

Ranger Shot Fails; JPL Gives Alibi

Special to the California Tech

In a press conference yesterday, held especially for the California Tech by JPL, the real cause of the failure of the recent Ranger shot was explained. Briefly, what happened was a failure of somebody to remove the lens caps from the television cameras before the launching. This, of course, has caused a great deal of consternation to all concerned.

W. H. Pickering, head of JPL pointed out "however, even this catastrophic failure is not all bad; in recent months, I have noticed an upturn in general philosophical attitude among the workers. Now, when a \$2 million rocket goes blooey, they don't worry anymore."

"Live and learn," said the project director, "it has happened before and it'll happen again." The workers who assembled the Ranger agreed that it doesn't really matter. As one man said, "Dr. Pickering is right; only through adversity can one really get a true picture of life. We feel sorry that the theoretical boys don't know yet whether the moon is made of green cheese or not, but then, the benefit to our peace of mind is significantly more important than mere scientific knowledge."

Dr. Noel Joyeaux, principal of San Marinated High, felt otherwise and kept muttering vague noises about "those punks from Lloyd House" when asked his opinion by telephone.

Planetary Science Program

DuBridge Announces New Program To Fill Space

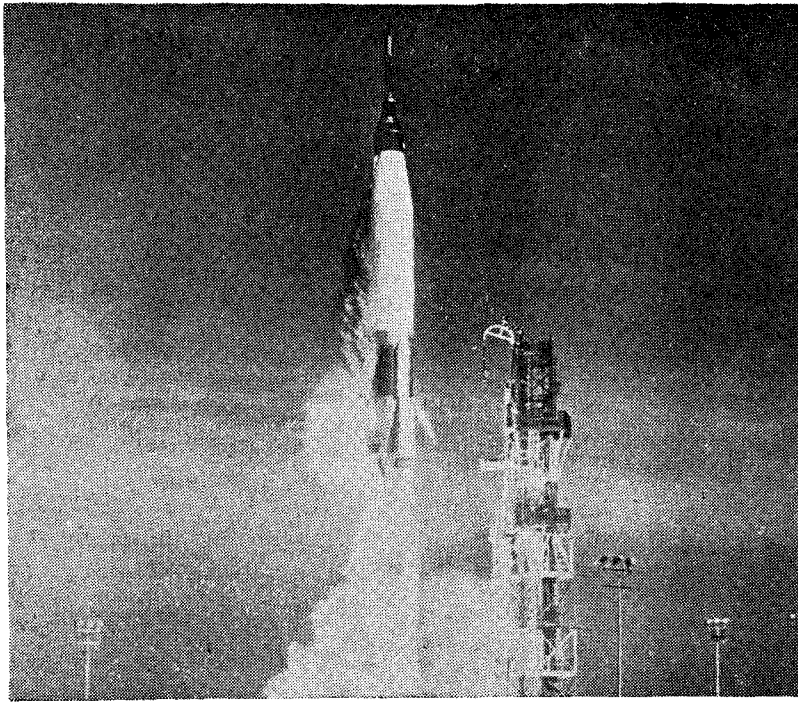
This week President Lee DuBridge announced the establishment of a new graduate education and research program designed to train highly skilled men this country will need in the exploration of outer space. Said Dr. DuBridge, "As the opportunities for scientific research in space become larger, the need for specially trained men in this

New ROTC Prof Assigned Here

Major William R. Knight has been assigned to AFROTC Detachment 65 as the professor of air science. He succeeds Major Leo T. Woods, who was reassigned to Norton Air Force Base, San Bernardino.

Major Knight is a veteran of both World War II and the Korean conflict, and has 5,000 hours in aircraft ranging from pre-World War II planes to modern jet aircraft. He obtained his B.S. degree from St. Louis University's Institute of Technology and his M.S. in Industrial Engineering and management from Oklahoma State University.

Before being recalled to active service during the Korean War, Major Knight served as a technical systems instructor at Northrop Aeronautical Institute in Inglewood. His recent military experience has been in staff and technical functions in maintenance engineering.



—photo by Tuesday Weld

A wonderful week for America's Space Program — 17 tons of sand placed in orbit and 100 pounds of molten metal placed on the moon. Next week, they plan to send 19 million golf balls to Mars.

DuBois Speaks On Situation In Guinea

BY JIM AUSTIN

Last Tuesday, Dr. Victor D. DuBois lectured to the H5 classes on the internal situation of Guinea. DuBois is the third member of the American Universities Field Staff to speak at Caltech this year.

He joined the AUFS in 1962 to observe and report on the newly independent countries of Mauritania, Senegal, Mali, Guinea, the Ivory Coast, Upper Volta, Niger, and Dahomey. Establishing his base at Grand Bas-

sam, Ivory Coast, he traveled widely through this area to gather information.

A Renegade Country

DuBois said that Guinea, which he characterized as "kind of a renegade country," is extremely important in the politics of French-influenced Africa. Before enlarging on this, he gave some background information. Guinea was formerly a member of the Federation of French West Africa. Its three and a half million people are divided by language barriers and a long history of tribal conflict. The war in Algeria caused further enmities, as Guineans disagreed on the issues. The ensuing riots convinced Gen. De Gaulle of the need for action, so he reorganized the French Union and altered its constitution. The result was the Africans actually participated in government. However, rather than joining the Community, Guinea voted for independence.

The first problem President Sekou Toure had to face was that of winning recognition from abroad. France refused to recognize the new nation, and the U.S. did the same to avoid of

(Continued on page 6)

Freshmen Elect Eaton President

After two run-offs, the Caltech Class of 1967 has finally agreed on its officers. Doug Eaton triumphed over twelve other prospective holders of campus power, for the office of frosh president. The first election eliminated ten of the original thirteen, the second eliminated one more, and the third resulted in Eaton's selection. Vice-President Arlin Peters was elected on the second ballot, from an original field of five. John O'Pray was elected from a field of five on the second ballot for Secretary.

Clyde Staley was elected Treasurer from an original field of four, after a tie with John Eyler on the second ballot. Rich Toulton was elected Athletic Manager on the second ballot.

Beckman Rules Given; Dedication Date Near

BY ANDY BEVERIDGE

Dr. George Beadle, Chancellor of the University of Chicago, will highlight the dedication of Beckman Auditorium on February 25. Sharing the speaker's podium with Beadle will be Dr. DuBridge, representing the Institute, Dr. Beckman, donor of the auditorium and president of the Caltech Board of Trustees, and Bob Liebermann, representing the student body. The Caltech Glee Club will sing.

