

—photo by Phil Liapis

Bandananaless, banananaless Swami Vandanananda lectures on Hinduism.

Far East Is Subject Of AUFS Lecture

BY TIM HENDRICKSON

"Malaysia, the Bright Spot in Southeast Asia" was the topic of Far East authority Willard A. Hanna's first H5 lecture last Tuesday, January 8. Hanna is now making his fourth visit to Caltech as an active member of the AUFS — American Universities Field Staff — and will remain on campus from January 7 to January 16.

The initial point of Hanna's Tuesday lecture was that the nations of Southeast Asia, Laos being the extreme case, have existed in a revolutionary phase, each with the basic problem of "establishing its national identity."

In its context, according to Hanna, it was with some apprehension that on September 16, 1963, the Federation of Malaya, Singapore, Sarawak, and North Borneo united to form the new state of Malaysia. President Sukarno of neighboring Indonesia had declared that his nation, ten times as large as Malaysia and equipped with one billion dollars' worth of Soviet arms and MIG's, would crush the infant state. The situation seemed clearly to be "Malaysia or Euthanasia," as Hanna aptly stated.

Sukarno, however, failed to embark upon his scheme, and thus the new state of Malaysia got off to an unmolested start. **Malaysia Remarkable**

Even more remarkable, moreover, and this was Hanna's primary point, was that this new state, this "agreeable amalgam of anachronism, anomaly, and anathema," managed to surmount the critical internal disorder that has plagued the other nations of Southeast Asia.

Instead of anarchy Malaysia presented an "absolutely indecent spectacle of decorum". The federation faced such nearly insurmountable internal complications as a "potentially explosive" racial composition of Chinese, Indian, and Malayan. Also necessary was a political union of nine feudal sultans and two British ex-colonies. Still, the new state was able to run counter to the new order of confusion and disorder and establish instead archaic policies conducive to stability, peace, and development.

Racism Minimized

Hanna attributed this stabil-

ized progress to several beneficial factors. Firstly, the explosive potential of the Malaysian racial situation was moderated by the heritage of the old Federation of Malaya. Independent in 1957 and having no racial majority, Malaya experienced only one small racial riot in its five years of independence.

Secondly, the feudal sultans and old colonial order were united by a democratic government on the British model with a king, cabinet, parliament, and prime minister.

Thirdly, the new nation was economically self-sustaining. With tin and rubber — "Malaya is one big rubber plantation," stated Hanna — as primary products, Malaysia has been able to finance most of its own development and investment.

Tengku Competent

Fourthly, a very important reason for the stability was the able leadership of Prime Minister Tengku. Referred to by Hanna as "the candidate for leader of Southeast Asia," Tengku nullified the potential political trouble sources in Malaysia by incorporation of the various fac-

(Continued on page 3)

1964 Annual Is On Schedule

BY HANK SUZUKAWA

"The most noteworthy aspect of this year's Big T will be change," Bob Levin told this reporter during a rare interview in the busy Big T office. To illustrate his point, he produced the cover for this year's issue, light blue with palm trees against a background of the mountains, which was indeed a pleasant change from previous years. "What's more," claimed Levin, "we're still on schedule, or at least, we will be if we make this next deadline."

The yearbook will be marked by the talents of Steve Gorman and Tom Greenfield, whose artwork will permeate the entire volume. Among included works of art are Throop Hall, monsters, merry-go-rounds, astronauts, apes, the "snowfields" of Bridge, and — best of all — girls.

Funny Faculty

The Campus Personality sec-

(Continued on page 6)

Swami Explains Hinduism

God is in heaven; God is in the heart; God is Man. Man's nature is divine, since he is one with God. Man is perfect. These statements of Hindu philosophy were made by Swami Vandanananda, Assistant Minister of the Vedanta Society of Southern California, to a discussion series of the living world religions in Classroom No. 1, Tuesday night.

Vandanananda has been with the California Vedanta Society since 1955. He has been a Swami in the Ramakrishna Order since 1947, which he joined in 1938.

In his address Vandanananda stated that in Hinduism man has a personal relation with God. Man can worship God in many ways. There are three basic views of God's relationship to man, in the Hindu way of thinking. The first is that God is in heaven so that man must worship him. The second is that God resides within man. This means that man must find god and truth within himself. The third is that man is God. That is, that God is identically everything. Vandanananda said that these views have comparisons in the four Gospels in the Christian religion.

Hinduism Timeless

Vandanananda said that Hinduism goes back beyond record-

ed history. He considers the religion timeless. The Veda is the basic scripture, with Vedanta a more proper name for the religion commonly called Hinduism. In this religion there are no black and white aspects to truth, but only shades of gray. The basic goal of Vedanta is the joining of man to God. However the exact methods are of a personal nature and do not have to be the same in all people.

In his search for God a Hindu may be personally guided by an individual or participate in mass gatherings. Hinduism is quite compatible with the other religions of the world, Vandanananda said. In fact it is perfectly acceptable to be a practicing Christian and a Hindu at the same time. In the history of Hinduism it is found that the Hindus have assimilated the invaders of their land.

Hindus are Tolerant

A basic principle in Hinduism is tolerance of other religions. Hindus consider Christianity, Islam, and Buddhism as reinterpretations of basic truths. Hindus are willing to accept parts of these religions as revealed truths. Hindus do not worry about converting new people like other religions. They rely on tolerance for the cause of

Hinduism, Vandanananda explained.

He noted three sources of authority for Hinduism. One is the philosophy as represented by the Vedas. This work gives a knowledge of God. The second is mythology, which Vandanananda explained meant ancient history and did not have the connotation that is usually given to myth. He said that mythology to Hindus is similar to the Old Testament. This includes many short aphorisms which are terse statements which are easy to remember and tell by word of mouth. The third source is the rituals, which are in most everyday life. He said that the Hindu goal is a union with God or Yoga.

Summary of Hindu Beliefs

Hindus strive for liberation from prejudices and phobias. Basic truths include man's divine nature, the unity of God, the oneness of the universe, and the harmony of religions.

Dr. Albert Tyler Reports On Fertilization

Dr. Albert Tyler, Caltech professor of embryology, reported to the American Association for the Advancement of Science on artificially stimulated fragments of unfertilized egg cells without a nucleus to increase protein synthesis as in a fertilized egg, at their annual meeting recently held in Cleveland.

