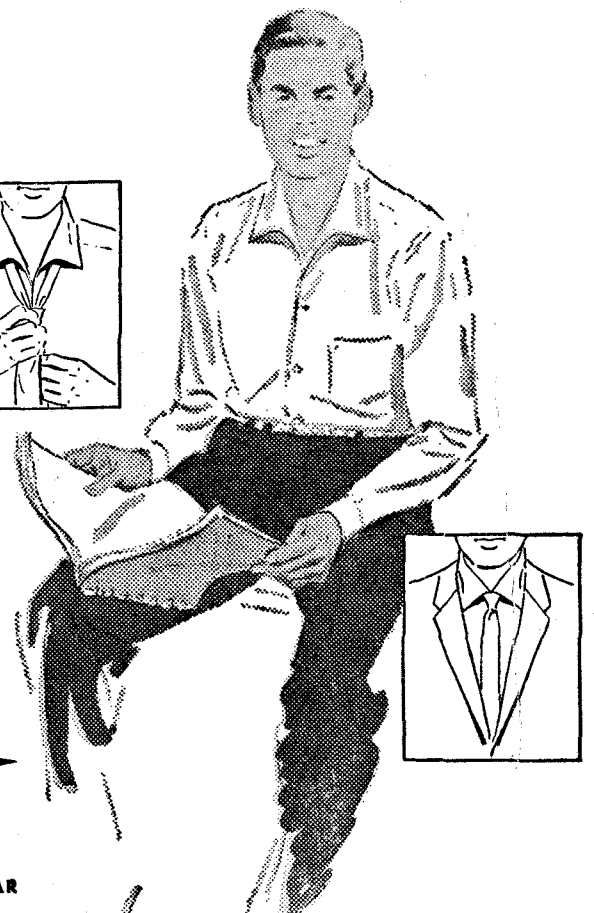
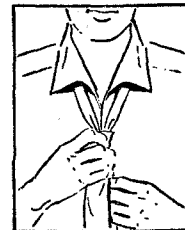
A frontier story of the Flat-head's out-of-doors in record November cold up the middle Fork is the rescue of Frank Schroeter and Mary Diskey last weekend.

(Continued on page 6)



New ... a comfortable collar you cannot outgrow

The new Arrow Lido shirt has no top button at the collar; your necktie alone closes the collar neatly. And even if your neck size grows, the "expandable" collar stays comfortable. Get yours today—wear it with a tie tonight—open at the neck tomorrow. Priced from \$5.00.



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Sec's at Tech

by Karl Klutz

Hidden away in an obscure corner of Throop Hall, the Electrical Engineering Stockroom, to be specific, is one of the most interesting and attractive young ladies we have ever had the pleasure of meeting. She is Miss Diana Beveridge, a green-eyed and very blond gamin, who, among other things, has traveled over the greater part of the North American Continent.

Diana was born in Sudsbury, Ohio, and made various excursions into California, once for two years at the renowned Pasadena Playhouse, before settling



Miss Diana Beveridge

eight hour day. She has, of course, taken part in many of the local dramatic productions, her most recent part being that of Una Pigeon in the comedy, "Fresh Fields," which opened at the Town Hall Theatre recently.

One would think that the combination of work and theatrics would be enough to keep anyone busy, but Diana is not just anyone. Somehow or other, in what spare time she has had, Diana has learned to play the Scottish bagpipes, and is a member of the Highland Lassies Bagpipe Band, which as the name indicates, is a bagpipe band composed of young women. The band has played in many parades and the like, and even once for Cinerama.

down to stay in 1951.

In addition to her two years at the Playhouse, Diana spent a year at the University of Arizona, majoring in dramatic arts. With this training behind her, she ventured out into the world of the stage after working an

In response to our query, the five-foot four-inch Miss Beveridge told us that her favorite author was Shakespeare, but, oddly enough, her favorite role was that of Pygmalion. She also added that sooner or later she intends to devote all her time to the theatre, and that she

LITTLE MAN ON CAMPUS

by Dick Bibler



'HEY, FELLAS! COME SEE WORTHAL'S NEW PIN-UP.'

hopes to be able to go to the Royal Academy of Dramatic Arts in Great Britain.

We couldn't leave this pert lassie without asking for her comment on the men at Caltech. Diana obliged by telling us,

"Before I came here, I heard

stories about what the men at Caltech were like, but since I've been here, I have found that all the stories are untrue. Caltech students are just regular college men." We knew when we were ahead, so we quietly snuck away.