Since the dedication is near, it seems appropriate that the rules for using the auditorium be spelled out. The Committee on the uses of Beckman Auditorium has set down a few principles to govern the use and reservation of the Auditorium. The ideas behind all of these rules, according to Dean Eaton, is to maximize the use of the Auditorium and cut down on the wear and tear.

Number Theory

Rules and procedures regarding reservations cover sizes and types of groups are the main rules. Groups on campus with

Institute interest are given first preference. Following them in priority are off-campus groups with Institute interest. Finally, groups off campus with no Institute interest are given last priority. These groups will be allowed to use the Auditorium only in special circumstances.

Besides the main requirement of Institute interest, a group must have an estimated attendance of over 300 before they may be scheduled directly into the Auditorium. Groups less than 300 are first scheduled into Culbertson, then if three weeks before the event there is still nothing scheduled into Beckman the group may use it.

If a group wants to reserve the auditorium they should apply to Mrs. Celia Severeid in the Public Relations Office. The Committee will act on the request in two weeks, and decide whether or not the group will be scheduled.

Students Fee Free

Student groups will be charged no fees for using Beckman, however, outside groups may be charged up to \$300. With the auditorium comes two B&G men, a custodian and an electrician, and the manager will be on duty. The committee will appoint a manager when the auditorium is in full operation.

In the case of P.A. equipment the group will have to supply a monitor. Either one of their own members, or a B&G man will take care of this requirement.

Several problems still to be solved include that of the tax status of events scheduled in the auditorium. Rules about this will be out soon.

Glee Club Plans Tour

BY BOB SWEET

The Caltech Glee Club is now finishing up plans for its annual spring concert tour. For several years the club has toured through California during the spring break in March, but this year it is going to break precedent with a tour to the midwest, centering in the Chicago area. The tour is to be made during the second term finals week, as the week of vacation falls during finals or vacation for many schools in the midwest as well.

Finals Adjusted

Happily the faculty and Registrar's Office have taken on the chore of providing early or late finals so that Glee Club men are able to go on the tour. Not only is the club going with the blessings of the faculty, but the administration has seen fit to come through with the money necessary to help the Glee Club make both ends meet for the year, as the tour "is considered to be of exceptional value to the public relations of the Institute."

Planned Tour

The touring group will consist of some forty men from all four undergraduate classes plus a few grad students and post-dog's. The tour will consist of concerts in Evanston, River Forest, Mt. Morris, Lawrenceville, and Carbondale, Illinois, and Madison and Beloit, Wisconsin. As plans stand now the club will leave Pasadena on Sunday morning, March 16, and arrive back at Tech late at night the following Saturday.

The club has a full season for the rest of this term, with being the featured entertainment for the dedication of Beckman Auditorium, giving an assembly concert at Occidental College, possibly performing at the Inter-house Sing Contest, and two other major concerts in the Los Angeles area.

Notices

FROSH CAMP DEADLINE NEAR

Anyone wishing to spend three fun-packed days at exciting Camp Radford should submit their application for frosh camp counselor immediately. Applications close tomorrow. Just send your name to Mike McCammon in Lloyd.

JORDAN H. S. TUTORS MEET TODAY

Everyone who has been tutoring at Jordan High School in L.A., plus those who are interested in doing so, should meet today, Thursday, Feb. 6, at 5 p.m. in The Y Lounge, Winnett, with Isaac McClelland, principal of Jordan, to evaluate the project.

MANAGER NEEDED

The Varsity tennis team needs a manager. If you are interested in a career offering liberal PE credit, opportunity to visit exotic places, and no room for advancement, see Coach John Lamb on the tennis courts soon.

Y WORLD RELIGIONS SERIES CONTINUES

The YMCA Living World Religions discussion series continues on Tues., Feb. 11 at 7:30 p.m. in Club Rm. No. 1, Winnett Center, with Rabbi Camillus Angel of Temple Beth David, Temple City, speaking on Judaism.

GOODY SALE TO COME

The annual Jr. Women's Club bake sale will be held in front of Dr. Huttenback's office next Friday. Cookies, cakes, and candies will be on sale from 10 a.m. to 1 p.m. More in next week's Tech.

Editorials

The End!

After the recent unfortunate Lloyd House venture into the confines of San Marino, the IHC ruled that a significant part of the blame lay with the House itself. As a result, Lloyd was assessed a \$150 fine, the money going into the Student Houses Library Fund. The **California Tech** has already expressed its confidence in a responsible IHC enforcing Student House transgressions, and we felt that they handled the matter very well.

Now there has occurred a new development. The Institute lawyer did a fine job in extricating the involved frosh from the civil court action with the minimum of penalty and embarrassment. But, Lloyd is now faced with a severe lawyer's fee of \$500.

The House has already voted to produce the \$150 for the fee, and has paid the IHC fine. In addition, as of Tuesday night, Lloyd House was going to also scrape together another \$100 to \$150 in contributions from individual House members to be applied toward the legal fees. In light of this, the IHC voted on Tuesday evening that the money paid for the fine be applied to the defrayal of the legal fees rather than the increase of the Library Fund, in addition to the other \$250 to \$300 coming from the House.

Far too few editorials are written to commend intelligent action, but the **California Tech** feels in this case that the IHC shouldered its responsibility well, in this its first case of monetary jurisdiction. We only suggest that Lloyd return in kind the good judgment of the IHC and conclude this regrettable incident with dignity.

—Don Green
J. C. Simpson

Letters

Recent Tech Pranks Gain Criticism

Editors:

In recent weeks Caltech students have a number of times demonstrated their inability to judge the dangers of proposed college pranks. Because these jokesters have evaluated their plans only from their own points of view, they have failed to see that the pranks might create real problems for the adults in position of responsibility.

I refer, as examples, to three recent stunts. A large hollow ball which decorates the interior ceiling of Beckman Auditorium was filled with sand. The jokers apparently envisioned a mysterious, steady drip of sand from nowhere. But Throop Hall thought first of this ball breaking loose and falling into an audience.

Other students were trying to rig a popular record to play suddenly during a Chem lecture, when discovered. There is a possibility of damage, major or minor, to Institute equipment while setting up such a stunt. Therefore, one question asked is: "Would Caltech students be honest enough to own up to any damage which they accidentally cause, if they are not discovered in the act?"

The mock kidnaping at San Marino High School momentarily placed the principal of that school in a very difficult position. The fact that he felt that his own professional reputation had been jeopardized is easy to read between the lines of his angry statement to the newspapers.

I will not debate whether or not the punishment meted out in these particular instances was "harsh" or "weak." But I do believe that they were punishments condescendingly doled out by the adults in authority to children who, after all, have to be excused for their child's play. One important element of maturity seems to be the ability to see things from other people's point of view.

