

Tech is full
of knowledge:
The frosh bring
a little in,

California Tech

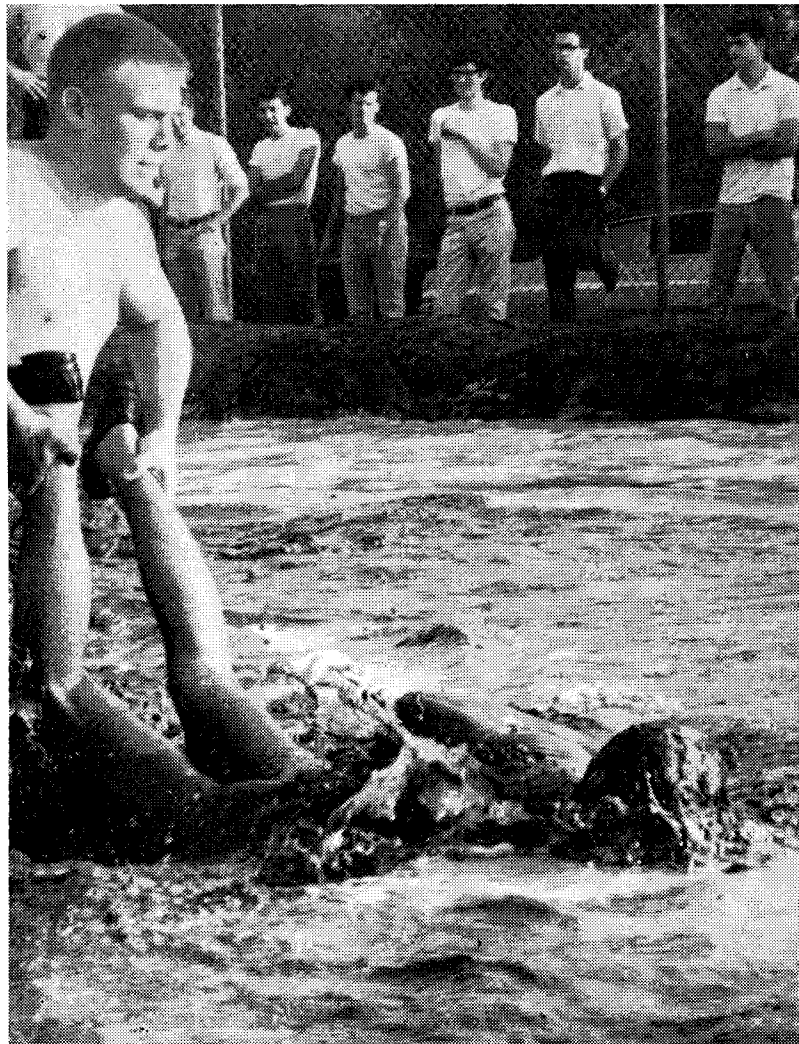
Associated Students of the California Institute of Technology

The Seniors
take none away —
IT ACCUMULATES!

Volume LXIX.

Pasadena, California, Thursday, November 16, 1967

Number 9



Tecker and friend? enjoy good clean fun at Frosh-Soph Mudeo.

Freshmen Wallow In Annual Slimefest

Once again this year the annual frosh-soph Mudeo maintained its ranking ahead of death and taxes by resisting change; as usual the frosh swept the event last Thursday afternoon amid the tinkling of silver coins.

A multitude of zealous frosh responded to the call of duty, captained by the capable Section leader of Section J, Steve Smith. The sophs were more boisterous, but suprisingly unorganized. It was evident from the outset to all present that the spirit was destined to triumph over the flesh.

But let it be made clear, however, that the usual preliminary preparations had been made. A week in advance both classes had amassed a financial contribution for the junior class, which served as judge at the (ahem) contest. But over the past weekend the

wily frosh plated a spy amidst the conniving soph multitude and discovered that the soph bribe outclassed that of the Tyro Teckers. The latter hastily responded with an additional dip into their pocketbooks and did the sophs one better. A review of the subsequent judging procedures clearly shows that this was a wise move.

The melee began promptly at three in the afternoon with the tug of war, The devilish sophs secured their end of the rope to a convenient fence, and the frosh responded by utilizing a nearby telephone pole. The frustrated judges corrected these misconceptions of the rules and the event got underway (undermud?). Following the moment of indecision inherent in all frosh, the Class of '70 gave up the ghost

(Continued on page 9)

IH Dance Will Feature Id

by Alan Stein

The Interhouse settings this year will range all through time and space: from the "Mines of Moria" to the "Wizard of Id," from a "Psychedelic Freak-out" to "Prehistoric Life." Ricketts House is producing one of the most realistic settings with their description of prehistory. The members of this House are producing a highly animated set of dinosaurs including a battle between two of the mechanical creations.

Ruddock house is producing "Burmese Temple." Their courtyard is being converted into a jungle with a temple. Included will be a god with a magic protective eye that watches the passer-by, a flame room, and a mechanical gitar player.

Freaks

"Lloyd House is having a trip-out," says one of the Lloyd men. Their "Psychedelic Freak-out" will include a light show, colored lights and rotating mirrors, and experimental movies, including one produced by Lloyd House.

Millipede cave

Dabney and Fleming Houses are continuing the trend towards fantasy with Fleming's "Middle Earth" and Dabney's "Mines of Moria." Dabney will have a series of "underground" tunnels including a foot bridge spanning a 1000-foot cavern and a waterfall.

Fleming House also claims to be building the underground kingdom of Moria. They will have a 30-foot-long by 12-foot-high bridge spanning a large pool. There will also be a water-

Faculty Board Votes For Undergrad Girls

by Jim Cooper

In an interview for the *California Tech*, Dr. Norman R. Davidson, Chairman of the Faculty, reported that last Monday's meeting of the Faculty Board was certainly to be considered a vital one from the standpoint of the future of Caltech. At this meeting, the Faculty Board approved recommendations which, if also approved by the overall faculty and the administration, would result in the eventual admission of women as undergraduates and changes in next year's freshman curriculum. The Faculty Board also initiated steps which will result in the eventual formation of a "Distributed Studies" option.

Women undergraduates

Dr. Davidson stated that after a presentation by two members of the Student Ad Hoc Committee on the Admission of Women, Bob Enestein and Richard Flammang — last Friday before a faculty discussion meeting on the subject; after discussion among faculty members, the Faculty Board agreed to recommend that "the California Institute of Technology proceed with all deliberate speed toward the admission of women undergraduates."

Dr. Davidson pointed out that what the recommendation would really do is approve the principle of the admission of women to

Caltech. Only after the recommendation was approved by the faculty, and then by the trustees, would the actual details of admitting women to Caltech be investigated and actual plans made.

Changes in Freshmen Requirements

At the meeting, the changes in freshmen requirements proposed by the Faculty Ad Hoc Committee were also approved by the Faculty Board. The proposals approved by the Board include the lowering of the required course load for freshmen from the present average of 46 units to 42 units; the elimination of Physics 1 Lab as a requirement; the elim-

ination of certain portions of Chemistry 1 Lab as a requirement; and the opportunity for freshmen to take elective courses presently offered only to sophomores, such as Biology 1 and Geology 1, as well as other elective courses to be designed by various departments specifically for freshmen.

Dr. Davidson stated that the purpose behind these recommended changes was to "provide students with a reduced required load so that they will have more time for spontaneous, self-directed activity." Dr. Davidson also said that he felt that such changes would "give more free-

(Continued on page 4)

Bookstore Has Problems; Committee Seeks Discount

by Roger Goodman

The Caltech bookstore has long been the target of criticism by students. The main complaints are that the bookstore gives a ten percent discount to the faculty but not to students and that books are often out of stock. Several interviews this week produced information on the problem.

It is generally held that the second problem is not the fault of the bookstore but of the faculty.

The bookstore orders texts based on class figures submitted by the faculty. It seems that in the past these figures have been only estimates. As suggested in an editorial in the October 26 *Tech*, a better idea would be to make more use of preregistration figures for class estimates.

The biggest gripe is over the question of discounts. Many advertisers in the *little t*, such as Beckman Auditorium, Kleker's Parkers, and Cal-Lake Cameras give discounts to Teckers, but the Bookstore does not. According to Kermit A. Jacobson, Director of Procurement and Auxiliary Services, profits from the Bookstore have never gone into the Institute's general fund. Instead, money goes into funds for student use.

Before the Winnett Student Center was built, the bookstore was housed in Throop. Profits went toward scholarships. When Winnett was built, the space and

(Continued on page 3)

Definitive Proposal Imminent For ASCIT Research Effort

by Alan Stein

"We've just started," says Joe Rhodes. "We have got to whip the proposals into shape." Mike Gare, chairman of the Coordinating Committee for the Project, states that ideas are needed from the rest of the students with regard to organization of the project and the training of able technicians. Mike Stefanko, chairman of the Research Associates Committee, would like to see people with ideas about the R.A. program.