Dull Sex

Tippecanoe and . . .

Tyler has shown that RNA is already present in the cytoplasm of the egg. Before, it had been thought that the sperm activates the egg's DNA to produce RNA. This was verified by centrifuging unfertilized eggs until the cell was divided into two sections, one with a DNA nucleus and the other without a nucleus. Butyric acid was added to the cell section without a nucleus. Butyric acid causes the egg to

(Continued on page 6)

Notices

FOSS STUDY GROUP

All those interested in joining a study group to become acquainted with the music of Lukas Foss prior to his visit to campus please sign up in front of the Y Office and come to the Y Lounge for lunch tomorrow (meal ticket available).

THE COFFEE HOUR

flies again today at 3:00 P.M. in Winnett Lounge. WE NEED WARM BODIES!

FOLK DANCING STARTS

The Caltech-Claremont folk dance group will meet again on Sunday, January 12. Techman and girls from Scripps and Pomona Colleges learn dances from countries throughout the world. The group meets every Sunday evening at Pomona College's Renwick Gym. For rides, meet in the Athenaeum parking lot at 7:50 p.m. For information see Elliot Zais in Fleming or Vic Sirelson in Blacker.

Y NEEDS TUTORS

Requests for tutoring from Pasadena high school students have increased, so more volunteers are needed for the Caltech Y's Tutor Pool. See the Y office soon.

Music Info

Y Brings Lukas Foss

BY DAVE HELFMAN

Lukas Foss, who will be here from January 21 to January 23 as the Y's second Leader of America wears a number of different musical garbs. He is the conductor of the Buffalo Symphony, a noted pianist and interpreter of music from Bach to Stravinski, one of the foremost composers alive today, and a leader in the just-developed field of ensemble improvisation.

The greater portion of his stay on campus will be devoted to improvisation and the role it plays in performance technique, as well as its importance as a mode of musical creativity. There will be one discussion period which will be devoted totally to this question.

The major evening program of his visit will include a performance of part of his latest piece, *Echoi*, which has grown out of the improvisation idiom, and which has been called the most important creation in modern music. Mr. Foss will also speak on the evolution of the ideas in *Echoi* and the creative process involving it.

Traditional vs. Modern

The last program in which he will participate will be a symposium on the psychological necessity for the breaking away from traditional forms of expression in modern music in modern art. The panel will feature Foss; Dr. Maurice Walsh, a psychoanalyst interested in the creative process; Leonard Stein, a pianist who was closely associated with Arnold Schoenberg; and someone additional who is well acquainted with modern art.

Study Group Planned

As part of his visit, the YMCA will be holding a study group, to consist of people who are sufficiently interested in Foss' music to the extent of meeting several

times (during the noon hour) before his visit, so that they can become familiar enough with Foss' music to be able to meet with him on a level in which more pertinent questions may be asked about modes of composition and meanings behind the various pieces. Those interested in attending this study group, please sign the list in front of the YMCA office, and be at the Y Lounge tomorrow at noon (meal tickets will be provided).

For those who are interested in the music but unable to join the study group, all of his recordings can be obtained both in Dabney Library and in the Musicales.

Gift Presented To Institute

An unrestricted gift, "in recognition of its general excellence and its contributions to national life" was received today by the California Institute of Technology from the American Oil Foundation, which is supported by the Standard Oil Company (Indiana).

In transmitting the grant to Caltech, L. W. Moore of Chicago, president of the American Oil Foundation, said, "We are placing no restrictions on the use of the funds as long as they are spent to meet current expenses."

The gift, amounting to \$10,000, is one of 42 similar unrestricted awards totaling \$516,500 made in 1963 to outstanding private universities and colleges across the nation. The American Oil Foundation is one of three foundations of the Standard Oil Company (Indiana), which since 1953 have given more than \$5,000,000 to the nation's institutions of higher education.

Editorials

Bless Our House

Old is old, and new is new;
I am me, and you is you.
But what's in store
For '64?
First we can guarantee
The pickets of the NAACP,
Harvard orgies, sexy or not,
And DeGaulle losing 'Erhardt.
The Birchers will talk with persistence
While Pauling peddles co-existence.
Congress will do nothing but sit,
So Thank the Lord we've got ASCIT!
Here we look to the new Beatle Look,
And also the 5c blue book.
Tuition will rise, but don't bother to shout,
For your grades will fall, so it all evens out.
The Y will picket, the Beavers refrain,
And SAGA will hop on the Gravy Train.
Whatever happened to the knobs on Booth?
They went away in a search for truth.
We'll be free of physics' paranoia,
As Feynman departs to old La Jolla.
Beckman's hue will blight our sight,
And, of course, Math will Bite.
Finally, we look forward with glee
To editorial irresponsibility.

—Don Green
J. C. Simpson

Letters

CALIFORNIA TECH Receives Praise From Georgia Tech

Editors:

Joel D. Chinkes & George M. Cauthen, Georgia Tech **Technique** journalists all, have accrued a healthy respect and a modicum of affection for your attitude toward college journalism over the past two years' reading of purloined (sneaked) exchange copies. Were we as-sayed for a serious opinion of **California Tech**, we would respond spontaneously with slogans and catch phrases—"crackerjack," "capital," "Well, by gad!", "nice", "Splendid", "deft", "keep it up." Then we would give a serious opinion which would go like "We as technical students and college newspapermen respect your approach toward college journalism and life, and if the **Technique's** personnel were mentally balanced and more consistently talented, the **Technique** would be like the **CalTech** (sic)".

As it is, I'm afraid the **Technique** is eaten up with almost absolute freedom of speech, and hence we are sometimes sporadic chokers.

We want a subscription to the

CalTech (sic) and we'll pay for it. Tell us how much. Forget it we found out and are mailing \$4.00 to circulation manager.

Joel Chinkes,
George Cauthen
(hanger-on)

Editor's Note: We would like to point out that the **California Tech** unfortunately suffers from an absolute freedom of speech, not an almost absolute one. Thank you, Joel and George. We send our papers out into the world, never knowing of their fate, but for rare mentions in exchange columns. Sometimes we wake up screaming and clutching ourselves, from the insecurity created. You may expect a poison pen letter from our psychiatrist.