—Spicer Conant

THE BEAVERS



—photo by Rainer McCown

Lloyd House's new English-inspired singing group sings one of their latest numbers, "I Want To Hold Your Ham."

From Other Campuses
By Jace

Since this column has been proposing the problems of other schools for a long time now, and relating them to Tech, I feel it is now appropriate to indicate how some of these problems were solved, and possibly these solutions too can be related to Tech.

The first problem that pops into the mind of the average reader is the saga of Rennselaer football, obviously a subject close to home at Caltech. After losing 32 straight games the men of Rennselaer were about to give up hope when out of the blue came a letter to the **Polytechnic** quoting an article in the **New York Post** on RPI football.

Among other choice comments, the article noted that "By the time an RPI student gets to be a senior, so much is expected of him he doesn't have time for football. That's what comes of going to a good scientific school. Academies interfere with the game."

With this apt message we need only look at the letter's last paragraph before turning to our next problem. "Ten winning seasons couldn't bury Rennse-

laer the favorable publicity of a losing football team. Many readers will respect a team that plays for the sport, a student body that doesn't lose its head, and an educational institution that emphasizes education." So, cheer up Beavers.

The eager reader will naturally think next of Saga and the problem presented by their lovely face. This, too, seems to have been reconciled. Faced with a similar problem of "unbelievable" food at Cornell, in Ithaca, N. Y., a group of 45 students got together \$115 then called a delicatessen in mid-town Manhattan and ordered 75 roast beef, salami, corned beef, turkey and tongue sandwiches. The delicatessen, undaunted, filled the order and despatched them to Ithaca by air. Maybe not a solution to Saga, but food for thought anyway.

By now everyone is surely thinking of Tech's greatest problem: the snakes who, right now as you read this paper, are cutting your throat by attending classes and keeping up on their work while you, as an average reader of this column, are at last three weeks behind. Well, brother, forget 'em.

Union College in New York, in the spring semester of 1963, conducted an experiment involving 116 students. Each attended class only 6 times during the semester and then only to take quizzes. While 13 of the students improved their grades over the previous semester, 31 fell below their previous level. That left 72 students who were able to do just as well without attending class... an interesting statistic.

In addition **The Flat Hat** reports that a study of 198 William and Mary alumni showed that there was little or no correlation between grades in school and earning power. Other polls have even tended to go the other way, giving people who participated in college extra-curriculars a significant bad over those with merely high grades. At least it's reassuring.

Finally with ASCIT elections approaching a comparison to the University of Colorado might be in order. When two constitutional amendments came up for approval by the student body last year, they were passed on by a total voter turnout of 64, or about 0.005 of the student body. The student body Veep commented that the election was "technically but not morally valid."



Currently appearing at the Ash Grove is a double feature with Buffy St. Marie and the Kentucky Colonels (alias Ruben Rootlelooper and his hoard of locusts). The first of these is a self appointed female Bobby Dylan. She's an Indian (American variety; Cree, I think) and she draws upon her background for much of her personality and repertoire. She's rather tough looking, which I suppose is the Indian way, and sings in lusty, honest (not at all like Joan Baez) style.

New Areas

But perhaps most interesting are her songs. She has, in her perusal of folk music, discovered some new and intriguing areas which have not been immortalized in song. She has humbly taken up the slack, and now serious treatment has been given to topics such as incest, the mistreatment of the American Indians, and narcotics. She also has an excellent song entitled

"The Universal Soldier" on the blockheads who play the cannon-fodder role in armies that's worth listening to. She also has a little toy called a mouse bow (a bent stick with a guitar string on it) that she plays amusing little games with.

Some Cowed Pokes

The second half of the bill should be familiar to many of us here, as they appeared at one of the morning concerts a few weeks back. They are a youthful group of players (or brayers if you like) which features the most poker-faced guitar player I have ever seen. I thought he was a mannikin until he started singing. They have a somewhat more humorous approach than most bands of this type and are fun to watch, especially when they dress up as hicks under the leadership of Ruben Rootlelooper. Considering the show as a whole, the girl is a good entertainer and those of you who aren't weary of Blue-grass should like it.

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'Tuesday Roundtable' Tours Karman Hydrodynamics Lab

BY TIM HENDRICKSON

"Bring your raincoat!" warned the bulletin to the members of Caltech's "Tuesday Roundtable" before their meeting February 4. Fortunately the warning was not necessary, and no one went under during the tour through the hydrodynamics laboratory in Karman.

Dr. Taras Kiceniuk, chief engineer, conducted the group through the hydrodynamics laboratory. Stepping gingerly across the floor, impregnated, he said, "with mercury," Kiceniuk began by demonstrating the free-surface tunnel.

The unique feature of this water tunnel is that it has an open interface between flowing water — with a maximum speed of about 18 miles per hour — and air. The model being studied is held stationary in the liquid flow. Thus the effect of having a large towing tank is achieved with much more convenience of operation and increased control over specific variables.

Abandoning the world of cavitation (Dentists, take note) and superventilated hydrofoils, Kiceniuk turned to the controlled surface launching tank. Now

"rarely used," the tank was designed during World War II to study the erratic behavior of air-dropped torpedoes.

One-eleventh scale models of torpedoes were centrifugally flung into the tank, and seven high-speed movie cameras recorded their entry into the water. To reproduce the actual conditions of entry the films were later studied in a room geometrically equivalent to the launching tank.

Kiceniuk then led the group to the most venerable of the apparatus in Karman hydrodynamics laboratory, the high speed water tunnel. Moved to Karman from the old hydraulics laboratory in 1948, the tunnel is still a valuable experimenter's tool.

The high speed tunnel is capable of water speeds of up to 60 miles per hour with a free pressure choice. The flexibility of the system has recently been greatly increased, moreover, by the construction of an alternate "leg." According to Kiceniuk, the new leg, with a rectangular orifice instead of the traditional cylindrical orifice, is the only one of its kind available to the modern researcher.

And Magnetohydrodynamics

Shock Waves Highlight Current Aeronautical Study

BY STU GALLEY

The only worthwhile thing facing the south side of Olive Walk (with the possible exception of the old House) is the somewhat imposing complex of Guggenheim and Firestone. These, together with Karman nestled behind them, house GAL CIT — Graduate Aeronautical Laboratories, CIT — formerly known as Guggenheim ALCIT. Under the direction of Dr. Clark B. Millikan, these labs carry out research in multifarious problems, often undreamed-of outside the respectively moss-stained and waffley walls. Drs. Millikan and Ernest E. Sechler recently granted this writer interviews describing this research.