These people are not pessimistic about the project, but they

realize the need for more good workers. The pilot program will last six months and the actual Project could last two years. Although the pilot program will not begin until the second term, much planning must be done before then. The R.A. Committee, which will obtain the researchers that will be needed, and the Lab Technicians Committee, which will train ghetto dwellers as assistants for the researchers, will combine efforts, in this pilot project, to formulate the means of attacking the problem of air pollution. The pilot will actually be a small version of the Project proper, and the estimated budget for these studies will be \$100,000. Proposals are being submitted to local foundations this week.

The present plans for the projects include two meetings in the Eastern United States to be held in the first week of December. The first meeting will be held on Dec. 2 and will involve such schools as Cornell and M.I.T. The second meeting, to be held one day later, will include the Carnegie Mellon University, Ohio State, the University of Pittsburgh, and others. Both of these meetings will help define the roles of other schools in the Project.

Gung-ho

Campus enthusiasm has not been lacking. The Faculty Comon Undergraduate Student Relations has commended the efforts

(Continued from page 5)

Notices

CALTECH YR'S AND OTHERS SO INCLINED

The YR's will hold their monthly meeting this Tuesday, November 21, 7:30 pm, Winnett Clubroom 1. Featured will be a mystery guest. Also, several resolutions will be presented for consideration. New members and ideas welcomed.

DEAR GENTLEMEN STUDENTS

The student nurses of L. A. Co. Hospital are holding a Turkey Trot this Friday in the recreation hall of the nurses' residence between 8 and 12:30. Music will be provided by 'The Grap.'

HOUSING PROJECT

Representatives of the UCLA YWCA will be in the Caltech Y Lounge at 5 p.m. on Tuesday, November 21, to discuss the Saturday morning recreation program at a federal housing project in downtown Los Angeles. Caltech students are needed for this program. All those interested are invited to come to the meeting.

ALPINE CLUB MEETING

Clubroom 1, Winnett Student Center, 7:30 p.m. November 16.

(Continued on page 2)

Editorial

Student Houses Need Revitalization

As they do each year, the Student Houses are causing consternation among various members of the Faculty Committee on Undergraduate Housing. At a recent meeting of that committee, resident associates of the Houses reputedly received harsh words because of their tolerance of the easy-going attitude that exists therein. Aside from rather petty physical improvements, nothing has been done to make the Houses into truly attractive places to live. Moreover, the rumor pervades the air that next year prices will rise again for campus living, making it ever more economical to live off campus.

Last year we called attention to an idea that would create three different sets of living accommodations on campus. The current "Old Student Houses" would remain socially structured but graduate students who wished to live in them could do so. The "New Student Houses" would become dorms with meal contracts, open to grads and undergrads. Finally, the present "Graduate Houses would be open to grads and undergrads as dorms with no meal contracts.

This plan has the advantages of opening up more alternatives than exist now, while still steering clear of the evils of the fraternity system. Moreover, it would increase contact between graduates and undergraduates, who now meet rarely, and usually in a laboratory or classroom situation. We believe that undergraduates and graduates are of the same breed — inquisitive students.

In this week's *Tech*, we read of a group of undergraduates living in the Graduate Houses (see page 3). The decision to try this idea, whoever made it, was well-founded.

Some authorities at the Institute maintain that the Houses are merely a convenience for the students and are not meant to be part of the total educational experience. This is a naive view at best. Optimally, the Houses should be so attractive that they become a desirable part of the Caltech experience. This will not be accomplished by raising prices, enforcing rules more strictly, or other such negative proposals.

Last year the Interhouse Committee said it was too close to the end of the year to consider fundamental changes in the Houses. Is it still too close to the end of the school year?

—Les Fishbone

Letters

Smog & Mog

Editors:

On Monday afternoon Dr. Olle Lindstrom, Head of the ASEA Central Laboratories, Sweden, presented a chemical engineering seminar entitled "The Fuel Cell Solution to the Air Pollution Problem." I was surprised at the absence of students associated with the ASCIT Research Project. Attendance at the talk would have given interested students a chance to learn, first-hand, about some of the most recent advances in the field of fuel cell research, and they would have had the opportunity to pick the brain of one of the world's experts free of charge. Caltech has the necessary prestige to attract such speakers to its campus. In the future I would hope that students would make better use of this valuable resource.

David M. Mog

Neglect?

Editors:

As the excitement about the Research Project has grown the work of the Academic Reform Groups has been somewhat overshadowed. On the Teaching Techniques Group we've had some attendance problems but we're still alive. However, we feel that it is hard to find out what the campus in general thinks about problems of techniques in a teacher's presentation. Thus, we would like to invite anyone who is interested or has any ideas on this problem to make himself heard. Suggestions can be sent to the S box in Ruddock or discussed with any member of the group. We don't want a list of specific complaints but hope for some good constructive criticism and ideas. Remember, we're working for an even better educational experience at Caltech.

Larry Shirley

YMCA Fund Drive Seeks Campuswide Student Support

Monday, November 20th, will mark the beginning of the Caltech YMCA's annual fund drive among the undergraduates.

This year's goal of \$3500 is significant for two reasons, the first being that the Caltech Y has probably the greatest amount of students financial support of any student Y in the nation. The amount raised annually is also significant to the Y's total income, since many contributors use the student fund drive as a measure of the student's support for the Y and its programs. Each dollar that is brought in by the Fund Drive increases the amount of outside contributions for the next year. The drive will run from Monday to Wednesday, then resume after Thanksgiving vacation and conclude on Wednesday, November 29th.

Pledge now, pay later

In the Houses, the drive will be conducted on a personal basis, the House Drive Chairman making announcements and following up on the UCC's, who will do the actual solicitation of pledges or money. Donations can be in the form of cash, a check, or a pledge; the last of these enables the student to put his donation on his term bill. Pledges are probably the most convenient form of contribution for the student who might not have money at the present time, but who wishes to give anyway.

The Y sponsors the Scripps Conference (which is held second quarter — 50 Scrippsies and 50

Teckers retreat to the mountains for an enjoyable, highly meaningful weekend), the Political-Military Exercise, quarterly Sensitivity Conferences, and the Freshman Dinner Forum, which last year heard Ray Bradbury, Richard Feynman, and James Bonner. Almost too numerous to remember are the many Olive Walk Talks and Walk-In Seminars in the Y Lounge. Last year, the Y brought to campus under its Leaders of America program Paul Goodman, noted philosopher of education, Rosemary Parks, then-President of Barnard College, now Vice-Chancellor of UCLA, and Prof. Abraham Kaplan, a widely respected and stimulating philosopher.

This year, the Y has implemented a four-phase program, "The Ghetto and the City: Blight or Promise?" In relation to this program, Senator Thomas Kuchel will be on campus on Thursday, November 30th. While he is here there will be an opportunity for him to interact with students, and he is scheduled to give a major address in Beckman Auditorium that night. This past Sunday, in Beckman, the Y sponsored a Dixieland Band Concert through the courtesy of the Musicians Union, the MPTFRI.

For the future, the Y has plans for a seminar on LSD and Chromosomal Damage, and for a foreign and experimental film series, besides the usual range of Y activities.

More Notices

(Continued from page 1)
A.S.M.E. SEMINAR
 The A.S.M.E. will host Mr. Wai-Mun Syn of IBM. Mr. Syn is an innovator in the field of mechanical systems analysis, and he will speak on that subject at 3:00 Nov. 29 in 206 Thomas. All interested people are invited.
TOTEM DEADLINE — NOV. 31
 There will be a Totem meeting Nov. 27 in Winnett Clubroom 2. Bring contributions or submit them to Bill Hocker, 53 Blacker.
THINK SNOW
 Caltech Ski Club organizational

meeting will be held Tuesday evening, November 19 at 8, in 102 Firestone. Please see Ski Club Bulletin Board in Winnett Student Center for further information.

Naval Research Laboratory

WASHINGTON, D.C.

An Equal Opportunity Employer

The Navy's Corporate Laboratory—NRL is engaged in research embracing practically all branches of physical and engineering science and covering the entire range from basic investigation of fundamental problems to applied and developmental research.

The Laboratory has a continuing need for physicists, chemists, metallurgists, mathematicians, oceanographers, and engineers (electronic, electrical, mechanical, chemical and civil). Appointees, who must be U.S. citizens, receive the full benefits of the career Civil Service.

Candidates for bachelor's, master's and doctor's degrees in any of the above fields are invited to schedule interviews with the NRL representative who will be in the

CALIFORNIA INSTITUTE OF TECHNOLOGY

placement office on

NOVEMBER 29, 1967

Those who for any reason are unable to schedule interviews may write to The Director (Code 1818), Naval Research Laboratory, Washington, D. C. 20390.