Editors:

Dr. DuBridge reports that while at the Rose Bowl New Year's Day he saw the name of **CALTECH** appear in the Washington rooting section. While he was trying to get over his surprise, it disappeared and the word "OOPS" appeared, to be quickly followed by U of W. All this was during the half-time card stunts.

Berry

California Tech

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

Editors-in-Chief

J. C. Simpson, Don Green

Managing Editor

Bob Berry

News Staff

Andy Beveridge, Mike Ehrick, Stuart Galley, Bob Gillon,
Tim Hendrickson, Ray Keel, Wally Oliver,
Phil Liapis, Ken Brown, John Williams, photographers

Feature Staff

Rodger Whitlock, Editor

Ed Bauer, Alan Campbell, Rashid Choudry, Phil Liapis, Gary Schnuelle,
Bob Schor, Steve Schwarz, Hank Suzukawa

Sports Staff

Bob Landis, Editor

Steve Blumsack, John Diebel, Larry Dillehay, J. K. Evans, David Jackson,
Richard Landy, Tom Latham, Bob Liebermann (Honorary), Dave Seib

Business Staff

Dick Karp, Manager

Circulation: Guy Jackson

California Tech, 1201 East California Blvd., Pasadena, California.

Member of The Associated Collegiate Press

Second Class postage paid at Pasadena, California

Printed by Bickley Printing Co.

Represented nationally by National Advertising Service, Inc.

Subscriptions: \$1.50 per term, \$4.00 per year. Write: Circulation Manager.



By Steve Schwarz

THIS AND THAT

William Golding's book **Lord of the Flies** is an amateurish piece of work. His writing is on the level of "Run, Spot, Run" from the point of view of literary composition, his efforts at symbolism range from obscure to gross, and the end product is as tendentious as a political tract. This is a fairly common style of writing nowadays — Ayn Rand and C. P. Snow are other obvious examples. In cases where the idea tended toward is interesting, or the story line entertaining, such books are not necessarily to be ignored. On the contrary, **Atlas Shrugged**, that entertaining piece of childish fascist rot, is second only to the Blue Book in its influence on certain circles. **Lord of the Flies** tends to appeal to fuzzy thinkers of the opposite persuasion, but similarly can be enjoyed by ordinary readers not inclined to take it seriously.

Golding's Sour

In case there are some persons fortunate enough not to have read the book, it begins with a group of British schoolboys marooned on a lonely island. Forced to fend for themselves, some sort of leadership is needed, and pretty soon a tug-of-war develops between Lucifer, in the form of a choir leader named Jack, and Man's Better Nature, whose name is Ralph. The Intellect, whose name is Piggy, is also on hand, and under the influence of Fear they revert to Savagery. Oh, you see how tiresome it is. Remarkably enough, the current British movie version is one of the best films I've seen in years.

Cinema Improvement

Perhaps I shouldn't have been surprised. The yarn of the marooned schoolboys is a good one, and it is harder to belabor a moral in a short movie than in a long book. Most of the efforts at symbolism have been gratefully left out. What has been put in is some very high cinematic craftsmanship. Jack's choir (which on the island becomes his SS) marches to the strains of a **Kyrie** remembered from civilization; and this not only

serves for irony, but provides an impressive musical setting. The boy who plays Jack — I've forgotten his name after making an effort to remember it — has a perfect face for the part, in which high breeding, strength, and perversion are mixed in striking proportion. The whole thing is unusually tight from start to finish.

* * *

By now everybody knows that **Tom Jones** is an excellent film. It's good old-fashioned raunchy English fun. (Minerva tells me it follows the book pretty closely). Only someone who kicks babies could possibly dislike it.

Aside from that there's not much to say, except that until you've seen Hugh Griffiths eat, you haven't seen eating.

* * *

The Hæunted Palace, supposedly taken from Edgar Allan Poe and starring Vincent Price (who else?), is a Class B thriller of more than ordinary merit, especially if you have a how-to-do-it interest in the occult. Price is a warlock (that's a male witch, you know) intent on restoring the old nether gods to power. To accomplish this, the plan is to breed a new race of half-demons, half-men. Innocent maidens are summoned in a trance

(Continued on page 6)

CAREER OPPORTUNITIES

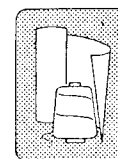
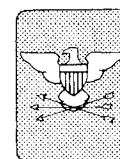
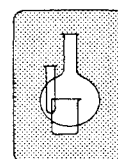
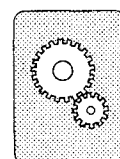
MACHINERY, CHEMICALS,
DEFENSE, FIBERS AND FILMS,
RESEARCH AND DEVELOPMENT

Senior and graduate students in Engineering, Science and Business will want to talk over career opportunities at FMC Corporation. Appointments should be made today with the college placement office for individual interviews with company representatives who will be on campus—

January 15, 1964.

FMC Corporation's dynamic growth and diversification offer challenging and rewarding careers in a wide range of disciplines. The important first step is to make arrangements now for an interview with a representative of FMC.

Putting Ideas to Work in Machinery, Chemicals, Defense, Fibers and Films



An Equal Opportunity Employer

ENGINEERING OPPORTUNITIES

for Seniors and Graduates in MECHANICAL,
AERONAUTICAL, CHEMICAL,
ELECTRICAL, NUCLEAR,
and METALLURGICAL
ENGINEERING

ENGINEERING MECHANICS
APPLIED MATHEMATICS
PHYSICS and
ENGINEERING PHYSICS

CAMPUS INTERVIEWS

TUES., WED., JAN. 21, 22

Appointments should be made
in advance through your
College Placement Office

Pratt &
Whitney
Aircraft

DIVISION OF UNITED AIRCRAFT CORP.

An Equal Opportunity Employer

SPECIALISTS IN POWER... POWER FOR PROPULSION—POWER FOR AUXILIARY SYSTEMS.
CURRENT UTILIZATIONS INCLUDE AIRCRAFT, MISSILES, SPACE VEHICLES, MARINE AND INDUSTRIAL APPLICATIONS.

From Other Campuses

By Don Green

BY DON GREEN

Ten young students at Antioch College have found a novel solution to the problem of college food. They proceeded to eat dog food in the cafeteria in a protest against the quality of cafeteria food.