RO dropped by Air Force

(Continued from page 1)

were when the unit was formed."

As a result of the disestablishment of the AFROTC unit at Caltech, present freshmen may continue the basic phase of their training until the end of their sophomore year, and sophomores may remain in the program through the current year. Juniors and seniors are obliged by their contracts with the government to continue training until graduation, when they will be eligible for commissions in both technical and flight training. No students will be able to start taking either the basic or advanced phases of the program of the Caltech unit.

Lt. Col. Lyle F. Johnstone, professor of Air Science and head of the Caltech AFROTC, will meet with all undergraduates now enrolled in the cadet corps at 12:30 p.m. Friday, December 9, on the lawn between the Athenaeum and Ricketts House.

Egod!

First Techman: That Oxy girl over there doesn't seem to be very intelligent.

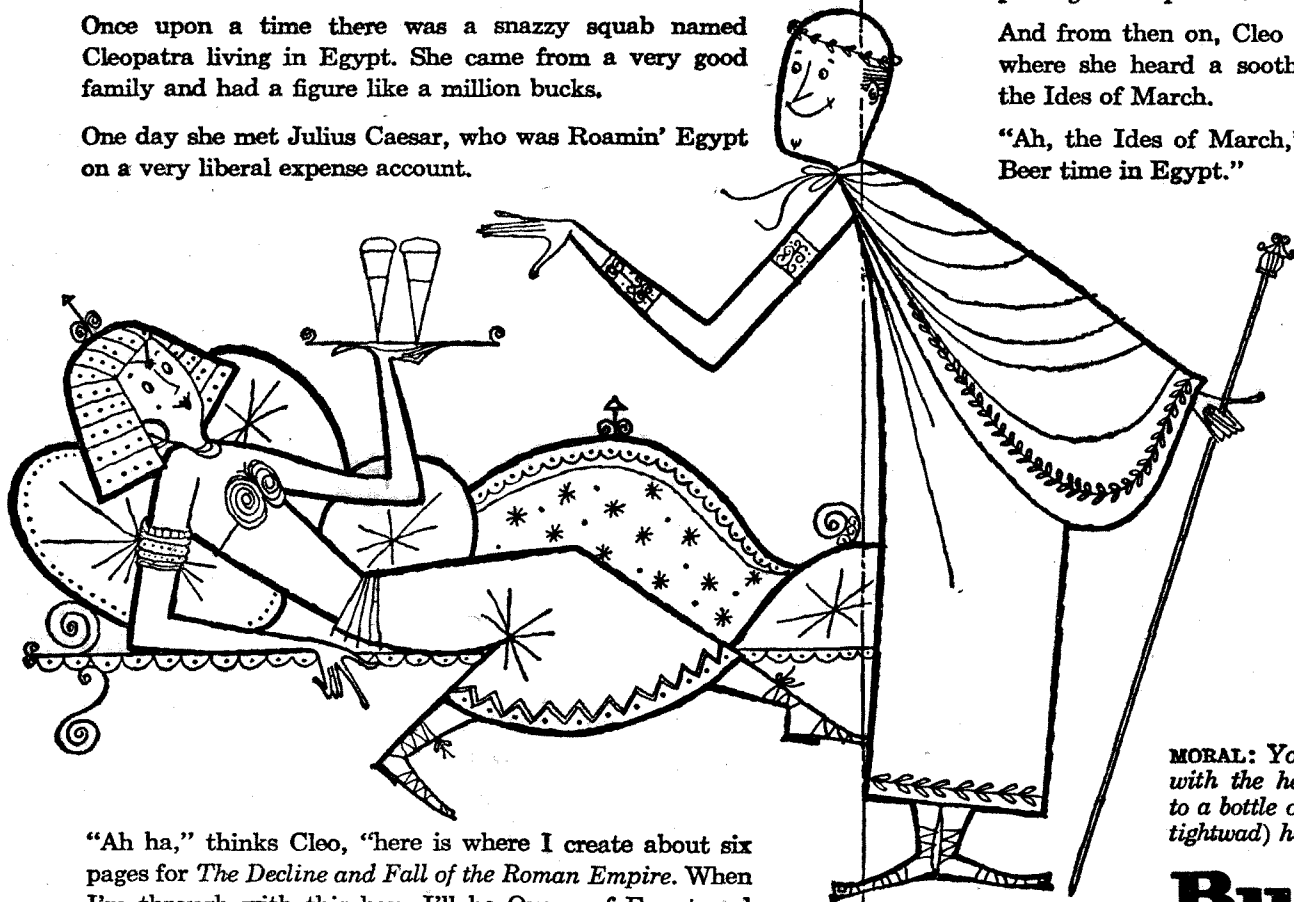
Second Techman: I know, she hasn't paid any attention to me either.