California Tech

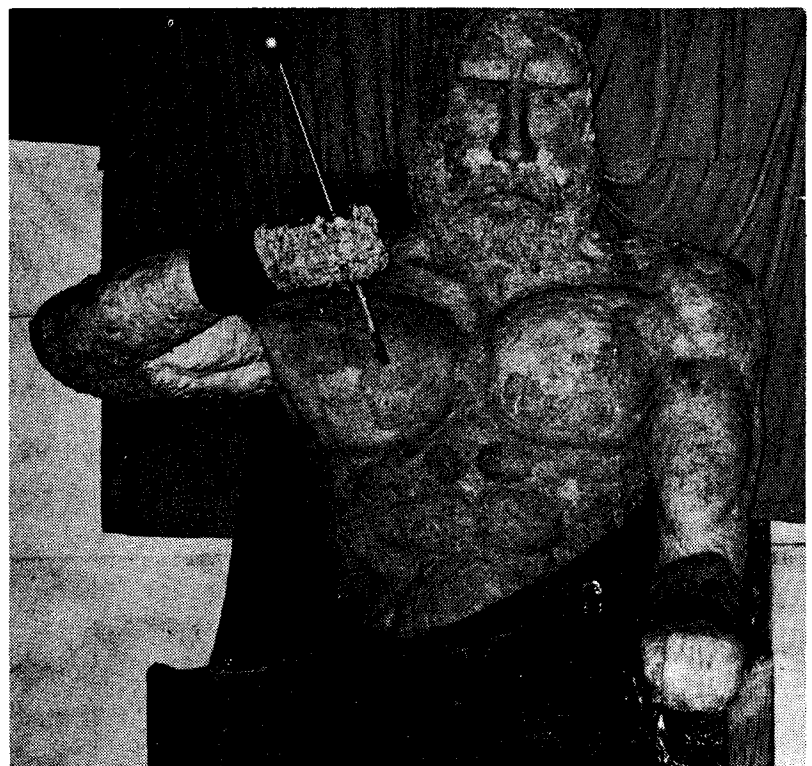
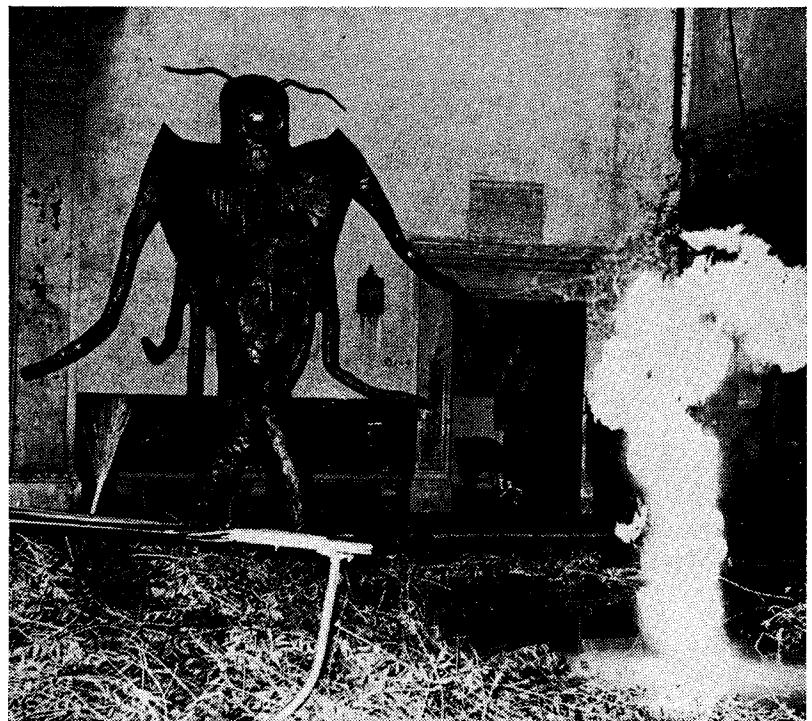
Published weekly during the school year except during holidays and exams by the Associated Students of the California Institute of Technology. The opinions contained herein are solely those of the newspaper staff.

Editors: Kirk Benson and Les Fishbone, Editors-in-chief; Jeff Hecht, City; Mike Henerey, Features; Bruce Penrose, Managing; Vincent Johns, Copy; Charles Creasy, Sports.

Staff: Dave Lewin, Roger Goodman, Henry DeWitt, Tom Carlson, John Waugh, Jim Cooper, Mike Farber, Eric Schiff, Tom Carroll, Cameron Schlehuber, Alan Stein, Steve Johnson.

Business: John Middleditch, Manager; John Walters, Circulation Manager.

California Tech, Publication Offices: 1201 E. California Blvd., Pasadena, California, 91109. Second-class postage paid at Pasadena, California. Represented nationally by National Educational Advertising Services, Inc. Subscriptions: \$1.50 per term, \$4.00 per year. Life subscription: \$100.00. Printed by Bickley Printing Co., 25 South Fair Oaks Ave., Pasadena, Calif. Volume LXIX, Number 9, Thursday, November 16, 1967.



House tableaux from Interhouse past: Top, Blacker's 1963 space monster, and bottom, Dabney's great god Zeus. Every year, such intricate displays are the product of much work by House members, as Interhouse Dance is the social event of the term. This year's themes include water displays, and literary and comic allusions, as well as a psychedelic display.

Graduate Houses Receive Undergraduate Residents

In a step toward making the students of Caltech a more mixed group, a number of undergraduate students have been permitted to move into the graduate Houses. At this time there are five sophomores, all from Rud-dock, living in Braun and Marks grad houses.

The three men who are in charge of the move are Dr. Robert A. Huttenback, Master of Student Houses; Dr. Floyd B. Humphrey, chairman of the Committee on Undergraduate Student

Houses; and Dr. James K. Knowles, chairman of the Committee on Graduate Student Relations.

Breakdown

The major purpose in permitting undergrads to live in the grad houses is, according to Dr. Huttenback, "to break down the rigid departmentalization between grads and undergrads. Ideally, the grads and undergrads would be mixed in the Student Houses."

This desire to break the strong lines between grads and undergrads was shared by Dr. Humphrey and Dr. Knowles. A major concern is to encourage a number of graduate students to move into the undergraduate Houses. The only requirements for moving either way are to first, have the available space, and second, receive the approval of Drs. Huttenback, Humphrey, and Knowles.

Some of the reasons for moving were stated by several of those changing houses. The biggest reason was to get away from the noise. Also, with kitchenettes, food could be fixed more cheaply and to conform to more personal tastes.

Bill Kells, living in Marks, said that since he was taking two graduate courses already, the arrangement was well suited. Irving Yura said, "It's an individual thing. If you want to move, you do. It all depends on what sacrifices you want to make and what advantages you want to take."

Winnett Facilities Crowded More Work Space Needed

The use of facilities at Winnett Student Center has recently reached a saturation point. Close to 80 organizations hold over 1000 meetings each year in Winnett.

The reasons for this saturation are varied. Caltech has a surprisingly large number of organizations; ranging from bridge to computers, from airplanes to mountaineering, the diversity of interests represented is large when the combined graduate and undergraduate population of slightly over 1300 is considered. This large number of organizations severely taxes the limited space of Winnett, making meeting and desk space difficult, if not impossible, to obtain.

Cram

In addition, the large number and varied nature of the pieces of equipment located in the lounge (including a stereo unit, a television set, an electronic organ, and a piano) leads to conflicts in the use of the lounge.

Tied in with the general space problem is the lack of suitable meeting places for the musical organizations, such as Glee Club.

This problem is caused by a soundproofing problem over the rehearsal rooms in Beckman Auditorium which makes rehearsal or practice impossible if Beckman events are held simultaneously. The necessity to find another meeting place for these problem.

Among the solutions which have been suggested are the use of the soon-to-be vacated steam plant for student facilities, the creation of more clubrooms and other space by the moving of the Caltech bookstore, and the creation of separate rooms for the most popular lounge activities, such as television. Although work is currently being done on the problem, no immediate solution is envisioned.

Oppen to Widen Tecker's Views

New York poet George Oppen will be heard reading his works in Caltech's Winnett Center Lounge on Wednesday, November 29, at 8:00 p.m. The program is being presented under the auspices of Caltech's Faculty Committee on Programs. Oppen will read 'Of Being Numerous,' the title poem of a volume to be issued by New Directions in the spring of 1968, and other poems.

George Oppen has been a figure of importance in American poetry since his first volume (entitled 'Discrete Series') was published in 1934 with a laudatory introduction by Ezra Pound. Oppen has been hailed as a poetic craftsman and his poems reflect his years as cabinet maker, experimental mechanic, and designer and builder of furniture. Mr. Oppen has stated that the discussion of his works following the reading at the Caltech student lounge in Winnett Center, will be 'neither technical, literary-gossipy, nor arty, if I can help it. . . .'

Discounts?