Their spokesman told the student newspaper, the **Record**, that the action was not strictly a protest. "He said some of the men were out of meal tickets and would have been eating dog food anyway." Their main course was Gravy Train, and they report that when mixed with water it compares favorably with the beef stew regularly in the cafeteria.

The **Record** concluded with a statement from the dining halls dietician, Lucille Ball, that "she does not plan to make Gravy Train a regular item on the cafeteria menu at the present time."

Active Ads
Another contribution of the **Record** has been in livening up their advertising. One ad from the local munch-it house stands forth as a prime example:

"An exciting duel was fought by Alexander Shott and John Nott Tuesday Night at Com's. Latest reports are that Nott was shot and Shott was not. If this was the case then it was far better to be Shott than Nott. There was a rumor, however, that Nott was not shot, indicating that the shot Shott shot at Nott was not shot. Or, it is possible that the Nott shot shot Nott not Shott..."

Sore Losers

Plagued with the sportswriter's dilemma of how to present the story of how your team lost, Doug Wiken of the **South Dakota Tech** came up with a review entitled "Rockers Shock Pointers With Brilliant Loss." His effort was to make "the image-conscious administration, all the campus janitors, the underwater trampoline artists across the country, and all the S. Dak. high school girls who plan to major at Tech extremely happy."

"Playing brilliant defense and sparkling offense, the 'Rockers' pounded their way to a slight loss in spite of the Pointers' dirty playing... Ralph Rockhead was tripped by a Southern cheerleader. Rockhead suffered a fractured ego and severe pride concussion; but fighting to the bitter end he made another pass and she promptly gave him a hard kick in the other end..."

"The remainder of the game was simply filled with trivial 'luckplays.' Running their slippery Quarterback the Pointers barely managed to steal about three or four T.D.'s. All luck... the 'Rockers' superior offense was an indication of all the love and affection a Miner develops for good old Tech. People across the state should take note of their fighting spirit, aggressiveness, vigor, and their modesty."

Storke brings no girls

The **Tech News**, the publication of the Worcester Polytechnic Institute, was rather indignant over the recent decision to not permit girl cheerleaders at WPI games. Editor Laurence Hull commented that "President Storke said that the decision rested on a matter of principle. He felt that the students, themselves, should be able to raise their own spirit, without bringing in the girls. President Storke also seemed concerned about the effect of girl cheerleaders on the public image of the Institute."

Another citadel of student freedom, the University of Chicago, has had to initiate "several security measures" for their Twist Party. These measures

consists of presenting ID cards at the entrance, signing a guest register so that the signature can be compared with the ID card signature, and having their hand stamped.

We're cool

As a happy aside, recent survey on the percentages of college graduates receiving first-year graduate fellowship in national programs (Woodrow Wilson, N.D.E.A., Title IV, NF, NSF regular and cooperative), showed that Caltech was far and away the leader. Caltech showed a graduate percentage of 22%, followed by Reed with 15%, Haverford with 12%, U. Chicago with 10%, MIT, Swarthmore, Carleton, Bryn Mawr, Harvard, and Princeton.

The Toilet Bowl

Texas experienced one of its most colorful incidents last November at the annual Rice-Texas A & M game, reported **The Rice Thresher**. A flying wedge of policemen attempted to divide the warring students bodies

(Continued on page 6)

Farther East

(Continued from page 1)

tions into his Alliance Party. Potentially explosive crises have been averted by his relaxed policy of non-discrimination and no-nationalization.

Hanna then went on to conclude his lecture by discussing the most touchy problem today in Southeast Asia — Singapore, "the most strategic and valuable real estate in Southeast Asia." Once an independent city-state, its population is now three-quarters Chinese. Already highly vulnerable, since it must depend on trade with Indonesia, there is an open question of where Singapore will look for direction: Peking, Taiwan, or Malaysia?

Much Experience

Hanna has been a member of the American Universities Field Staff for nine years. After spending four years in China as a teacher, he earned his doctorate in English literature at the University of Michigan. During World War II he served as a Lieutenant Commander in a cultural office in Okinawa; after the war he joined the United States Foreign Service, and served in Djakarta and Tokyo before joining the AUPS in 1954.

Dr. Albert Tyler Receives Honor

Dr. Albert Tyler, professor of embryology, is the new president of the American Society of Naturalists. The organization, the first biological society formed in the United States (in 1883), is made up of distinguished biologists.

Tyler, who at present is studying the mechanism that triggers the egg to greatly accelerate the synthesis of protein, succeeds as president of the society Dr. R. A. Brink, geneticist of the University of Wisconsin.

"THE SOUND OF SKIING"

a movie on skiing produced and personally narrated by
Warren Miller

8 p.m. tomorrow, Friday, January 10
San Gabriel Playhouse at 320 S. Mission, San Gabriel
Tickets: \$1.50 and \$1.75 — All seats reserved
Call ED 9-3604 for advance reservations

UNITARIAN PUBLIC FORM

William Worthy, Journalist, Foreign News Service

Speaks On "WHY A FREEDOM NOW PARTY IN 1964?"
Friday, January 10, 1964 8 P.M.

First Unitarian Church
2936 West 8th Street, Los Angeles

Donation \$1.50

Question Period

FREE DELIVERY

Pizza Spaghetti Lasagna

ROMA GARDENS

1120 E. Green St., Pasadena

Open daily from 5 p.m. to 2 a.m.

CALL 449-1948

Tuesday Night Special: Spaghetti \$1.00

THE BELL TELEPHONE COMPANIES SALUTE: ERNIE SELZER

Five assignments in less than two years would indicate Ernie Selzer (B.S., 1961) is a man on the move at Pacific Telephone. He is presently a senior engineer working on the design of a worldwide data system for a large customer in the Los Angeles district.