What Cleopatra taught Caesar

or... She asped for it

Once upon a time there was a snazzy squab named Cleopatra living in Egypt. She came from a very good family and had a figure like a million bucks.

One day she met Julius Caesar, who was Roamin' Egypt on a very liberal expense account.



"Ah ha," thinks Cleo, "here is where I create about six pages for *The Decline and Fall of the Roman Empire*. When I'm through with this boy, I'll be Queen of Egypt and he'll be selling his memoirs in drugstores for two-bits a copy."

So she went for the full count at a high-priced beauty saloon and bought several quarts of *Midnight on the Pyramids*.

But Caesar wasn't buying the pitch. "Hmmm," thinks Cleo, "I'll finesse the Queenship with my ace."

Whereupon she sauntered in with several tankards of the fine beer that Egyptians had been brewing for thousands of years. (Let's face it—here comes the commercial.)

"By Jupiter," said Julie, "this is good! Such clear, sparkling brilliance! Such refreshing flavor! Such creamy foam! Be mine... be Queen... but above all be generous with this delightful brew! Wherever did you learn to make it?"

"Why... my mummy taught me," she answered coyly, passing him a pretzel.

And from then on, Cleo clung to Caesar; even in Rome where she heard a soothsayer mutter something about the Ides of March.

"Ah, the Ides of March," exclaimed Cleo, "that's Bock Beer time in Egypt."

Not long after, Caesar got rubbed out, and Cleo got herself back to Egypt where she carried on with Marc Anthony until Augustus upped and fixed his wagon. Anthony did himself in and Cleo did likewise when her charms failed to awe Augustus.

"I'll take a short bier," said Cleo as she lay dying from the asp's sting.

And so ended the career of one of the best salesmen that beer ever had.

MORAL: You, too, can make social conquests with the help of fine beer. Treat a friend to a bottle of Budweiser. And (unless he's a tightwad) he's sure to return the compliment.

Budweiser.
LAGER BEER

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Shots available at Health Center

Anyone planning to go overseas will be interested in the new service available at the infirmary. Dr. Van Zandt can now perform the vaccinations required of all world travelers and apply the official seal to the vaccination certificate. One must, however, go to a government infirmary for the yellow fever shot.

In the past it has been possible to obtain the vaccinations here on campus, but the infirmary has not been able to affix the official seal.

Tech men to go to Asilomar confab

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issues in America today. The last seminar, entitled "Campus 1955" will consider what it means to be a college student at this time in history and other questions about campus life.

In addition to the seminars, Dr. Gordon Kaufman of Pomona College will give an address each morning on the overall theme. A "quiet hour" is also included on the daily agenda and the traditional New Year's Eve party and midnight service will close the program.

About thirty students from Tech are planning to attend and anyone interested should see Wes Hershey at the Y office.

Jack Montrose with Bob Gordon, an Atlantic long playing high fidelity record (No. 1223) featuring: Jack Montrose, tenor sax; Bob Gordon, baritone sax; Paul Moer, piano; Red Mitchell, bass; Shelly Manne, drums.

"Classical music has had a considerable influence in the development of my taste. When a person can appreciate Mozart, his taste has developed and is bound to improve. Primarily, that's what classical music has given me: an insight into taste. It has also given me a large concept of form."

The above statement of Jack Montrose's, taken from the album of Jack Montrose with Bob Gordon, is not only characteristic of Montrose himself, but is

Cool Corner

By Frank Kofsky

representative of the point of view of the majority of the leading modern jazz musicians.

The influence of classical music, both that written before and after 1900, makes itself felt in jazz because men such as Montrose have utilized their classical training to produce witty and exciting jazz compositions. Of course, one must realize that in general, the same classical background will affect two different men in entirely different manners.

As for Montrose, he prefers to write in chamber group style. In his own words, "A chamber group supplies me with the es-

sential extremes of contrast, with the necessary mobility and maneuverability."