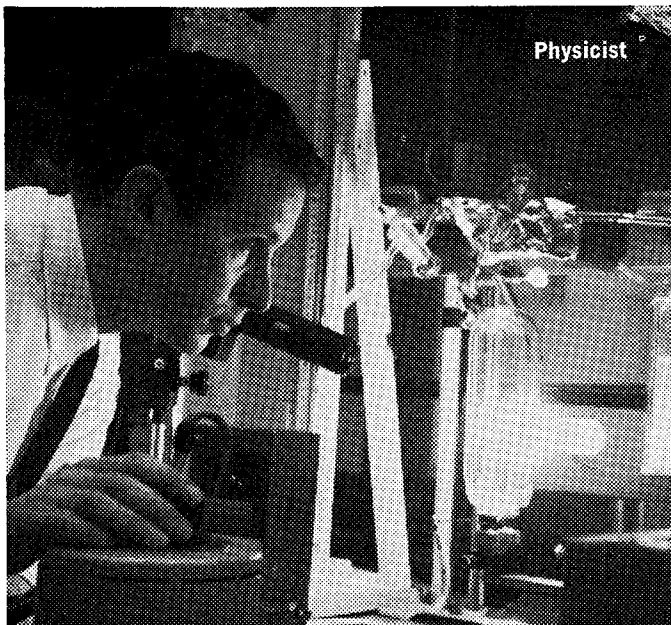
(Continued from page 1)
furnishings for the bookstore were not part of the donation, so approximately \$250,000 was borrowed from the Institute's endowment fund to cover this cost. Profits from the bookstore are being used to pay off this mortgage. When asked how much is being applied to the mortgage each year and how much remains to be paid, Jacobson replied that he did not have the figures immediately available.

According to ASCIT President Joe Rhodes, ASCIT had been receiving \$1700 annually from bookstore profits. Last year the BOD had discussed the possibility of student discounts, but instead the amount was raised to \$3500.

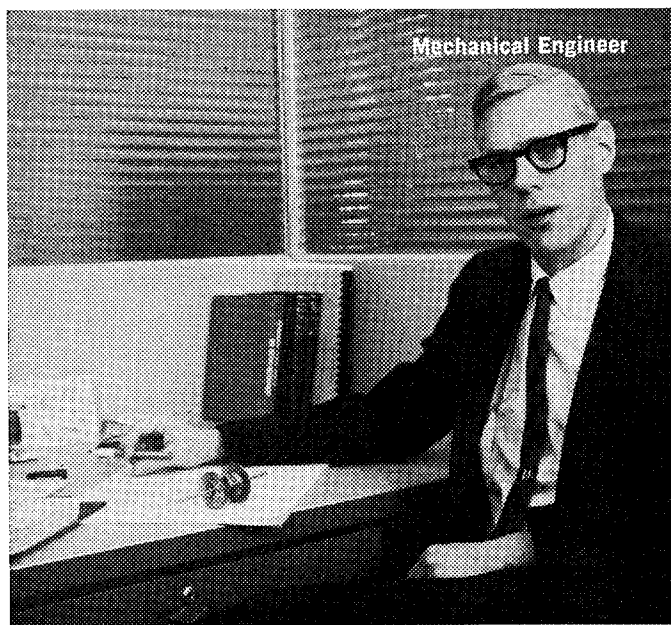
Jacobson pointed out that the bookstore is becoming overcrowded and may need money for a new building. Since it is not always possible to get a donor for new buildings, money must be saved for future expansion. He emphasized that each facet of Caltech is interrelated with all others; the mortgage must be paid off. Dipping into the general fund would affect funds for tuition and scholarships. He stressed that the

(Continued on page 10)

DOUG WESTON'S
Troubadour
NOV 21 - DEC 3
By Popular Demand!
Tim Buckley
PLUS CAPITOL RECORDING ARTISTS
HEDGE & DONNA
CR. 6-6168
9081 Santa Monica Blvd.
at Doheny
★ HOOTENANNY EVERY MONDAY NITE ★



Physicist



Mechanical Engineer



Vice President and General Manager

Which Cal Tech man is a decision-maker at General Electric?

(They all are)

Dr. Louis T. Rader received his doctorate from the California Institute of Technology in 1938. The previous year he joined General Electric as a test engineer in the advanced engineering program. Today, he is Vice President and General Manager of the Company's Industrial Process Control Division.

Decision-maker? You bet! But every Cal Tech grad gets his share

of responsibility at General Electric.

Take Dr. Marshall Lapp, Ph.D. '60, a physicist at the General Electric Research and Development Center in Schenectady, New York. He's examining fundamental optical properties of metal vapors and applying this data to diagnostic methods for studies in areas such as shock tube flows and plasma physics.

And Mechanical Engineer Dr. Donald A. Kugath, MSME '60, also at the R&D Center, is involved in development studies of manipulators and other mechanical devices.

How about you? Do you have what it takes to make important decisions for General Electric? If you think you do, talk to the General Electric recruiter when he's on campus. 910-48

GENERAL ELECTRIC
An Equal Opportunity Employer

PAT'S LIQUORS AND DELICATESSEN
1072 E. Colorado SY 6-6761
Open to midnight daily,
1 a.m. Fri. & Sat.
Keg Beer Party Supplies

Black Student Union Members Present Varying Images

On November 9, the CALIFORNIA TECH received the following story:

(On Monday, November 6, a group of about 20 Negroes assaulted the editor of the San Francisco State *Gater* in his office. The editor, Jim Vasco, was hospitalized as a result. CPS's Berkeley correspondent, David Berson, talked to an eye-witness.)

SAN FRANCISCO (CPS) — On Monday, John Keen, sports editor of the San Francisco State *Gater*, was checking the pro football scores and trying to figure out what pictures to run in the next day's sport section.

There was a stir in the city room. As Keen looked up from his work he saw about 20 young men, all of them Negroes, filing past his desk toward the office of *Gater* editor Jim Vasco.

"It was hard to tell what was going on at first," says Keen. "These guys seemed to be middle-class — they were all well-dressed — and they came in as quietly as any 20 guys could."

"The thing was very well-planned. About seven of the guys guarded the door and the rest went into Jim's office."

"We saw them beating him up and went to help him, but we couldn't get past the guys at the door. There was a lot of scuffling, typewriters and chairs were smashed, and all of a sudden they left just like they came."

Keen says the *Gater* has given the black organization at San Francisco State good press coverage, and can't think of any reason why it happened.

The Black Students' Union at SFS has denied any involvement in the beating, but one of its leaders has been identified as having been in the group that assaulted Vasco, according to Keen.

In the Claremont Collegian of November 10, this editorial appeared.

Organizers of the new Colleges Black Student Union deserve

some compliments for some very refreshing reasons.

While campus minorities and the student bodies in general may be split over the utility of such an organization, they should unanimously commend the manner in which the union was formed. A genuine, well-reasoned concern for constructive action has been evident since its inception.

Several militants involved have publicly moderated their views in order to form a broader organizational base. There has been a clear attempt not only to increase support among minority students, but also to broaden the understanding of those on the outside.

The new union has not abandoned public communication, but has instead made it a major focal point.

Membership has been thrown open to all who might be considered racial minorities on campus, the advantages being a wider branch of support and greater emphasis of a common purpose. Preliminary plans for recommendations as to campus speakers, faculty and curriculum show refreshing potential, with concern for the immediate problems of the Colleges.

As Union Chairman John Doggett has said, some minority group students "fear that the union will result in isolation from white students and a type of voluntary segregation." Their fears may well be justified.

But on the basis of the union's present posture, the establishment of a necessary identity and a healthy dialogue seem to have taken the forefront.

from SPACE PROBES to STEREOs
from RE-ENTRY to ULTRAMINIATURIZATION
from EDUCATION to EXPERIMENTATION



PHILCO-FORD IS INVOLVED WITH MANKIND.

Want To Help the World?

Philco-Ford is interested in just about everything that interests mankind: from manufacturing to education . . . from outer space talking to underwater walking . . . from anti-weapons systems to home entertainment systems. We have the experience, the capabilities . . . the growth record . . . and the resources to offer you both challenges and rewards.

We would like to have a talk with you —to explain our company and to get to know you better. Stop by and see us. Or write to College Relations, Philco-Ford Corporation, C & Tioga Streets, Philadelphia, Pa. 19134.

PHILCO-FORD WILL BE HERE ON NOVEMBER 17

Career opportunities are available on the East Coast, in the Midwest, the Southwest, on the West Coast, and throughout the world.

DIVISIONS: Aeronutronic • Appliance • Communications & Electronics • Consumer Electronics • Education and Technical Services • International • Lansdale • Microelectronics • Sales & Distribution • Space & Re-entry • Western Development Laboratories.



PHILCO-FORD CORPORATION
An Equal Opportunity Employer

Girl Undergrads

(Continued from page 1)

dom of choice and opportunity to experiment with different fields of science, but still provide a basic education in the hard core of science and math necessary for any successful scientific career."