Men with technical and scientific backgrounds are needed to understand the new concepts and growing complexities of communications. Ernie has been involved in engineering toll switching equipment, data transmission

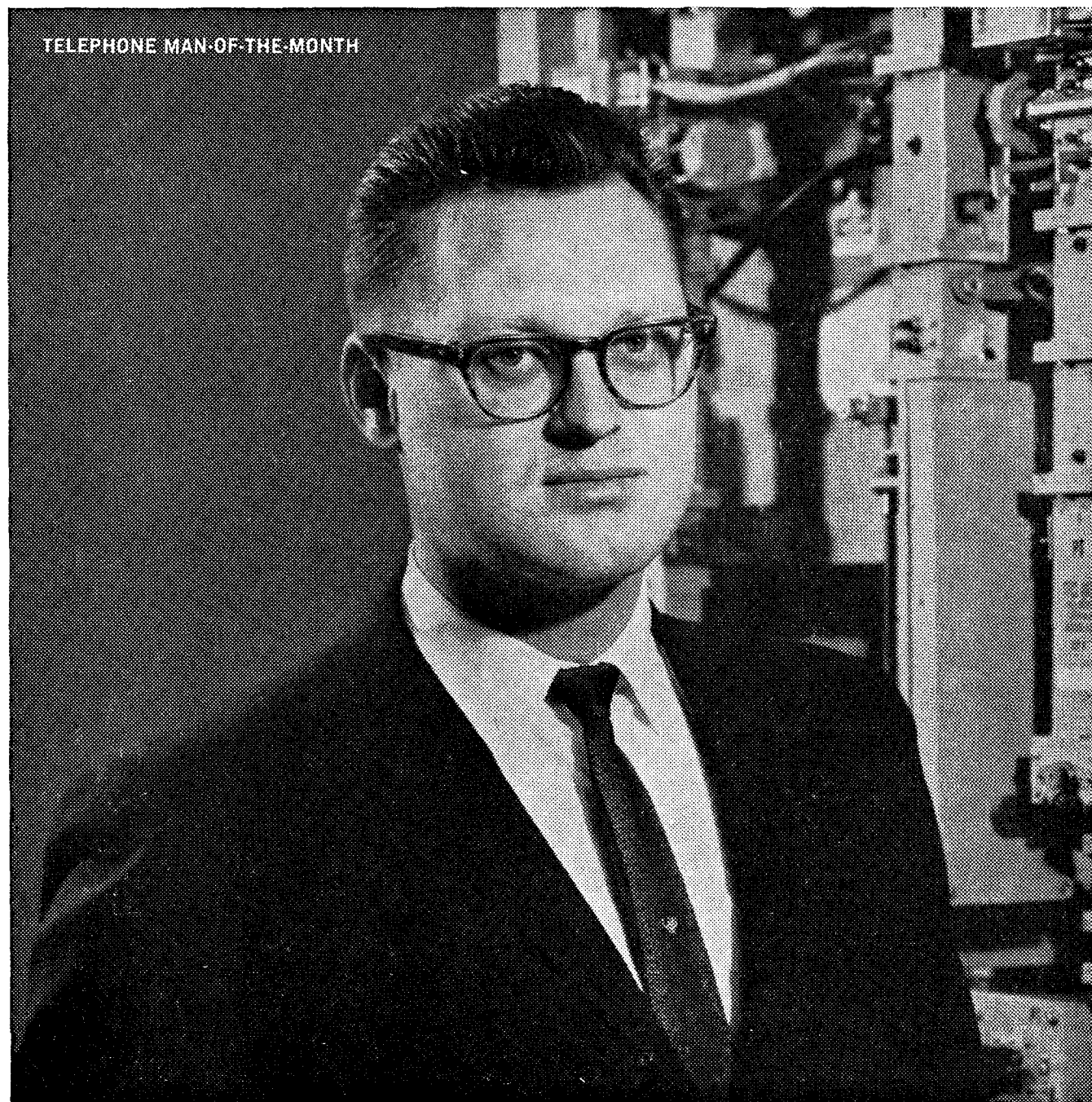
lines, and the design of private switching systems.

Ernie has made rapid strides to earn a reputation as a competent, versatile engineer. He has proved his abilities on every assignment and has gained the personal satisfaction and recognition that go with a job well done.

Ernie Selzer, like many young engineers, is impatient to make things happen for his company and himself. There are few places where such restlessness is more welcomed or rewarded than in the fast-growing telephone business.



BELL TELEPHONE COMPANIES



Tech Beats AF Systems With 12 Point Surge

In a game marked by many fouls and many shots, Caltech bested an Air Force Space System Development team on the basketball court by a score of 90-75. Joe Weis opened the game up quickly for Caltech as he scored two quick buckets to give Caltech an early 4-0 lead. From there, the game see-sawed back and forth, neither team being able to gain a distinct lead over the other team. Down by four at 2:11 by a score of 40-36, Tech pulled to within one at halftime as the score at half was 40-39 in favor of the Air Force.

First Half Seesaw

Play in the first half for Tech was hot and cold. One moment of brilliance was followed by several minutes of mediocre play and this turned at times to just poor play.

As the second half started, Tech seemed to come alive. They stormed out to outscore the Air Force by 15-6 in the first five minutes of the second half and move into a 54-46 lead. This period of brilliance included numerous fast breaks as the Tech team appeared ready to sweep the Air Force off of the court.

Yet this period was again followed by a period of mediocrity as Tech began to get sloppy. After amassing an eleven point lead of 61-50 at the 9:00 mark, the lead began to dwindle and with 3:20 left in the game, the Air Force tied the score at 73-73. Sloppy passes and poor rebounding enabled the Air Force to make this surge as at two separate times, Tech failed to get the ball safely across the ten second line three times in a row. Tech had trouble containing the Air Force center as, at numerous times, he pivoted around the Tech defender and scored on an easy jump shot or a layup.

Tech Wins It

Then, with the score tied at 73 all, Tech called a time out. After this brief rest, Caltech again showed the brilliance that

they are capable of showing as they scored twelve straight points and swept the Air Force off of the court completely. Despite the fact that this spurt appeared to be aided by the referees, the fast break was once more in high gear and Tech also hit a couple of good shots from the outside. With the score at 88-75, the fifty or so Tech fans present began to yell for 90. With 25 seconds left in the game, Volker Vogt obliged the fans with a nice 25-footer as the game ended at 90-75.

High scorer for Tech was Joe Weis as he swished 25 points through the cords and showed fine all-around performance and hustle. Hot on his heels with 23 points was Dick Burgess. Yet this didn't tell the whole story as Big Dick also pulled down 25 rebounds. Next in scoring came Gary Dahlman with 15 points and Volker Vogt with 14. Offensively, this might have been the best game for Tech this season as it has been a long time since a Caltech basketball team scored 90 points.