Shock

Activity occurs in both fluid mechanics and solid mechanics. In the first group, studies include shock waves, magnetohydrodynamics research is under low-speed wind-tunnel research.

Shock wave and magnetohydrodynamics research is under the direction of Dr. Hans W. Liepmann, on the top floor of Karman. Shock waves are studied with shock tubes, with events happening and measurements being taken on the microsecond level. The biggest tube, which is only about a year old, is about 80 feet long and 17 inches in diameter. A high vacuum is drawn in it so that the shock wave will be not a physical discontinuity, as it appears at normal pressures, but spread out to about a centimeter thick.

Study of Reentry

Large diameters are needed for the tube so that the "boundary layer" which forms near the walls does not affect the whole wave, but an undisturbed part remains near the center of the tube. Studies currently center on the reflection of a shock wave from the end of the tube, for here the pressures are doubled. Knowledge of shock waves is very useful in predicting reentry of space vehicles at high altitudes, where atmospheric pressure is very low.

What A Subject!

Magnetohydrodynamics concerns the influence of electric and magnetic fields on fluids; in particular, plasma, or very-high-temperature partially-ionized gas, is used as the fluid. Again, knowledge in this area can be applied to reentry of space vehicles, for they create plasma around themselves with temperatures on the order of 10,000 degrees. Perhaps more important, plasma offers a means of creating and controlling the very high temperatures needed for controlled nuclear fusion. The heat necessary to make plasma from ordinary gas usually comes from a capacitor discharge and/or shock waves (!).

Alternatively, the study of the antics of a conducting body moving in a conducting fluid and a magnetic field may be carried out, not with plasma (closely akin to hell-fire in being handled), but with cool, heavy mercury. A conducting sphere is made to move through stationary mercury and a magnetic field, the results being similar to what happens in plasma. With this method, a wake (defined by certain vorticity conditions) preceding the body has recently been found, having formerly been only hypothesized.

Caltech Tunnels

Wind-tunnel research divides naturally according to the two tunnels being used. The first one, the hypersonic tunnel, creates about the same conditions as those that prevail in plasma, except that they persist for long periods, being at tem-

peratures of only 1000 degrees and speeds of only Mach eight or so.

The main concentration has recently been on wakes of bodies traveling at hypersonic speeds; these are important practically because a missile reentering the atmosphere has a plasma wake that enclouds it like a sheath. This so-called signature of the vehicle disrupts its radio communication and affects its detection by radar. In the tunnel, the operating temperatures are not hot enough for plasma, but the wakes are of the same type.

Investigation is also taking place concerning the point at which laminar flow becomes turbulent, comparing slender bodies to blunt ones. Also, the effect of the temperature of the body on the flow, and the wake very far downstream, are being studied.

New Conditions

An important consideration in all the afore-mentioned studies is that the traditional hydrodynamical analysis is no longer valid at such conditions. Recourse must be made to the Maxwell-Boltzmann equations, by applying them to systems where the gas particles have a net

velocity.

Along this same line, Dr. Toshi Kubota is developing a new arc-jet tunnel, which will be run for the first time quite soon. In this revolutionary device, a gas (helium, air, etc.) is heated in an arc chamber and then injected into an otherwise evacuated cavity. It is hoped that such a continuously-operating high-temperature tunnel will allow long-period observations of plasma.

The low-speed tunnel, used up until about ten years ago for conventional aerodynamic studies, is now being revived by Dr. Peter Lissman in applications to such unconventional aircraft as VTOL and hovering gadgets.

Computers Came In Handy

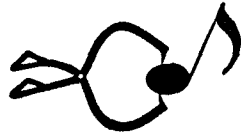
Dr. Millikan mentioned the new computing facilities in Booth by saying that the current extent of research would have been impossible, because of the tremendous amount of data accumulation and reduction involved, were it not for access to Booth. IBM plotters and so forth are used right in the labs, and also "we're making great use of the new computer facilities."

Dr. Sechler, in discussing re-

search concerning solid mechanics, said that "mechanics as applied to structural and material problems in aircraft" is the fundamental theme. For example, aeroelasticity, dealing with "aerodynamics applied to an elastic body," is being studied in panel flutter and vibration of thin structures. Dr. Sechler's own field is the analysis of thin structures, with an emphasis on minimum weight, as in missile skins. Very thin seamless shells are

produced by plating techniques; the plan is to understand "perfect" shells and then put in discontinuities and imperfections to see what happens.

Lastly, fracture mechanics, determining "why materials of all kinds actually break," is under study through the propagation of cracks through materials. The new highspeed 35-mm Ellis camera is being used to trace the propagation of a crack with respect to the crystal grains.



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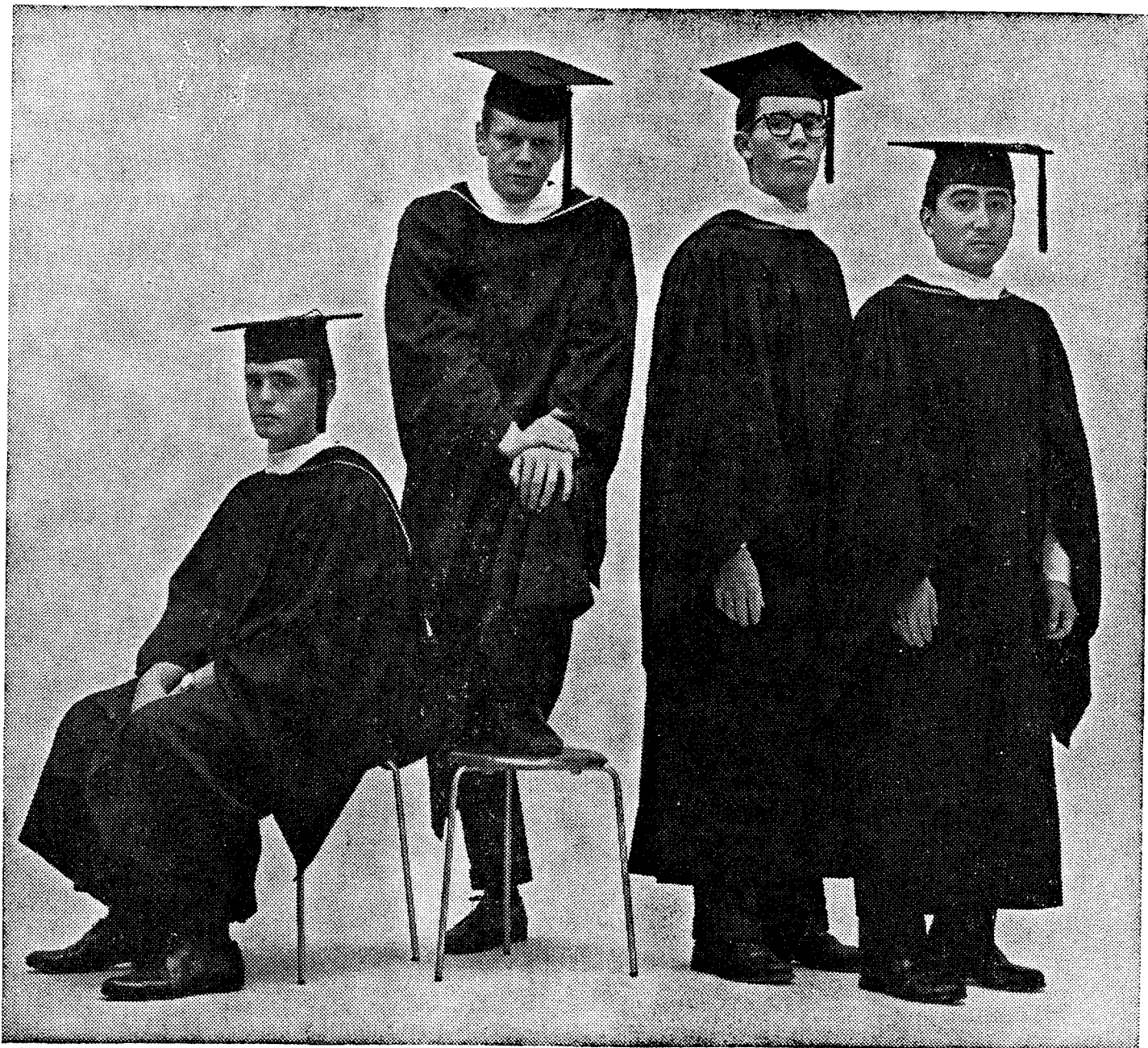
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La Verne Whips Beavers Whittier Wins Squeaker