This recommendation will also require the approval of the faculty to be enacted.

"Distributed Studies" Option

Also approved at the Faculty Board meeting was the recommendation for the creation of a "Distributed Studies" option. Such an option would allow a student to take intensive courses in more than one area of study without necessarily receiving enough units of credit in any one department to qualify as a major in that department under the present system.

Dr. Davidson further stated, however, that any such program would have to protect against abuse by non-serious students, and would still be an integrated plan of study.

This proposal was referred to the Curriculum Committee to plan detailed action for the implementation of this option.

Faculty Meeting

Dr. Davidson was very clear in stating that the recommendations of the Faculty Board were by no means final decisions, and that the final decisions on the questions of the admission of
(Continued on Page 10)



the ROAD GOES EVER ON
a song cycle • MUSIC BY
donald swann • POEMS
BY J. R. R. TOLKIEN

Now the songs of Frodo, Bilbo, Sam Treebeard and Tom Bombadil can be sung or played by all. Donald Swann, of Flanders and Swann, has, with the assistance and encouragement of Professor Tolkien, set seven songs from *The Lord of The Rings* to music. Each song may be sung individually or taken together as a group to form a song cycle. The arrangements are for piano or voice and guitar symbols are given.

\$3.95

poems and songs of middle earth

READ BY J.R.R. TOLKIEN

For his first venture into the recording world Professor Tolkien has chosen to read from the delightful poems of Tom Bombadil. On the reverse side William Elvin sings the songs from *The Road Goes Ever On* with Donald Swann at the piano. This record is a must.

Caedmon Record #TC 1231

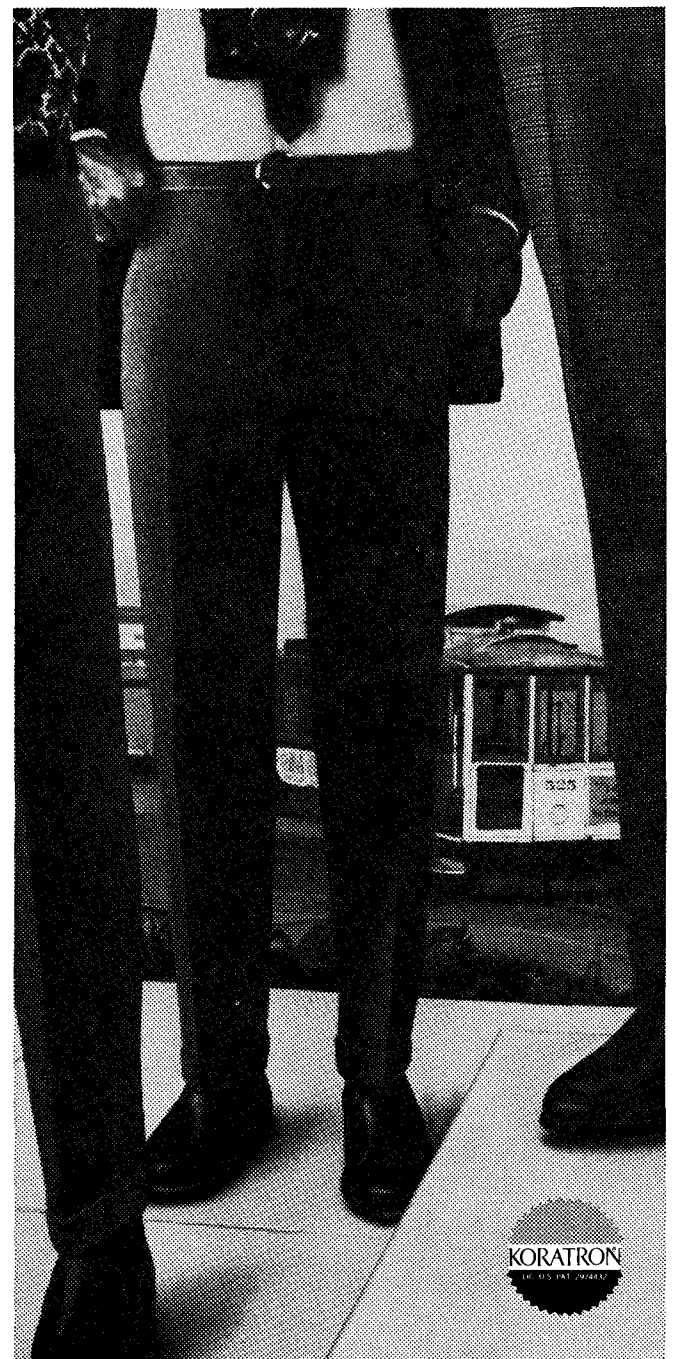
\$5.95

Available at your college bookstore

HOUGHTON MIFFLIN COMPANY

Cambridge Classics

the styling is traditional — the colors and fabrics are
what's happening!



FROM SAN FRANCISCO — Classic Ivy Styling in slacks that ought to cost more — but don't! No hang-up with wrinkles or pressing: *Cactus Press'd* does the job. At alert dealers everywhere, or write Box 2468, South San Francisco, California 94080.

cambridge classics

CACTUS.
CASUALS

Cactus Casuals Are Available Locally at:

Richards
THE STORE FOR MEN

10917 East Valley
Downtown El Monte GI 3-4038
Open Mon. and Fri. Nights

1315 So. Baldwin Ave. in the Hub
West Arcadia HI 6-4653
Open Mon., Thur. and Fri. Nights

Research Project in High Gear

(Continued from page 1) being made by the students to get the Project rolling. The initial organizational structure has been set up, in a highly flexible form, to include six groups. The ASCIT BOD and the Coordinating Committee provide an overall cohesiveness and determine the eventual structure of the project. The Study Committee is presently doing research, to define the specific problems involved in the project, through its individual members.

The Research Associates Com-

mittee is determining the means for getting students from other campuses to come and work on the project. Several problems have to be solved, centering on the questions "How do they live?", "How can they take classes?", and "What do they do besides live and take classes?". It is planned that several students would participate during the second term and more during the third. The initial grant of \$100,000 will largely be used to solve these problems and test the solutions through the pilot.

The Lab Technicians Committee has a program to train technicians in the planning stage, and it will work with the R.A. Committee to solve the problems of obtaining workers. A general outline of their preliminary program has three phases: a selection phase to choose applicants on the basis of interest and ability, a placement phase to match the prospective trainee with the research group that best suits him, and a training program combining on-the-job training with the teaching of basic skills and vocabulary, and independent study and work in class lab situations.

The Funds Committee is responsible for funding the Project through private and public sources. They will write the proposals for the Federal Government and larger foundations to examine. \$100 has been received from ASCIT and \$2000 more has been requested for a Project headquarters. Many different sources of funds are presently being considered.

Into the Incinerator

'A Night to Remember'

by Jim Cooper

Frosh Edward B. Barrelmaker of the Mythological Institute of Theocracy trotted up to an upperclassman who was busily working on a piece of wood with a saw. "Hey, what are you doing?" asked Barrelmaker.

"Boy, you sure are a dumb frosh. Don't you even know what next Saturday night is?"

"I've heard something about it, but I would appreciate it if you would explain exactly what it's all about."

"Well, if you really want to know, next Saturday night is the night of Intercourse. All the departments here at Theoc build departmental displays to tell people both from here on campus and also visitors exactly what we are doing here."

"That sounds pretty good to me. What are some of the departments doing?"

"The Paleontology Department is putting together a living diorama of the prehistoric world,

for example. They are even including a time-machine in their display. They've had a couple of problems, however."

"What are they?" asked Barrelmaker.

"They were trying out their fake time-machine and the people in it at the time disappeared and have not been seen since. Also, have you ever tried to clean up after a dinosaur?"

"No, I don't believe I ever have. How about some of the other departmental projects?"

"The departments of Myths, Children's Stories, and English Literature are combining efforts and making a large display featuring trolls, dwarfs, gnomes, and evil roges in their natural habitat of hot, humid, underground caverns."

"That sounds great! Do they have any special name for their display?"

Blood and Guts

"Yes, as a matter of fact, they do. They're calling their display 'B. and G.' But other departments have good displays too. For instance, the Political Science Department is doing a project featuring a study of the workings of monarchy. It will have a castle complete with a dungeon. They're calling the castle 'The White House,' and they're calling the dungeon 'The Vice-Presidency under LBJ.'

"The Oriental Cultures Department is doing a unique project featuring people who have failed to meet the standards of their culture in one of their natural habitats, which in reality are lost and unknown to most people, and may as well be in a jungle. The scene shows a group of college flunk-outs in a bar in Saigon.

"The Optics Department will have several lighting displays in which objects are seemingly distorted and colored purely by the lighting used. That display is called 'Shedding Light Using Reliable Sources.'