Prospects Bright For Winning Year

As the coming league basketball season emerges this Friday, Caltech looms as the spoiler in the league and a dark horse. With three of last year's starters returning, the team seems to have the experience necessary to play good, tight, ball games this season. In the few preseason games up till now, the team has shown that it doesn't lack the scoring punch that seemed to be missing last season.

Returning lettermen Joe Weis and Dick Burgess lead the front-court men. Weis is reputed to be the tallest 6' 1" in the league as is shown by the fact that he can dunk the ball easily. His driving is bound to highlight the Tech offense. Burgess, a veteran of several seasons draws the duty of guarding the big men. He has shown in the past that he can do this. He is bound to lead the rebounders and to battle with Weis for the scoring lead.

Letterman Gary Dahlman and Volker Vogt make a good back-court team. Although both are quite short, they are both extremely fast and always a threat on the famed Bailey play.

Also bound to appear in the well-balanced Tech team are Dennis McCreary, Charlie Vinsonhaler, and Leon Thompson. They will be joined by sophomores Aschbacher, Tedder, Trucker, and Yudelson.

SPORTS

Touton, Johnson Set Records; Fleming Wins IH Swim Meet

As predicted in the last issue of the California Tech, the Fleming aquanauts bested Ruddock for first place in this year's Interhouse swimming meet. Ricketts just barely edged out Blacker for third place. Dabney, Lloyd and Page followed to complete the list.

Records Fall

As predicted, this was the biggest and best swimming meet ever as six of the eight meet events produced Interhouse records.

The standards fell in every event but the 50-yard freestyle and the 50-yard butterfly races. Yet these proved to be the closest and most exciting of the day.

Dick Touton of Dabney led the onslaught on the record book

as he led all comers to the wire in 24.1 seconds, eclipsing his own record in the preliminaries.

Touton's record followed another record-breaking performance, this time by the Fleming relay team in the 200-yard Medley Relay. Four members of the Big Red splashed to a brilliant time of 2:05.5s. This bested the old Interhouse record set by Ricketts last year by 3.9s.

Johnson Sparkles

As the swimmers stepped to the block for the third event of the day, Bruce Johnson was heavily favored to set a new record in the 100-yard Individual Medley. Bruce didn't disappoint the many onlookers as he touched in at 1:06.9s., beating the old record by 3.1s. for the third consecutive record.

(Continued on page 5)

Ricketts Leads In Discobolus

The Discobolus Trophy has now worked its way around the complete circuit of houses. With this round, no house has been able to gain a clear-cut lead as Ricketts leads four other houses by a mere two points.

The trophy contests started out with Blacker pitted against Ricketts in a softball game. In a well-played game, Blacker carried a slim 2-1 lead into the seventh inning. Ricketts then exploded for four runs and went on to win the game 5-2.

Soccer Tie

Ricketts then carried the trophy to Dabney. The challenge was played off in soccer. Both teams played tight defensive games. Dabney had many scoring opportunities but couldn't manage to score on any of them. Ricketts opportunities were few, but the break of the game came when Ricketts failed to score on a three on one breakaway. The game ended a scoreless tie and Ricketts retained possession of the trophy.

The next contest came after (Continued on page 5)



He got the plates by chance

But he came to Caltech's Jet Propulsion Laboratory on purpose. How? When he was two months away from his Ph.D., the JPL interviewer came to his school. Our Ph.D.-to-be made it a point to see him. And he liked what he heard.

He heard how JPL scientists and engineers are designing the spacecraft and instruments destined to drop in on our moon and planets. He heard about the many facilities housed

at JPL's 150-acre Pasadena complex. And he found out about the talented people he'd work with in space exploration.

Now we don't suggest that every Ph.D.-to-be we interview will come to JPL. But we do suggest that such an interview could be your opportunity of a lifetime.

JPL JET PROPULSION LABORATORY
4800 Oak Grove Drive, Pasadena, California

"An equal opportunity employer." Jet Propulsion Laboratory is operated by the California Institute of Technology for the National Aeronautics and Space Administration.

ON CAMPUS INTERVIEWS:

January 29, 1964
Contact University Placement Office for Appointment

McBean Leads Webmen IH Football to Start Soon; Big Red in Favored Spot

Caltech's hopes for their sixth SCIAC swimming title in seven years seem bright indeed. Last year's team, hit by the loss of Bruce Chesebro for the conference finals was barely edged out for the conference title. However, last year's promising frosh appear to have the ability to push the team all of the way to the title this year.

Let George Do It

Last year's team was led by George McBean. George will be back again this year and if he improves this year as much as he did last year, Tech expects big things of him. George won the 50-yard and 100-yard freestyle races last year in the Varsity finals. His times were 23.0 and 51.0 respectively. He will be accompanied this year by last year's frosh sensation Carl Anderson. Carl swam 23.3 and 51.8 in the 50-yard and 100-yard freestyle races. He did have the misfortune of coming up against the real superfrosh from Occidental, Walt Rolphing. Both McBean and Anderson will have to worry about Rolphing in this year's finals.

Smooth Seib

Placing fourth by time in the conference this year in the 200-yard freestyle race is Dave Seib. Dave's smooth form has pushed him to better and better times each time he swims. Look for him to beat two minutes in the 200-yard freestyle race. Seib also goes in for the longer 500-yard freestyle race. Last year, he swam the distance in 5:52s, but look for him to cut this time by several seconds. Also in these long freestyle races will be Ted Jenkins whose time of 2:04.6s places him among the top ten in the conference along with Anderson at 2:05.5s. John Walter also placed among the top ten with his time of 5:58s. in the 500-yard freestyle race.

From Oklahoma

Bill Owens leads a whole host of Tech backstrokers in the 200-yard event. Bill set a record time of 2:19.2s. as a frosh and appears to be several seconds ahead of his nearest competitor. He is followed by Art Turner at

IH Swim

(Continued from page 4)

Next up was the 50-yard backstroke event. Mel Stevens of Fleming won this event narrowly in 32.7s.