In passing, it is worth noting that advanced forms of writing such as those which Montrose utilizes, demands a much higher degree of musicianship than is usually thought to be present in jazz. The jazzmen performing with Montrose are all topflight, and should be more or less familiar faces to you. Paul Moer has previously recorded with Montrose and Gordon on Meet Mr. Gordon, Pacific Jazz No. 12. Red Mitchell has been in the Los Angeles area for some time, usually at The Haig as part of the Hampton Hawes Trio. Shelly Manne, as you must recall, appeared at Caltech with his group just recently. And lastly, there is Bob Gordon, whose untimely death left a gaping hole in the contemporary jazz scene which seems to be unfillable. His solos on this album are among the best he has done, which is saying quite a lot.

Montrose, who was probably Gordon's best friend, played alongside Gordon more than anyone else, and accordingly, I would like to quote Montrose on Gordon: "His feeling was contagious, his sound indomitable, his time impeccable, the beauty and logic of his thought inexplicable. I learned to write through playing, and it was largely through Bob's influence that I learned how to play."

Caltech ROTC successes told

(Continued from page 1)

of commands, general appearance, morale, voice of command, military bearing, etc.

It is interesting to note that none of Air Force personnel who were here when the unit was organized in 1951 are still with it. In addition Lieut. Colonel Small, the officers in 1951 were Lieut. Colonel Marvin Fleming and Majors Edward Renth and Andrew Stolarz, all assistant professors. Non-commissioned officers were Master Sergeants Keating, Waugh, Hansen and Lee. At the present time, along with Lieut. Colonel Johnston, the officers are Majors Robert Steffy and William Libby, Captain Leonard Zorne and Lieutenant Henry Lanman, and of course, they are likewise all assistant professors. The non-commissioned officers are Warrant Officer Zangari, Master Sergeants Justus and Bemis and Technical Sergeants Freeman and Obina.

The AFROTC has proved to be another field in which Caltech men excel, and it is unfortunate that after June of 1957, it will no longer be a feature on the Caltech campus.

CAMPUS BARBER SHOP
In Old Dorm

Where Everyone Is Welcome
Paul A. Harmon

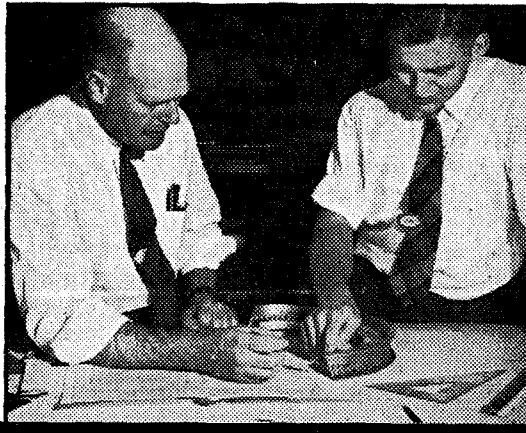
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What's doing at Pratt & Whitney Aircraft



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Domestic Travel in the Age of Jet Transports