Saturday night, the Beaver underwear outfit played its fourth inspired game in a row, but it wasn't quite good enough, and Whittier persevered to win by a score of 65-63. The Beavers jumped off to an early lead in the first half and led by as much as thirteen points at 32-19. Most of the credit for this margin must be given to inspired defense.

Good Defense

Caltech played a partial full court press for a good deal of this time and forced Whittier to turn the ball over to Tech without taking a shot several times. When Whittier did get off a shot and missed, Tech managed to control the defensive backboards well and kept Whittier to just one shot.

The story of the second half began to show up in the first half as Whittier started to close the gap. Whittier's rebounding improved and by the halftime mark, they had closed the gap to eight points at 42-34.

Whittier Closes Gap

As the second half progressed, Whittier began to close the gap further, and with about ten minutes remaining in the game Whittier knotted the score at 52-all. This included an eight point spree. In the next few minutes, the score was tied at 54, 58, and 60. However, a free throw by Dick Burgess gave Tech the lead at 61-60 with three minutes remaining.

Whittier went ahead with a bucket, but a thirty-foot shot by Charlie Vinsonhaler gave Tech the lead at 63-62. This turned out to be Tech's last score. Whittier took the lead at 64-63 on a long jumper with 58 seconds left. A free throw with eight seconds left pushed the Whittier lead to two points at 65-63.

Final Gasp

The Beavers then brought the ball in bounds and immediately stopped the clock with a time out. Taking the ball in the backcourt, Joe Weis alertly called another timeout with five seconds left to bring the ball to half court. All of these tactics proved to be of no avail as Whittier broke up the out of bounds play and Tech could only manage a long desperation shot which fell wide and left Whittier the victors at 65-63.

Dick Burgess led all scorers with 24 points, most of these coming in the first half. Leon "Goose" Thomsen added another career high of fifteen while Joe Weis pushed in 12 points.

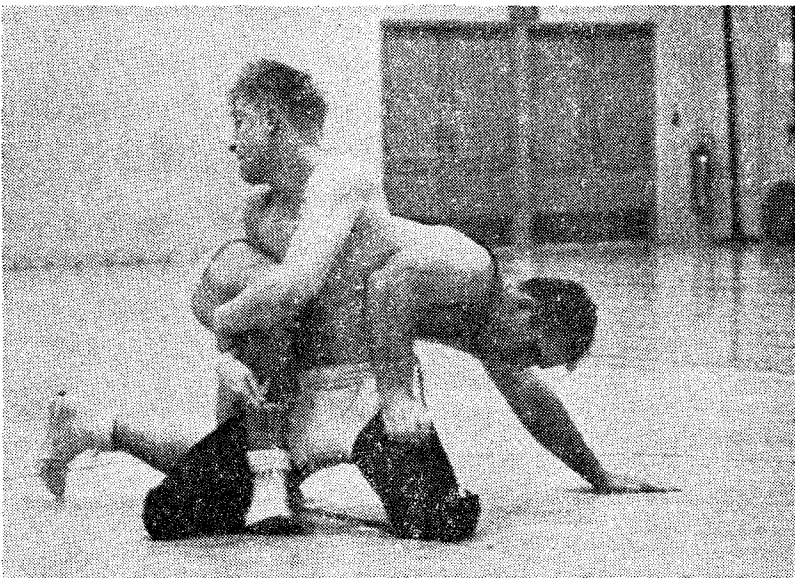
The Tech streak of five good games in a row was broken on Tuesday night when the varsity basketballers played a very sloppy game and, as a result, fell to a quick LaVerne five by a score of 107-70.

Part of the blame for the poor showing can be placed on the fact that team leader and spark-plug, Joe Weis, wasn't able to make the trip because of illness. His presence was sorely missed as the Tech team looked lifeless.

Press Works

LaVerne came out right at the start with a full court press. This turned out to be very effective as the Techmen lost the ball continually in the first half. In the slang, this is called turning the ball over without a shot. This is just what the Techmen did for most of the game. Bad passes were intercepted and the ball was stolen frequently. Although Tech didn't have the ball much of the time, they didn't

(Continued on page 5)



—photo by Phil Liapis

Jim Groth wrestles to a 2-2 draw through three periods in the final match of Tuesday's meet with L. A. State.

Grapplers Pin Los Angeles State; Avenge Earlier Meeting

The Caltech grapplers took their second match in a row on Tuesday night in a home match. Tech took a Los Angeles State team by the score of 20-18. This revenged an earlier blotch on the Tech record since L.A. had previously held Tech to an 18-18 tie.

The match started off slowly as both teams traded forfeits in the first two matches. Tech took the first match by forfeit but dropped the 130 pound class through the same means.

In the first real match of the day, Caltech got off to a roaring start with a third period pin in the 137 pound class. Fred Fujimara copped the honors for Tech.