"Even the Geophysics Department is getting into the swim of things by preparing a large area of saturated dirt near the PE field. They will be demonstrating the principles of fluid mechanics and hydraulics and they are calling it 'The Mudeo.' It will probably be one of the most rewarding of the exhibits if certain members of the department have sunk enough money into it."

"Fascinating," said Barrelmaker. "That's simply fascinating. How about the Psychology Department? Aren't they doing anything?"

"Yes, they have a project, but I didn't mention it because it is so obscure."

"Well, what is it?"

"What they're doing is studying a fictitious situation in which several hundred men are largely isolated from a normal environment and placed in confinement. Boy, you should hear about the neuroses, psychoses, and anxieties they created."

"What are they calling their display?"

"It's some wierd name. I think the name they are using is 'Caltech.'"

AUDREY HEPBURN AND ALBERT FINNEY IN
TWO FOR THE ROAD
 Plus
VANESSA REDGRAVE IN
ANTONIONI'S
BLOWUP

STUDENT RATES **ESQUIRE THEATER**
 2670 E. Colorado
 SY 3-6149 — MU 4-1774

Engineers, Mathematicians: you should consider a career with NSA

... if you are stimulated by the prospect of undertaking truly significant assignments in your field, working in its most advanced regions.

... if you are attracted by the opportunity to contribute directly and importantly to the security of our nation.

... if you want to share optimum facilities and equipment, including one of the world's foremost computer/EDP installations, in your quest for a stimulating and satisfying career.

The National Security Agency is responsible for designing and developing "secure" communications systems and EDP devices to transmit, receive and process vital information. The mission encompasses many aspects of communications, computer (hardware and software) technology, and information recording and storage ... and provides a wealth of career opportunities to the graduate engineer and mathematician.

ENGINEERS will find work which is performed nowhere else ... devices and systems are constantly being developed which are in advance of any outside the Agency. As an Agency engineer, you will carry out research, design, development, testing and evaluation of sophisticated, large-scale cryptocommunications and EDP systems. You may also participate in

related studies of electromagnetic propagation, upper atmosphere phenomena, and solid state devices using the latest equipment for advanced research within NSA's fully instrumented laboratories.

MATHEMATICIANS define, formulate and solve complex communications-related problems. Statistical mathematics, matrix algebra, and combinatorial analysis are but a few of the tools applied by Agency mathematicians. Opportunities for contributions in computer sciences and theoretical research are also offered.

Continuing your Education? NSA's graduate study program may permit you to pursue two semesters of full-time graduate study at full salary. Nearly all academic costs are borne by NSA, whose proximity to seven universities is an additional asset.

Salaries and Benefits Starting salaries, depending on education and experience, range from \$8,000 to \$13,500, and increases follow as you assume additional responsibility. Policies relating to vacations, insurance and retirement are liberal, and you enjoy the advantages of Federal employment without Civil Service certification. Another benefit is the NSA location, between Washington and Baltimore,

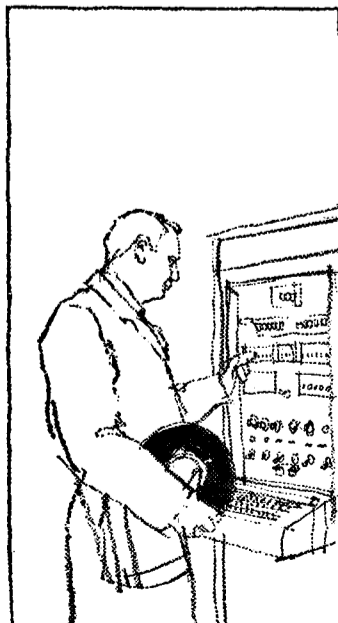
which permits your choice of city, suburban or country living and allows easy access to the Chesapeake Bay, ocean beaches, and other summer and winter recreation areas.

Campus Interview Dates:
 November 29

Check with the Placement Office now to arrange an interview with NSA representatives on campus. The Placement Office has additional information about NSA, or you may write: Chief, College Relations Branch, National Security Agency, Ft. George G. Meade, Maryland 20755, ATTN: M321. An equal opportunity employer, M&F.



**national
 security
 agency**



... where imagination is the essential qualification

welcome to the
Campus Barber Shop
 in Winnett Center
 haircuts \$2.00
Three Barbers to Serve You
 7:45 to 5:15 Monday - Friday
Paul A. Harmon

Governor's Address Praises New Caltech Direction

Editor's Note: The following statements are excerpts from the notes used by Governor Ronald Reagan in giving the keynote address at the dinner opening the Caltech 85 million dollar fund drive. The dinner, sponsored by the Board of Trustees, took place Wednesday, November 8, at the Ambassador Hotel in Los Angeles.

Some time ago, I was privileged to have a preview of Caltech's plans for the future. I found these plans exciting—exciting to me as a citizen and a father, and as the governor of the most technological state in the Union, who properly should from time to time take stock of this state's great resources—and the California Institute of Technology is a unique resource, one of California's most valuable . . .

Tonight, without the pressure of a deadline to meet or emergency issues to be resolved, I should like to discuss with you some thoughts about the importance of higher education and of science and technology, about the matching to technical change of appropriate, corollary social development and maturity, about the using of advancing science and technology to the fullest, achieving the promises that are ahead and minimizing—if not eliminating—the negatives resulting from the high rate of scientific and technological change. I should like to raise the question of how our handling of expanding science and technology affects the individual, his independence, his creativity, his freedom. And I should like to comment on the role, as I see it, of the private university and college, and its relation to the growing influence of government on all aspects of our lives, including science and technology. . .

The essence

No institution is perfect, but there are a few which perform so well and with such style, and which contribute so greatly to their communities, as to win universal respect and gratitude. Caltech is conspicuously one of these. With information and insight far beyond the reach of most of us, Caltech has pioneered the most valued speculations about the origins and composition of the universe, about the character of the elementary particles of matter, about the essence of life. . . .

Its great Jet Propulsion Laboratory, as we all know, made history, and will make more, in the exploration of space. It produced America's first satellite, Explorer I. It produced the first instrument to probe the space near Venus, the first close-up photographs of the planet Mars. And it produced the first soft landing of instruments and the first excavation on the moon . . .

These examples of Caltech's superb accomplishments of the past speak for themselves, of course, as evidence of Caltech's stature. But they tell us something else as well: science and technology represent together a powerful force engaged in changing our world. Now, this adds problems as well as benefits. So I should like to make a comment that has been very strongly on my mind about the interaction of advancing science and technology upon our society—more specifically, about real dangers to freedom of the individual in the

coming technological society; dangers, that is, if we don't arrange for our society to preserve these freedoms, if we are not intent on advancing mankind as well as his technology. We need more science because it can solve problems and be used to elevate man, but we need to match science with skill in applying it for the good of society. A college is not just a vending machine dispensing packaged knowledge; it must impart wisdom. In this regard, I want now, particularly, to congratulate Caltech on a major dimension of its future goals. I understand that Caltech is planning a major program on the relation of science to society.

Caltech cracks code

Of course, being Caltech, you are, I am told, starting with a fundamental attack on the distinction between living and inanimate matter, and you expect to build up from that to eventually understanding people—that will probably take you a few years, but you will get it done, or

at least some of it. I believe it is well known that Caltech has already cracked the genetic code and is deep into the understanding of the molecules that are indispensable to life processes. My staff, in doing homework, further tells me it was the recognition by Caltech's biologists of the underlying phenomena that has led to much of the progress in tissue and organ transplants. So it is reasonable for us laymen to take seriously what we now hear said by Caltech scientists—that we are approaching a new era in the control and cure of disease, in the increase of longevity, and even that we are soon to arrive at a capability to influence the human species. . . .

I notice that in your plans there is the further scrutiny of mysterious radiation from outer space. Perhaps you will find the secret of those things—what is it you call them, "Quasars"?—which are not stars but sometimes look like stars, and that produce so much more energy than you have any way of ex-

plaining today. You may even find in some of that radiation from outer space the answer to the question as to whether or not there is intelligent life on some distant planet of some remote star. But I cannot help saying that I am equally interested upon occasion in the question: do we have intelligent life on earth? Our present space program did not result because a mature society properly, deliberately, imaginatively pitted the potential benefits against our available resources to attain the best match. Rather, it has resulted in major part from reactions rather than plans—reactions to the unexpected prestige accomplishments of another nation.

Is the space program worth it?