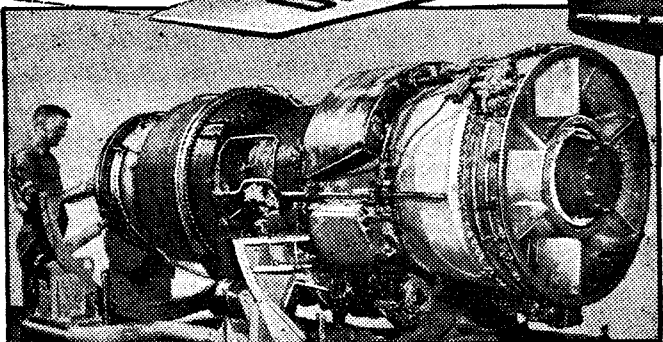
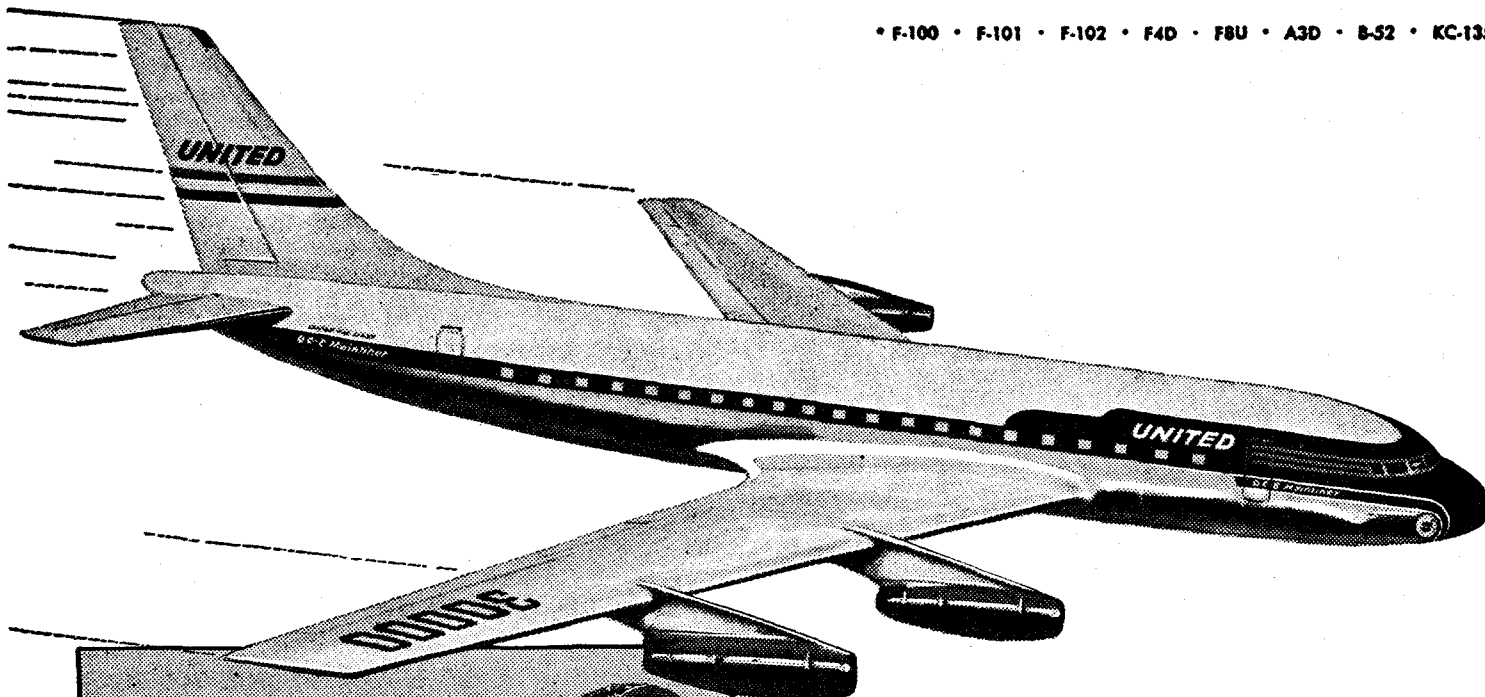
Starting in 1959, United Air Lines' flight time between Los Angeles and New York will be 4½ hours — between Chicago and New York, only 90 minutes. By placing the first contract order for jet transports to be used in domestic operations, United Air Lines has upheld its reputation as a pioneer in American air travel. Its new fleet of 30 Douglas DC-8 Clippers will be powered by the most powerful production aircraft engines in the world, J-57 turbojets, designed and developed by Pratt & Whitney Aircraft.

It is only a matter of time until jet transports are

standard equipment along the air lanes of the world. The large majority of them will be powered by Pratt & Whitney Aircraft jet engines — an achievement of great significance.

A jet-turbine powerplant that develops 10,000 pounds of thrust — or more — involved some of the most complex problems of present-day engineering. A glance at the roster of today's J-57-powered military aircraft* is proud testimony to the success with which those problems were resolved by Pratt & Whitney Aircraft engineers.

* F-100 • F-101 • F-102 • F4D • F8U • A3D • B-52 • KC-135



Pratt & Whitney Aircraft J-57 Turbojet is blazing the way for a new generation of American aircraft. Already powering many of the most important types of military airplanes, the J-57 is now leading the world into an era of commercial jet transportation.



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of aircraft engines

Hoopsters open season with two tourney losses

Caltech's varsity basketball team opened its season by dropping a pair of games in the Redlands invitational tournament to two of the most powerful independent small-college teams on the Pacific Coast. Thursday afternoon the Beavers dropped their opening tourney game to the Santa Barbara Gauchos, 62-39, and Tech was eliminated from the consolation round by a 65-37 loss to Cal Poly of San Luis Obispo.

Santa Barbara went on to win the tournament, dropping Pasadena Nazarene 64-47 in the finals, while Cal Poly edged Pomona-Claremont for the consolation title.