Faulconer Wins

Dave Faulconer went Fuji-

Varsity Tennis Defeats Frosh

In an exhibition match last Saturday, the Varsity vanquished the Frosh Tennis Team by a score of 7½-1½. The Frosh team showed ability but lacked the polish and experience to hold off the varsity team.

Valiant Frosh

The freshmen could only salvage one victory in the match, and that came in first singles where John Hoshor defeated Al Limpo, 6-0, 6-0. In the other singles matches, Butch Niell defeated Tom Buckholtz, 5-7 6-4 7-5; Don Green beat Terry Beard, 6-3 6-2; Freeman Rose bested Mark Satterthwaite, 6-0 11-9; Jeff Pressing defeated Richard Juster, 6-3 6-0; and Jay Pearlman vanquished Jim Fishbein, 6-4 6-1.

Doubles Mayhem

In doubles, the third team of Pressing and Pearlman defeated Eyler and Juster, 6-1 6-1. The second team, Rose and Green beat Beard and Satterthwaite, 6-2 6-3. And in the first doubles match, both teams called it quits after Niell and Limpo won the first set 8-6, only to lose to Hoshor and Buckholtz by the same score in the second set.

This Saturday, the Varsity travels to Redlands to face a strong squad in their first league match. The Frosh face the Redlands frosh here. The varsity team needs a manager, so anyone interested see Coach Lamb.

mara a step better; in fact, he did him two steps better. Dave pinned his opponent in the first period. With this victory in the 147 pound class, Tech opened a considerable lead.

The first real setback for Tech came in the 157 pound class. Here, Tom McKenzie was pinned in the third period. McKenzie wrestled a good match for a frosh but was finally overcome in the final period.

The forfeiting started again in the heavier classes. Here again, both teams traded forfeits as it was unable to place men in the appropriate weight class. L.A. forfeited the 167 pound class while Tech gave away the victory in the 177 pound class.

In the final official match of the day, Ed Kampe dropped a decision to the L.A. opponent, 4-0.

The next match for the grapplers comes on Thursday, February 6 at the home mats of Los Angeles City College. As can be seen by the numerous forfeits, the wrestling team could use more men out for the team.

WHAT'S NEW IN THE FEBRUARY ATLANTIC?

Vance Packard: "The Invasion of Privacy": Information is power. This revealing article shows how much and how and by whom it is being ferreted out about Americans.

"Exhibitionism": An expostulation by Ernst H. Gombrich, prompted in part by the decision to send the Venus de Milo to Japan for the Olympics.

"Is There a New Germany?": Martha Gellhorn reports on whether the younger generation in Germany could in time be responsible for "a new Germany".

PLUS AN ATLANTIC EXTRA

"The Ghastly Blank": Alan Moorehead describes the first exploration of the vast central part of Australia.

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SPORTS

Ruddock, Dabney Win Finish Behind Lloyd

In the final minutes of the Interhouse football season, Ruddock and Dabney copped victories over Ricketts and Blacker respectively. Although neither game affected this year's winner Lloyd. The games were crucial in determining the order of finish of the other six entries.

Ruddock easily took Ricketts, 27-0. Ruddock seemed in complete control of the game and controlled the airways, both offensively and defensively. Seemingly scoring at will and keeping the Ricketts offense stifled, Ruddock scored four times to roll up its 27 points. With Kendall Brown catching the long ones and Steve Gorman making the short yardage on end sweeps,

Ruddock snatched up second place while Ricketts fell to the cellar.

Dabney Comes Back

In the other game, Dabney eked out a victory over Blacker, 24-20. Blacker seemed to have a chance for an upset early in the game, but Dabney scored three quick touchdowns in the space of three minutes to quell the Blacker threat. With this victory, Dabney held onto third place while Blacker managed only a fifth place tie.

Chief factors in their team's finishes were John Vitz of Dabney and Bob Howenstein of Lloyd. Vitz was the real surprise of the league. His build is

(Continued on page 5)

CAMPUS INTERVIEWS

February 21, 1964

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Rio Hondo Falls 75-63 Frosh Sparkle In Win

The frosh basketballers broke a long losing streak Saturday when they took a game from the Rio Hondo squad by the score of 75-63. Victories have come hard for the frosh this season and the frosh will take anything that comes their way. Last Saturday, they talked Rio Hondo into playing a game and the strategy worked. The frosh came out on top.

Admittedly, the frosh looked their best in several games. They were hot with the shooting hand. Their defense was the best this season. The largest factor however was the fact that their rebounding looked good.

Zone Works

The frosh used the zone press for one of the few times this season. They didn't play it exactly the way UCLA does but they made it work anyway. Rio Hondo had to use a platoon system to keep fresh players in against the frosh's zone press. With the press doing the major damage, the frosh carried a 39-25 advantage into the locker room. The tight defense resulted in numerous steals and bad passes on the part of Rio Hondo. The fast break seemed in high gear too as the frosh were able to use it effectively for the first time this year.

Rio Hondo looked better against the press in the second half, but they were never able to cut the 14 point halftime margin to any extent. When the press didn't give the frosh any fast break opportunities in the second half, they worked the ball well and managed to free men consistently for the easy shot under the basket. Gray Jennings and Herb Jubin were the main factors in this part of the

IH Football

(Continued from page 4)

misleading. His quickness left many a prospective tagger on the ground wondering where he had gone. Added to this is the factor that makes a good end. His sure hands gathered in several passes which by all rights should have gone incomplete.

Howenstein Sparkles

Howenstein made the Lloyd game go. He was very fast and hence he forced the defenders to play him deep. This left him open numerous times for the short pass. He managed to turn several of these into long gainers, making the extra yardage with his good speed. When the defenders moved up to play for the short ones, Howenstein went long and gathered up numerous tosses which were, by the way, well thrown by Al Gillespie. As was witnessed by the rest of the league, the Gillespie-Howenstein combination was unbeatable.

Interhouse Standings

| | W | L | T |
|----------|---|---|---|
| Lloyd | 6 | 0 | 0 |
| Ruddock | 4 | 1 | 1 |
| Dabney | 4 | 2 | 0 |
| Fleming | 3 | 3 | 0 |
| Blacker | 1 | 4 | 1 |
| Page | 1 | 4 | 1 |
| Ricketts | 0 | 5 | 1 |

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Christie Leads Flem Victory

The Fleming Discobolus football team led by Mutha Christie struck again last weekend in a victory over Interhouse champs Lloyd. It was an exciting game, and although tempers flared on the field, gentlemanly sportsmanship prevailed on the sideline.