There is, in fact, room for questioning whether our space program today has the right balance amongst space developments for national security, which deserve the highest priority; scientific space exploration which undoubtedly will in time bring us profitable new discover-

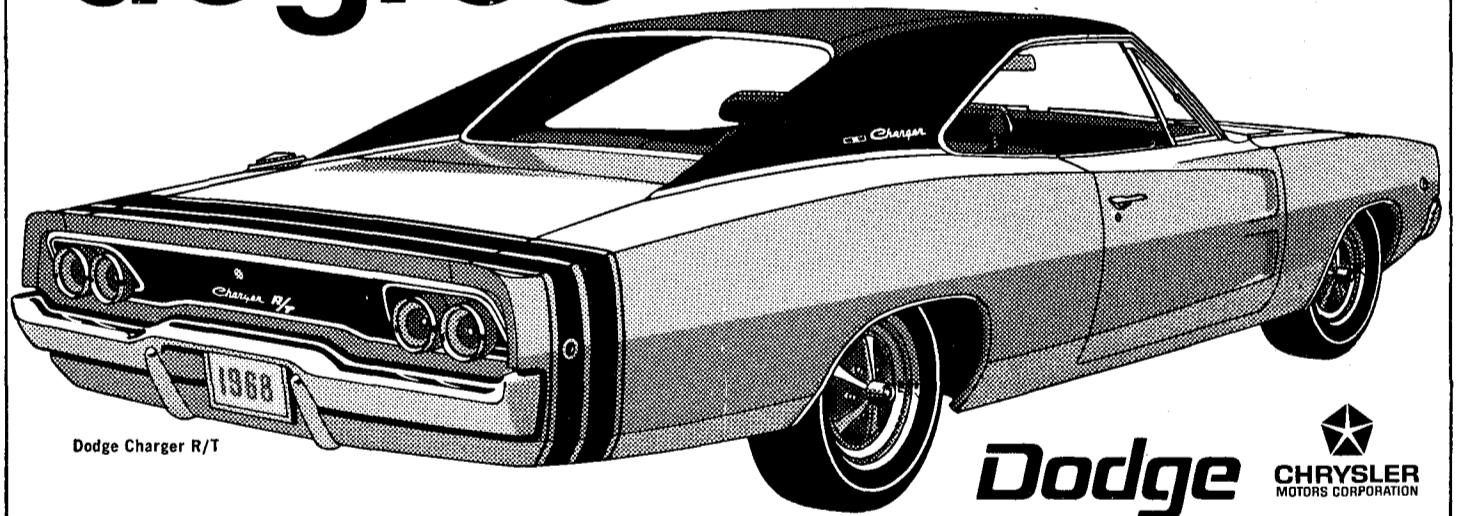
ies; and space developments that speed economic growth in the short term, such as communications satellites . . .

After all, if your scientists are going to teach us how we can control the genes to alter the species and to make it possible for young couples to choose that their child be 10 percent like Einstein, 10 percent like father, 10 percent like mother, and 70 percent like Cary Grant, if you will, then let us try to evolve a pattern of society that permits these decisions to be made by the parents—not by some central computer in the government that will figure out what kinds of kids are best for all of us to have and then order up the right multidigit formula for the genes so the mothers will give birth only to docile, standardized "automatons" in a thoroughly regimented society. . . .

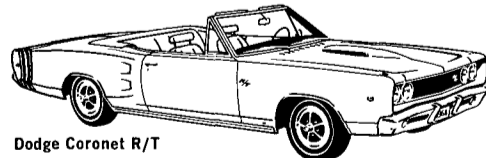
Characteristically—for Caltech, that is—you are starting with fundamentals. Human behavior is a function of the human brain.

(Continued on page 7)

Get your bumblebee degree

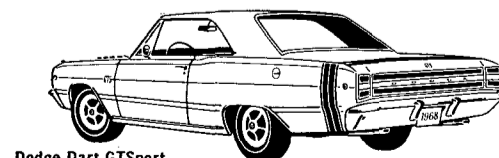


Enroll in one of three exciting classes. Charger R/T, Coronet R/T, or Dart GTSport. Each has its own distinctive sporty style, but all three have a lot in common. Like automatic transmissions, wide-tread red line tires, special handling packages, and a long list of other standard and optional features.



Dodge Coronet R/T

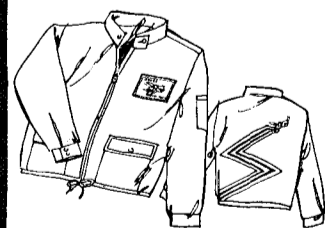
To help you make the grade, the standard engines for the Scat Pack include a 340-cu.-in. V8 for the Dart GTS. And for Charger R/T and Coronet R/T, a 440 Magnum V8. Or for a more accelerated course, you can order the optional 426 Hemi.



Dodge Dart GTSport

All three members of the Scat Pack offer distinguishing marks at no extra cost. Bold bumblebee stripes wrapped around the rear. Or Rallye stripes along the side. Or if you prefer to be a little more modest, no stripes at all. It's your choice. Ready for class? With the Scat Pack, you've got it. Why not sign up at your nearby Dodge Dealer's and get your Bumblebee Degree, today?

To add some color to campus, get your Official Dodge Scat Pack Jacket in the official "Dodge Red"



Color—with the authentic embroidered "bumblebee" design on front and back. Send for yours today.



FILL OUT AND MAIL TO:

Hughes-Hatcher-Suffrin, 1133 Shelby at State, Detroit, Michigan 48226. Attn.: Mr. Gus Anton.

Enclosed is a check or money order (made payable to Hughes-Hatcher-Suffrin) for \$_____ to cover cost of _____ jackets at \$9.95 each. Available sizes: S, M, L, XL, XXL. (Add 4% sales tax for delivery in Michigan.)

Name _____ Size _____

Address _____

City _____ State _____ Zip _____

TYPING
 • Experienced Typist •
 College Grad • Immediate Service
LOW RATES
IBM ELECTRIC
 Call 441-2047

Reagan: "...Do We Have Intelligent Life on Earth?..."

(Continued from page 6)

Very little is known about this miraculous instrument, but surely something useful can be learned if it is studied at the level of molecular biology, as you plan to do. And because the workings of the brain and the workings of a complex computer offer some potential similarities and interesting contrasts, I understand that Caltech has its biologists and its engineers closely allied in this endeavor. Their goal is no less than a practical understanding of the mechanics of thought, memory, consciousness, and emotion—and thus an understanding of the behavior of

the human animal.

Social scientists too

And alongside this effort, you are bringing in the social scientists, the men and women who will also try to create a better balance between scientific and social progress by studying the behavior of man as it has been—and is—for whatever reasons internal to the brains and nerves of the man. I cannot applaud too heartily Caltech's concentration on the importance of man as an individual as seem by these plans, by your symposia, by the interests of your faculty members. . . .

Now, Caltech, in many ways,

is unique. But it shares with other institutions of higher learning and research, whether state-sponsored or privately-supported, the need for large funds. And here there are problems, several different kinds of problems, facing all institutions of higher learning. To begin with, higher education has to be looked upon as an investment. Both basic research and higher education, properly conceived and directed, benefit the whole society. Some of the benefits take years for realization and even for evaluation. . . .

The tuition problem

There is also the problem of getting objective thinking for broadening the base for acquisition of funds—such as adding tuition in the state's university and colleges (accompanied, I always add, by an enhanced program of loans and scholarships for the lower income but deserving students)—or allowing an income tax deduction for certain college expenses. In fact, I think you may have observed that if one

suggests tuition as a means of increasing available funds for higher education he may even be accused of being against higher education—the very process he is trying to finance. . . .

I sympathize with students when they resent becoming a set of digits on a punched card without individuality. However, I believe there is something even worse; that is, direction, decision-making, and control of research and teaching coming not from individually brilliant, independent minds, but out of a huge, centralized government bureaucracy. I do not mean that the colleges so controlled are likely to be victims of a plot. I assure you that I am not talking about Democrats or Republicans. But I am talking about politics in the sense that a political administration can generate bureaucracy—and any bureaucracy can be a threat to honest inquiry, and honest inquiry is the heart and soul of scientific research.

The federal government now spends about \$4 billion a year on


college campuses, and half of this goes for government-desired research. I will not pretend that I can evaluate all aspects of this outlay. I have no doubt that much of it can be justified. But I think all of us should ponder the figure and its impact upon the many private colleges and universities whose backs are now, financially, to the wall. They will crave this kind of support. Very likely, they will seek it. But how many of them can accept it and still hold on to their integrity?

A precious few, such as Caltech, may be able to do it indefinitely. I understand that, although Caltech today gets a substantial fraction of its operating funds from the federal budget, the federal part is for extraordinary services rendered. It is not really money that Caltech today depends upon to pursue its very special, independent goals. But it is money and, considering the desperate need for money among even the most staunch and dedicated seats of learning, it is not going to be despised or lightly rejected. . . .

Nor does the support of the private universities by the private sector imply any less support for the important state-supported universities and colleges. I am a devout believer in the benefits of competition, even in higher education. In California, where we have both high grade state institutions and private ones, strong support for both will work to the advantage of quality in both. The alternative of a single, state-controlled system without the side-by-side, independent ideas of the private schools would be far inferior. In the end, it would mean less total interest in, backing of, and performance by the state's institutions. The other extreme, to work for a predominantly private system, failing to plan for a continued strong state-supported operation in California, would be equally unthinkable.