In the opening game against Santa Barbara, the Beavers were entirely outmanned, as the Gauchos fielded a team with three men over 6'4" led by 6'8" center Dick Acres. Santa Barbara utilized a pressing defense to stop the Beaver attack, which centered around post men Phil Conley and Glenn Converse. The Gauchos built up a 26-16 halftime lead, then used a fast break to run away with the game in the second half. Tech was unable to hit consistently from the floor, and the Beaver offense never got to operating smoothly, as Santa Barbara threw up a collapsing zone defense in their own backcourt. Conley led Caltech's scoring with 17 points, while Acres hit 15 for Santa Barbara, followed by Tom Williams with 14.

The following day the Beavers ran into an aggressive Cal Poly outfit which seemed intent on running up a high score early in the game, and the Mustangs piled up a fifteen point lead before the Caltech offense got rolling, but the Beavers nar-

Beaver grid statistics

SCORING

Player	TD	Ex. Pt.	Total
Conley	3	2	20
Krehbiel	3	0	18
Stocking	3	0	18
Malone	1	3	9
Van Kirk	1	0	6

RUSHING

Player	TCB	Net yds.	Ave.
Stocking	64	368	5.8
Malone	67	339	5.1
Krehbiel	69	239	3.5
Conley	72	159	2.2
Lukesh	9	93	10.3
Van Kirk	15	30	2.0
Blackie	7	26	3.7
Tangora	10	20	2.0
Norman	5	18	3.6

PASSING

Player	At.	Cm.	% Cm.	N. yds.
Conley	81	25	30.8	267
Van Kirk	13	5	48.4	28

TOTAL OFFENSE

Player	yds. rush	yds. pass.	Tot.
Conley	159	267	426
Stocking	368	0	368
Malone	339	0	339
Krehbiel	239	0	239
Lukesh	93	0	93
Van Kirk	30	28	58
Backie	26	0	26
Tangora	20	0	20
Norman	18	0	18

PASS RECEIVING

Player	No.	Yds.
Moer	8	92
Bogdanovic	6	46
Nelson	4	37
Stanley	3	27
Krehbiel	3	21
Stocking	1	20
Tangora	1	15
Lukesh	1	12
Malone	1	12
Conley	1	7

PUNTING

Player	No.	Ave yds.	No. Blkd
Conley	32	32.4	2
Van Kirk	4	21.0	1

FINAL CONFERENCE STANDINGS

Pomona-Claremont	4	0	1.000
Whittier	3	1	.750
Occidental	2	2	.500
Redlands	1	3	.250
Caltech	0	4	.000

Harriers cop second place

Caltech's varsity cross country squad finished out a successful season last Saturday morning as they romped in with a strong second in the conference meet at Mt. SAC. Occidental swept the first five places for a perfect 15 points; Tech swept the third five places to score 60 points and upset Redlands, victor over the Beavers in the dual meet. Redlands had 90, Pomona-Claremont 100, and Whittier 109.

Fred Witteborn led the Beaver runners, taking tenth. Dan Wulff, Tom Moore, Don Lewis, and Reid Saunders followed Witteborn into the chute in that order. Dave Yount displaced several Redlands men to insure the Tech upset. Following the race, Witteborn and Lewis were elected co-captains of the team.

rowed the gap to 27-20 at half-time.

In the second half the Mustangs utilized a fast break similar to that used by Santa Barbara to outrun the fast-tiring Techmen. Paced by 6'5" forward Jim Crockom, who scored 20 points, and guard Sonny Grandberry, with 9 points, Cal Poly intercepted Beaver passes time and again to set up the fast break attack.

Phil Conley led Caltech scoring with 21 points, with Jim Welsh's 4 points taking second high scoring honors for the Beavers.

Frosh cagers lose to Pacific College

The Frosh basketballers dropped their season opener against L.A. Pacific College, 54-38. Play was very close throughout the first two quarters, half-time score being 23-21.

In the second half Tech lost control of rebounds, allowing several points to be scored on fast breaks. Larry Krause was high point man for the Beavers with 10; Bill McClure and Fred Newman were close behind with 8 and 7, respectively.

Stefansson, Bayes win annual awards

Kyle Bayes was awarded the Wheaton Trophy Tuesday night at the fall sports banquet at the Brookside Club House in Brookside Park.

The Wheaton Trophy is awarded annually to the member of the varsity football team who has contributed most to the team in sportsmanship, moral influence, and scholarship. The team votes on the sportsmanship and moral influence. The Athletic Department then integrates the scholarship with this to come up with the winner.