Touton showed up again in the favored lane four in the 100-yard freestyle race. Apparently rested from his earlier record, he flashed through the four lengths of the pool in 55.3s. Again, this was a record as he bested George McBean's old record of 57.1s.

Johnson, on the other hand seemed tired from his earlier race as he came up for the 50-yard Breaststroke race. He managed to beat out Lot Ensey of Blacker but he failed to break the record he had set earlier in the preliminaries. His winning time was 33.5 seconds.

Gibson Comes Through

The next to the last race, the 50-yard butterfly was easily the most exciting. Jim Gibson of Fleming nosed out Elliot Harry of Ricketts to take the event. Gibson got off to a good start, but Harry passed him at the turn. Gibson came out of the turn with a slight lead. Harry chased him down the pool, gaining slightly with each stroke and appeared to touch out Gibson. However, a review of the watches showed that Gibson was the winner in 31.4s. Harry was one-tenth of a second behind.

Ruddock finished the day with a record as their Freestyle relay team breezed to a time of 1:46.1s.

2:29.2s., Mike McCammon at 2:33.9s., and Steve Deichelman at the same time.

Tom Crocker and Dave Lambert should lead the Tech Breaststrokers to the laurels. Their times last year were 2:43.9s. and 2:44.1s., respectively.

Caltech's only hope for a national record comes in the butterfly.

Duygu Demirlioglu (not a misprint) seems a sure bet to break the Turkish national in the butterfly stroke. Last year's best time of 2:27.2s. would have been good enough for the record. Watching his improvement last year, he should be a good bet to take the conference and the Turkish record.

Discobolus Starts Second Round

(Continued from page 4)

claims of foul concerning a mis-scheduled game, but when the dust cleared, the contest was played off in softball. In a wild contest marked by several home runs and base clearing triples, Lloyd pulled the game out in the last inning to win 15-14.

Lloyd Loses

Ruddock challenged Lloyd for the trophy immediately thereafter. In two games, Ruddock defeated Lloyd.

Ruddock was then challenged by Page in softball. Owning several members of the Varsity baseball team, Ruddock scoffed at this challenge. However, they laughed out of the other side of their mouth when Page took the game 10-7.

In the last contest of the first term, Page played Fleming in football. The Fleming powerhouse proved to be too much for Page as Fleming took the game by a score of 27-14.

Second Round

Thus the Discobolus starts its second round of the houses this term. As can be seen from the results of this contests, the race for the trophy is still wide open with all houses being in the race.

A new ruling by the Inter-house committee has provided for the travel of the Discobolus book only. The trophy will remain with the winner of the year's contests. It is now with Blacker, last year's winner.

BY BOB LANDIS

This year's Interhouse football competition looms as a battle of the inexperienced as all teams seem to be in the proces of rebuilding. It appears that the football dynasty of Ricketts has ended with the graduation of five of last year's six starters. Ricketts seems to need more rebuilding than most of the other houses and hence it leads the rebuilding process. Ricketts seems to have an adequate defensive line and a good offensive backfield, but lacks ends and a defensive backfield.

Fleming seems to be the team to beat as shown by their Discobolus victory. With Nady, Schoene, and Roger Card all returning, their power is evident.

Lloyd also has many returnees and may well be the most experienced team on the field. Lloyd seems a good bet to finish high in the standings.

Ruddock will again be led by Murray Sherman this year, and

with Ken Brown on the receiving end, this team may go.

Page will again be led by Jerry Thomas. With Thomas and Tom Resney in their defensive backfield, this team may be tough to pass against.

Blacker and Dabney round out the schedule. Both teams had poor records last year, but this year's teams don't resemble last year's squads very much. They may pull some upsets.

All in all, don't look for any team to complete the season with an unblemished record. Five wins should easily take the trophy. If one team must be picked, it must be Fleming in the favorite spot, but look for a real scramble this year.

IH Trophy Points

Fleming	42
Blacker	27
Lloyd	27
Ruddock	24
Dabney	21
Ricketts	21
Page	9

M.S. and Ph.D. Graduates, TRW's Space Technology Laboratories presents its credentials to you

Each year at TRW's Space Technology Laboratories (STL), a limited number of new graduates at the Master's and Doctoral level are invited to join STL's staff of outstanding scientists and engineers. Graduates in the aeronautical, electrical and mechanical engineering, physics and mathematics disciplines are needed by STL to maintain and expand its capabilities in missile and spacecraft research, development and fabrication.

By joining STL, you will work with a staff of recognized authorities in the fields of Theoretical Physics, Systems Engineering, Radar Systems, Experimental Physics, Applied Mathematics, Space Communications, Space Physics, Antennas and Microwaves, Inertial Guidance, Analog Computers, Solid State Physics, Computer Design, Telecommunications, Digital Computers, Guidance and Navigation, Electro-Mechanical Devices, Engineering Mechanics, Applied Aerodynamics and Propulsion Systems.

STL will assist you in your career planning by encouraging you to continue your development through the many educational opportunities offered by major colleges and universities in the Los Angeles area. You may participate in STL's Development Programs, as you assume greater responsibilities.

Please make arrangements with your Placement Office for an interview; or you may write College Relations, Space Technology Laboratories, One Space Park, Redondo Beach, California. STL is an equal opportunity employer.

You are invited to discuss opportunities with members of our technical staff when they visit your campus on January 23-24



Annual On Time

(Continued from page 1)

tion is unconditionally guaranteed to bring the wrath of enraged faculty members down upon the Big T editors. Among the unfortunate subjects of this section are Drs. Tom Apostol, Harrison Brown, Alfred Stern, as well as the ignoble Chem E's.

Changes will also be evidenced in the senior section edited by Norman Camien. Gone are the beavers that traditionally represent seniors who failed to submit pictures to the editors. In their places will be random photographs taken from the files of the California Tech and guaranteed to be obnoxious. And, although the seniors will still be arranged by their options, candid photos of seniors with unique and dubious talents will be included in this year's issue. Once again, the artwork of Gorman and Greenfield will be conspicuous.

Houses

Since the Houses are the center and the most important influence in the Tech student's life, the House section has been extended this year. It will include the group shots taken this week and the write-ups which, because of the kindness of the editors, will not be due until April 1. "However," cautioned Levin, "we expect the Houses to supplement our files in coverage of interhouse sports."