Lloyd drew first blood on a fourth down pass from Gillespie to Howenstine. The lead was short-lived, however, as Fleming took the lead in the second quarter and never again fell behind. Fleming scored twice in the second half on a five yard run by Christie, and a short pass to Bill Owens. As the half ended, Fleming held a slim 13-6 lead.

Second Half

The second half started with a bomb. Christie, aided by several crushing blocks galloped 65 yards for a score. Down by two touchdowns, Lloyd opened up its offense and pushed across a score with a sustained drive, highlighted by several razzle-dazzle plays. Fleming was not to be beaten, though, as Christie uncorked two long heaves to Owens and Bill Schoene.

Although Lloyd matched these

TD's one for one, the men from the new houses couldn't make up that other touchdown and finally fell to a 32-25 defeat.

Rumble, Rumble

The Fleming defensive secondary of Eder, Jarvis, and Smith frustrated Gillespie's passing until the fourth quarter by intercepting twice and batting down several accurate throws. The Fleming halfbacks, Sharman and McQuillan gave Christie excellent protection by knocking down the small, but spirited Lloyd rushers. They also provided devastating downfield blocking.

The game clearly demon-

strated that a good team playing a straight power football game can beat the best razzle-dazzle team.

The win put Fleming in second place in the trophy standings. Next on the agenda will be a soccer match between Fleming and challenger Ruddock.

Discobolus Standings

| | |
|----------|----|
| Ricketts | 10 |
| Fleming | 9 |
| Blacker | 8 |
| Lloyd | 5 |
| Page | 4 |
| Ruddock | 4 |
| Dabney | 3 |

Varsity BB

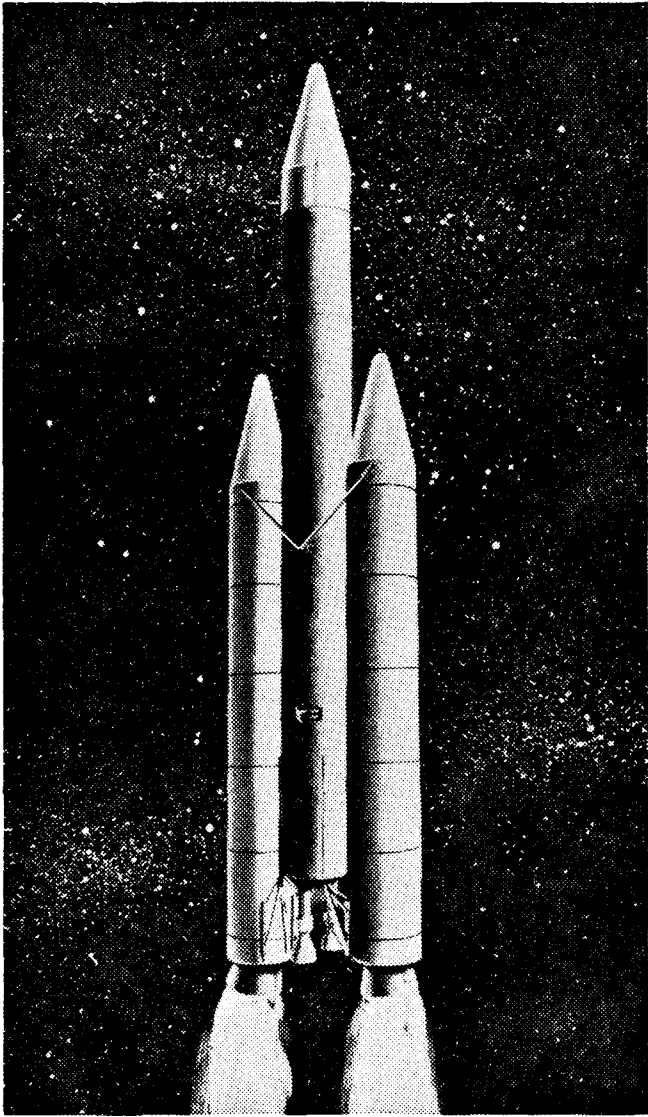
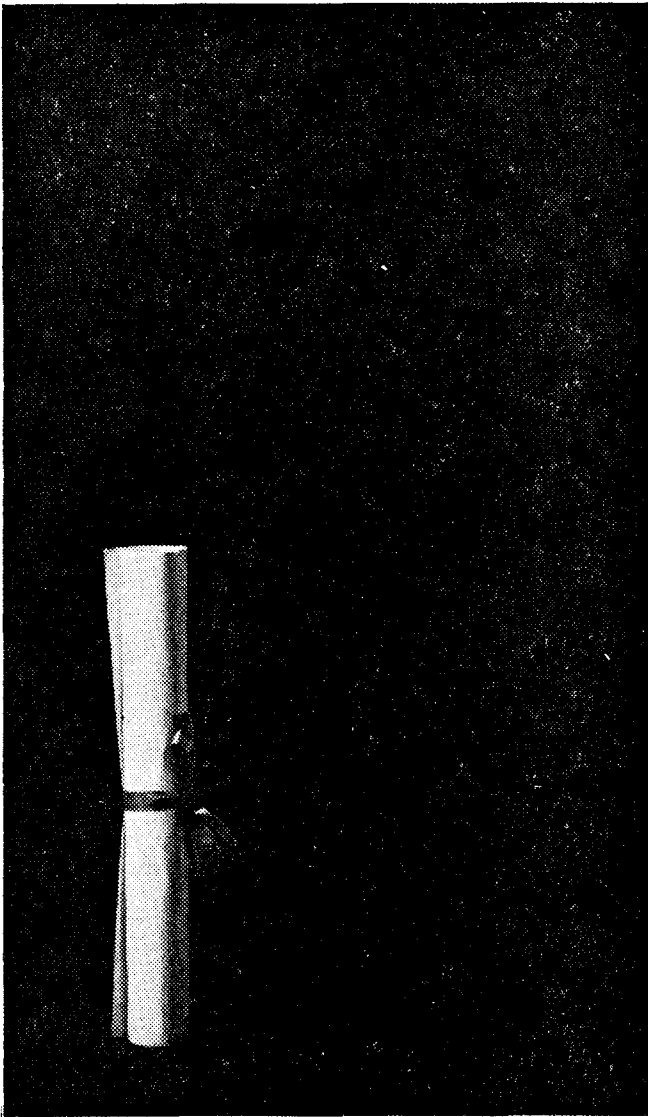
(Continued from page 4)

make the shots either. Tech shot a miserable 34% in the first half. LaVerne almost doubled this with a remarkable 64%.

Although LaVerne held the lead throughout the entire game, Tech remained close for the first ten minutes. However, after this period, Tech was never close. LaVerne quickly widened a five point to twenty at the halftime break.