Bayes, a senior, played guard and is a three year letterman on the team. Bayes' home town is Seattle, Washington.

Rafn Stefansson received, for the second year, a special award in soccer as the most valuable member of the varsity soccer team. Stefansson came to Tech from Reykjavik, Iceland.

Water polo statistics

	Scorers		
	A	P	Pct.
Ball	186	55	.296
Davis	117	37	.316
Rees	93	25	.269
Taylor	50	15	.300
Johnson	22	7	.318
Martin	21	5	.238
Wiberg	4	2	.500
Brown	3	1	.333
Thomas	2	1	.500
Team total	528	148	.283
Games			
Won	9	lost	4
PF	148	PA	78
Conference Standing, Second.			



CAMPUS BREWINS

(Continued from page 2)

Schroeter, Ricketts House trapper and guide, now 21 years old, was missing with Mary, 19, an IHC graduate student.

Sheriff Jess Harlan of Cut Bank telephoned Flathead's Sheriff Dick Walsh last Friday:

"Schroeter and the dude are missing up the Middle Fork." Sure am glad to see you back, Frank.

Royal Princess and Baron
Our congratulations to Mr. Georgine Johnson for his adulterous Saturday night last. Guests were shocked to see Bar-

on Dick and date saunter in about eleven, long after the dance had begun. Boy, were you lucky to get rid of that terrible girl you've been going with all these months, at least that's what all the fellas say!

Down the Tubes
Jim Workman has lost his

standing as the paragon of celibacy in Ricketts. During the holidays passed it is rumored that Jim (ex-HV) spent considerable time in the company of the young miss. (Four out of five days she claims. All we've been able to discover about the girl is that she doesn't like to eat or

talk (she's in the quietest 8% of the nation according to a national testing service) and is soon leaving for Philadelphia, as soon as she can. Workman's mother offered him congratulations at the end of the lean years of Jim's love life.

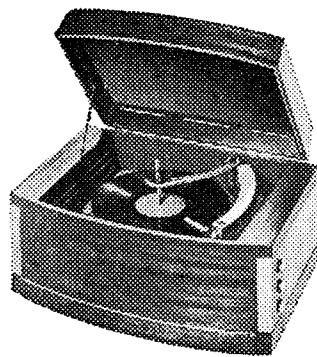
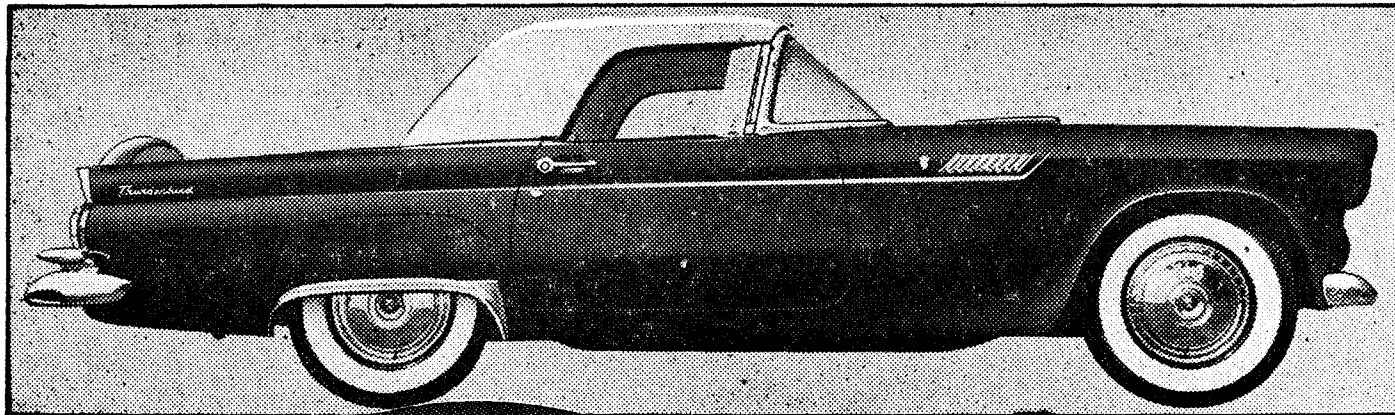
WIN!

\$50,000 IN PRIZES

10 Ford Thunderbirds

PLUS 40 COLUMBIA Hi-Fi Phonographs

FOR THE 50 COLLEGE STUDENTS WHO WRITE THE BEST NAMES FOR VICEROY'S PURE, WHITE, NATURAL FILTER!