John Turechek, the Business Manager, has promised that even the advertisements will be original this year. He intends to accomplish this feat by using the talents of the cartoonists and by selling more ads. "All in all, we hope to have a yearbook," concluded Levin. "With help, we can do it."

More Sex

(Continued from page 1)

develop as though it were fertilized and to begin protein synthesizing. There was no difference whether the acid was added to the whole egg, parts of the egg, or to the cytoplasmic homogenate.

To state that this advance is revolutionary would be like saying that Super Shell without Platformate is the same as Super Shell with Platformate. Horrid thought!

Audience

(Continued from page 2)

from their beds in the dead of night and brought to the castle dungeons, where, still entranced, they are tied, arms outspread, to the cursed altar. Then the manhole cover leading down to the demon chamber is slowly raised. Grunch, clank, creeeeek! What happens then? See for yourself. (If you ask me just why I find this more than usually interesting, I'll have to say "mind your own business.")

There is also a terrific scene in which busy Mr. Price is conjuring a 100-years-dead woman back to life. One sees a side view of the coffin and Price hovering over it, intoning "Omnes potestas infernales . . . vivate, vivate, VIVATE . . ." and then the damn thing sits up. Oh, you have to see it!

More Campuses

(Continued from page 3)

when tempers flared during halftime, but it was the sounds of the Star Spangled Banner that finally quieted the group down. As the Thresher reported:

"The fight was given impetus when one of the senior Aggies attempted to appropriate the "B" from the "Beat A & M" sign at the south end zone."

Singing In The Rain

A recent complaint heard on the MIT campus is that "the only person who can safely walk through the dormitory halls is a fireman in full uniform." It seems that MIT can't take the steady barrage of water balloons that has become the current rage there. Don't they wish they were here!

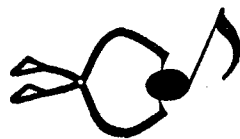
Like the BOD?

A closing comment on student government was made by Joe Timmey of The Santa Clara, who wrote this touching poem on Santa Clara's Senate:

See the ASUSC Senate.
See the senators.
They are full of horse manure.
Horse manure, horse manure,
horse manure.
They open the meetings with a prayer.
They should quit while they're ahead.

Discobolus

Ricketts	6
Lloyd	4
Ruddock	4
Page	4
Fleming	3
Dabney	2
Blackler	1



folk music in concert
24 N. Mentor
Pasadena — Mu 1-9942
Hootenanny Sunday from 9 p.m.

THE ICE HOUSE

Presents:

Rene Heredia
Don Paulin
The Villagers

FRENCH SPANISH GERMAN RUSSIAN ITALIAN JAPANESE

THE BERLITZ SCHOOL OF LANGUAGES
PASADENA, 170 SOUTH LAKE AVE., SYcamore 5-5888

PRIVATE INSTRUCTION
SMALL CLASSES STARTING NOW
Native Teachers Day or Evening Free Trial Lessons

Attention SENIOR and GRADUATE MEN Students

WHO NEED SOME FINANCIAL HELP IN ORDER TO COMPLETE THEIR EDUCATION THIS YEAR AND WILL THEN COMMENCE WORK.
Apply to STEVENS BROS. FOUNDATION, INC.
A Non-Profit Educational Fdn. 610 ENDICOTT BLDG., ST. PAUL 1, MINN.
UNDERGRADS, CLIP AND SAVE

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

WHAT'S NEW IN THE JANUARY ATLANTIC?

Séan O'Faoláin: "Vive Moll": Ireland's finest writer tells of his early years and the influences which awakened his imagination. An Atlantic Extra.

ALSO

"The Power of James R. Hoffa": A. H. Raskin reports on the Teamsters Union and the secret of Hoffa's power.

"The Art of Being Free": Are today's colleges educating men in the art of being free? Author-critic Gerald W. Johnson discusses the question.

"Born a Square: The Westerners' Dilemma": Wallace Stegner believes that most writers who have spent their youth in the western part of the United States don't feel at home in a literary generation.

What happens when an outstanding staff of editors sets out to produce a magazine of the highest academic and cultural interests? You'll know when you read The Atlantic. In each issue you'll find fresh new ideas, exciting literary techniques, keen analyses of current affairs and a high order of criticism. Get your copy today.



ON
SALE
NOW



WHERE ARE YOU GOING THIS VOCATION ?

Young scientists and engineers "going places" investigate a variety of challenging engineering avenues before selecting one best suited to their goals. And they look for a professional climate with lots of individual recognition and advancement opportunity. If you are charting your career along this course, let Ling-Temco-Vought be your guide.

As one of the nation's most versatile contributors to the aerospace, military electronics and communications sciences, LTV can offer you a personalized route to an exciting and rewarding future in such areas as aerodynamics • avionics and instrumentation • operations analysis • dynamics • systems design • servomechanisms • stress analysis • propulsion •

communications design • reliability/maintainability engineering • reconnaissance systems • amplifier and computer systems • microwave components design • electromagnetic interference control • electronic systems analysis • telemetry and tracking • trajectory analysis • manufacturing r&d • industrial engineering • technical administration . . . plus many others.

For a closer look at the numerous career directions available with Ling-Temco-Vought, ask your Placement Office for our brochure describing LTV projects and products, then schedule an appointment with our representative. Or write College Relations Office, Ling-Temco-Vought, Inc., P. O. Box 5907, Dallas 22, Texas. Ling-Temco-Vought is an equal opportunity employer.

campus interviews

Wednesday, January 15, 1964

LTV LING-TEMCO-VOUGHT, INC.

LTV DIVISIONS AND SUBSIDIARIES: CHANCE VOUGHT CORP. / CONTINENTAL ELECTRONICS & MANUFACTURING COMPANY / LING ALTEC / LING ELECTRONICS / LTV MICHIGAN / LTV RESEARCH CENTER / ALTEC LANSING / TEMCO ELECTRONICS & MISSILES COMPANY / ED FRIEDRICH INCORPORATED / UNIVERSITY LOUDSPEAKERS

welcome to the Campus Barber Shop

in Winnett Center

all haircuts \$1.75

Three Barbers to Serve You

8 to 5:30 Monday - Friday

Paul A. Harmon