Slaughter Continues

LaVerne never let the pressure off of Tech in the second half. They used the full court press for the entire game. As Tech started to adjust to this, LaVerne found it could no longer stretch the lead. However, the damage had already been done. As the final buzzer sounded, Tech found itself of the very short end of a 107-70 score.



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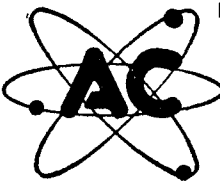
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February 13 and 14, 1964

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Dr. Lang Visits Russia

Dr. Anton Lang, plant biologist at Caltech, upon his return from the Soviet Union described the Communist system as "working — creaking and sputtering, with much waste and discomfort" but "things are improving." Lang visited laboratories, gave lectures and performed research on gibberellin, a plant growth hormone, in Russia. The project was sponsored by the U. S. National Academy of Sciences and the U.S.S.R. Academy of Sciences.

Ineffective System

Lang asserted that, "research on plants in the Soviet Union reflects quite faithfully the general state of things there." He further says that the Communist system, "is ineffective and unwieldy, and although it does not repress responsibility and enterprise altogether, it does not encourage it."

Lang received the impression that the Russian people do not question the fundamentals of their political and ideological foundations and do not think of another political and economic system as a possibility. He says, "they have no idea how other systems are working, or rather how their government has succeeded, by its absolute control of news and other information,

in creating in their minds a distorted 'dream world' idea of other countries." Lang found that even scientists, who should have inquiring open minds did not make "significant probing into the fundamentals of the existing system."

In comparing the Russian laboratories to American counterparts, Lang noted the work in the Russian laboratory "is very time-consuming and inefficient." All plant research is dictated by the U.S.S.R. Academy of Sciences on a nation-wide basis. A factor detrimental to the development of good basic plant research in Russia is the demand from the hierarchy that research produce immediate practical results.

Another detrimental factor is the influence of Lysenkoism which states that acquired characteristics can be inherited. This concept which fits some tenets of Communism has been repudiated by serious geneticists.

Crisis In Guinea

(Continued from page 1)

fending DeGaulle. Thus Guinea was forced to look to the East. Russia not only recognized the new state, but sent an ambassador with money. Other Red countries soon followed this lead.

French Friction

On March 1, 1960, Toure announced that Guiana was withdrawing from the franc zone, and would hereafter have its own currency. He ordered the army to prevent runs on banks. In retaliation, France froze all Guinean assets in that country and cut off trade, as did neighboring African nations with French sympathies.

Period of Crisis

Today, Guinea is in an extremely difficult position. After Toure's bitter words, the country can not now return to France. Toure knows nothing about economics, and the loss of Western trade and the closing of almost all the French firms in the country have led to economic chaos.

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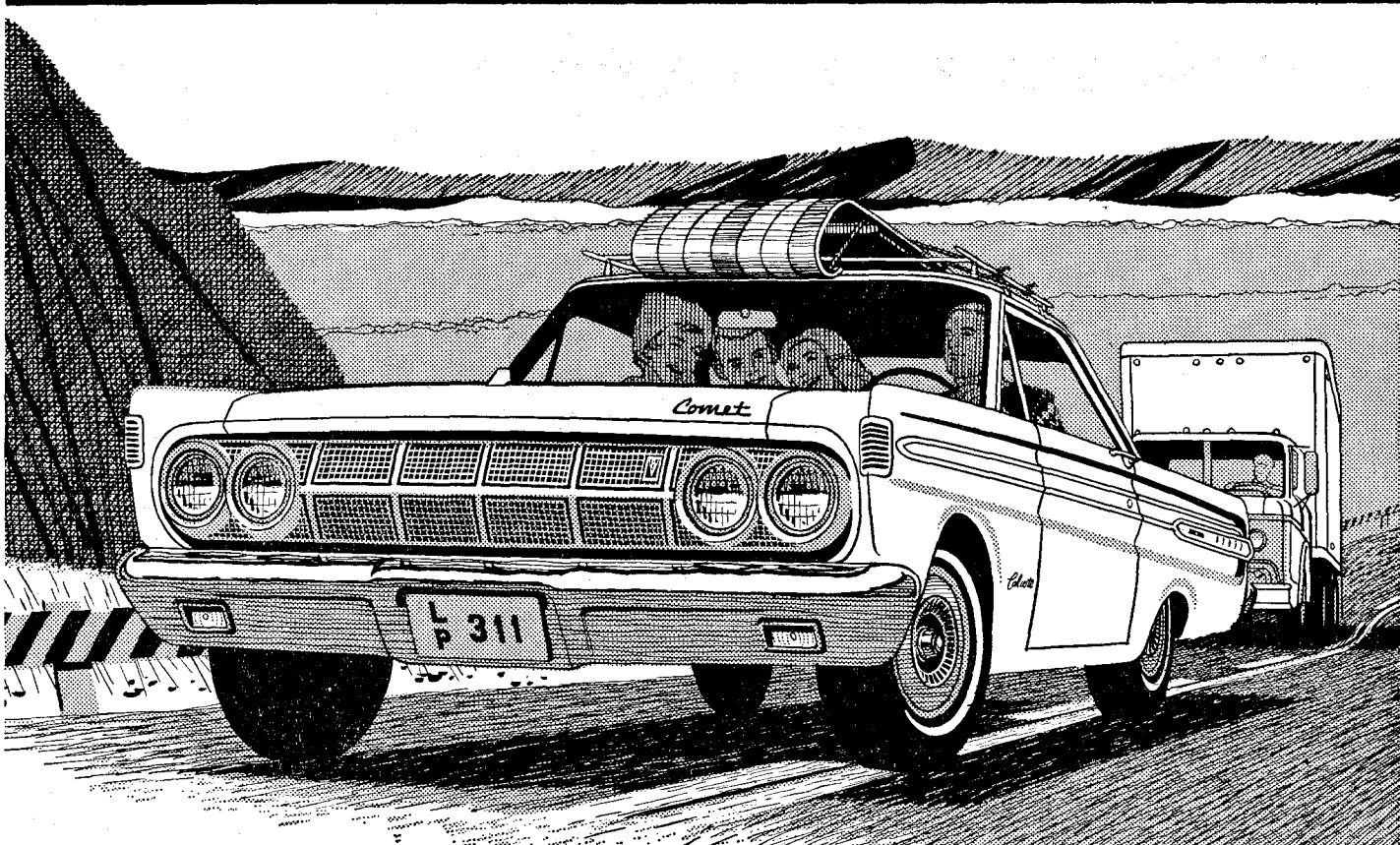
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