10 Winners! 10 Thunderbirds! Win a fully equipped new '56 Thunderbird! In your choice of colors! Automatic transmission, two tops, power steering, radio, white side walls. Act now and win!

40 Winners! 40 Columbia Hi-Fi Sets! Own America's most exciting Hi-Fidelity Phonograph—the Columbia "360"K—in beautiful Mahogany!

Plus 10 RCA Victor Color TV Sets to the college organizations designated by the 10 Thunderbird winners!



JUST NAME THIS AMAZING FILTER! THAT'S ALL YOU DO TO WIN!

20,000 FILTER TRAPS
TWICE AS MANY AS THE NEXT TWO LARGEST-SELLING FILTER BRANDS—FOR THAT REAL TOBACCO TASTE!

HINTS TO HELP YOU WIN!

You'll think of dozens of names when you read these facts: The Viceroy Filter is the most modern in the world today! Perfected through 20 years of research!

It contains no cotton, no paper, no charcoal, no asbestos, no foreign substance of any kind! Instead, it is made from pure cellulose—a soft, snow-white, natural material found in many good foods you eat.

Only the Viceroy Filter has 20,000 filter traps—twice as many filter traps as the next two largest-selling filter brands! No wonder Viceroy gives you that Real Tobacco Taste!

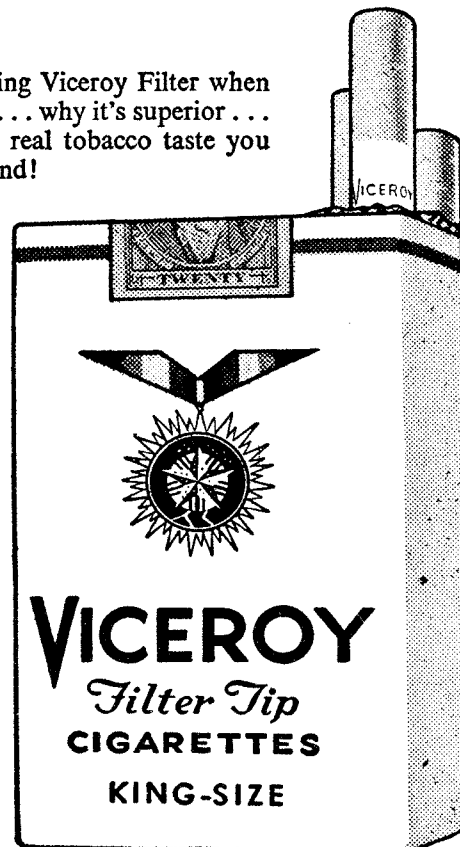
Name this amazing filter and win! It's easy!

NO OTHER FILTER LIKE VICEROY!
No cotton! No paper! No asbestos!
No charcoal! No foreign substance
of any kind! Made from Pure Cellulose—
Soft... Snow-white... Natural!

It's easy to name this amazing Viceroy Filter when you know what it's made of... why it's superior... why Viceroy's give you that real tobacco taste you miss in every other filter brand!

Remember, the Viceroy Filter is made from 100% pure cellulose—a soft, natural material found in many good foods you eat! There are no impurities in the Viceroy Filter. So naturally it lets the real tobacco taste come through!

Name the Viceroy Filter! Enter this \$50,000 contest, today!



JUST FOLLOW THESE EASY RULES!

- 1 On any plain paper, write the name you think most suitable for the pure, white Viceroy Filter described on this page. It's easy! You can think of dozens of names like "Super-Pure," "Filtron," "Naturale," "Flavor Flow," "Cellultrate," "Twice-The-Traps." You can use one, two or three words. Any name may win!
- 2 Mail your entry to Viceroy Thunderbird Contest, P. O. Box 6A, Mount Vernon 10, New York. Write plainly or print your name, the name of your college and your mailing address at college! Submit as many entries as you wish—but with each entry include the picture of the Viceroy Filter Tip torn or cut from the backs of two (2) Viceroy packages.
- 3 Contest open to all students attending colleges and universities in the U.S.A.
- 4 Contest closes midnight, January 31, 1956. Entries judged by The Reuben H. Donnelly Corporation on the basis of aptness of thought, originality and interest.
- 5 Prizes listed elsewhere in this ad. Winners of the ten Thunderbirds will also be permitted to designate the school organizations to which Brown & Williamson Tobacco Corporation will award RCA Victor Color TV Sets! Write the name of the organization you want to receive this award on your entry.