Maybe you have that fear, too. In any case, I hope you will think hard about what Caltech and the other private colleges and universities are undertaking these days for the good of the community at large. It is a tremendous order. Few institutions would dare take on Caltech's plan for the future. Fewer could offer any promise of succeeding. But Caltech is by every standard extraordinary in its record and its promise. It has just launched a campaign to raise many millions of dollars toward the fulfillment of that promise. As a private citizen and as the governor of your state, I wish the institute total success. . . .

Two Locations



at the ICE HOUSE (S)

<p>GLENDALE 234 S. Brand Reservations Phone 245-5043</p> <p>Thru Nov. 19: THE KNACK THE SECOND HELPING</p> <p>Starts Nov. 20: THE DILLARDS THE SECOND HELPING</p>	<p>PASADENA 24 N. Mentor Reservations Phone MU 1-9942</p> <p>THE IRISH ROVERS TED ANDERSON GINNI CLEMMINS</p> <p>Special guest appearances Nov. 22 & 23: PAT PAULSEN</p>
---	--

FOLK MUSIC and COMEDY
Twice the Music
Double the Fun



How would you fit into Du Pont's Project X?

You are the only person who can answer that question.

To do it, you should know as much as possible about the 150 new plant units Du Pont has built since the end of World War II. You'd then choose from one of the many lively fields of interest at Du Pont: design, construction, production, marketing, research and process improvement (to name just a few).

Involvement starts the day you join. There is no training period. You go into responsible work right away. Your professional development is stimulated by real problems and by opportunities to continue your academic studies under a tuition refund program.

You work in small groups where individual contributions are quickly noted and appreciated.

The work is significant, and of benefit to society. You're part of the most exciting technical environment available today and tomorrow, and facilities and associates are the best.

How could you fit in? Why not sign up for a chat with a Du Pont interviewer and find out? The coupon will also bring you more information about us.

Finally, what is Project X? We don't know yet. Could be we're waiting for you to tell us.



E. I. du Pont de Nemours & Co. (Inc.)
Nemours Building 2500-2
Wilmington, Delaware 19898

Please send me the Du Pont Magazine along with the other magazines I have checked below.

Chemical Engineers at Du Pont
 Mechanical Engineers at Du Pont
 Engineers at Du Pont
 Du Pont and the College Graduate

Name _____
Class _____ Major _____ Degree expected _____
College _____
My address _____
City _____ State _____ Zip Code _____

STUDENTS,
if you need
HELP
in fulfilling
your language
requirement-
inquire about
tutoring
services at
BERLITZ,
THE LANGUAGE CENTER
170 South Lake Ave.
Pasadena
SY 5-5888

Harvey Mudd Due At T.P. Tomorrow For Season Finale

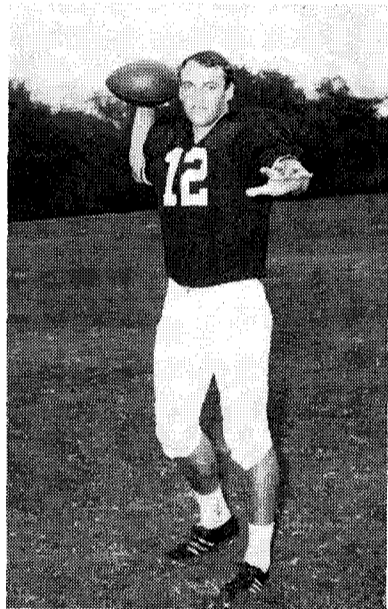
by Greasy

This is it! It's now or never for the football playing Beavers of the California Institute of Technology. For almost four seasons now — for twenty-eight straight games—the Caltech grid-ders have not won or even tied a football contest. That's been long enough that the Beavers are now a legend in Southern California.

As far as the team members themselves are concerned that legend is about as desirable as a hole in the head, and they've been trying all season long to win a ball game.

Their latest attempt was the closest they've come to victory so far; they lost to the Loyola Lions by a 20-6 score last Saturday night at the Rose Bowl. It was the first meeting between the two teams since 1938.

The Lions jumped to an early 6-0 lead in the first stanza on a fine open field run by Loyola quarterback Jim Ertman. Both teams managed to move the ball only routinely for the rest of



Fullback Ray Kawal is a strong runner, a vicious blocker, and a pass receiving threat as well.

the quarter, exchanging punts several times.

Loyola struck again midway the second quarter on a three-yard plunge. The action proceeded routinely again until Tech defensive back Mike Girard intercepted a Loyola aerial. With time running out in the first half, QB Tom Burton engineered a drive which ended on a Burton-Lonnie Martin pass to the Loyola two-yard line as the gun sounded. The Beavers went into the dressing room trailing 13-0.

The Engineers took the second half kickoff and marched impressively down the field into Lion territory before fumbling the pigskin away about thirty yards from paydirt. Ertman capitalized on the fumble recovery by heaving a long bomb to Lion end Steve Crank who hauled it in inside Caltech's twenty yard line.

Loyola failed to score, however, as the Beaver front wall forced a Lion fumble on the Beavers' three yard line and frosh defensive back Stewart Sands pounced on it immediately. Then Caltech staged an almost unbelievable 97-yard scoring drive. Burton sprinted out for good yardage; fullback Ray Kawal bulled for more.

Tom Blaschko, Alan "The Puppy" Beagle, Ed "Old Dude" Vergin, Russ Halsted, Joe "The Jet" Devinney opened holes for Burton, Kawal, and halfback Barry Fitzgerald. Martin made a key catch or two. But the big play — the scoring play — was a short pass in the flat to Kawal who broke a tackle and went the last ten or twelve yards for the score. The conversion failed and the Beavers trailed 13-6 with more than a full quarter of play remaining.

Neither team managed to score again until Loyola got the ball in CIT territory after Caltech punter John Frazzini had to eat the football following a high snap

(Continued on page 10)

TECH Sports

Caltech's Only Undefeated Team Plays Here Saturday

by Anderson

How does this sound? A Tech football team that this term has beaten San Fernando Valley State, Biola, Cal State L.A., U.C. Santa Barbara, that tied U.C.L.A. at Tournament Park, then went to Westwood the next week and beat them? Whose record now is 6-0-1 with one conference game to play? Well it is all true IF...

If you are from outside the U.S., and 'football' means to you

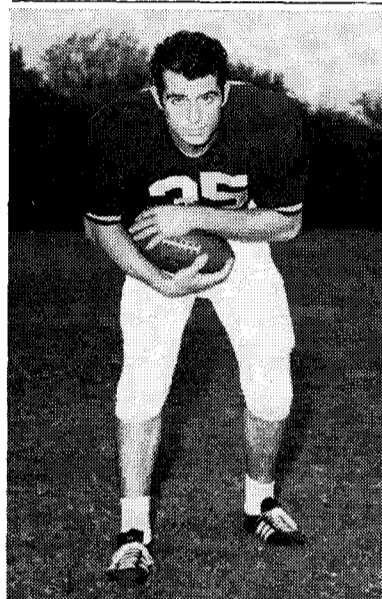
what 'soccer' means to the average American. The team is the Open soccer team, grad students, employees, and faculty — guys who do not know the good old Tech sporting traditions.

A big part of their success is due to most of the regular squad being here from last year, and having played together over the summer. They have a high-scoring forward line with 39 goals in seven games. Spearheading this are Willi Behrens and Yilmas Sahinkaya while the wingers Armand Postma and George Rubottom have been persistently penetrating and regular scorers.

The defense has been based on long-time Teckers Dick Wade, Mick Mortell and John Davies, with half-backs Mick Delaney and Pete Milton linking with Edgar Anderson of the forward line. Other regulars are Coach Ron Kehoe, late-vacationing Dave Hunt, Jimmy Cutts, Lew Wheeler and Hans Mueller.

Highlights of the season are the two games with U.C.L.A. Here, after leading twice, Tech fell behind 2-3, but came back strongly to tie. At Westwood, the attack was brilliant in the first half, taking a 4-1 lead, and Tech finally won 5-4 after a second-half anticlimax.

The squad plays Chapman on Saturday, at Tournament Park, at 10:30 am, then on December



Beaver quarterback Tom Burton is second in the conference in passing and 29th in the nation in total offense for small colleges.

Page Wins 7-0

Page continued its efforts to regain the Discobolus Trophy last Sunday with a 7-0 victory over Lloyd House in softball. The Page team played a fine defensive game while Phil Morgan led in the batting department by clouting a home run.

Fleming has challenged Page in soccer, wrestling, and pool and billiards; the match will be played this Sunday.

Page is rapidly catching the Darbs in the Trophy point race with six points to Dabney's thirteen. The rest of the Houses are all tied for third place with one point apiece.

Water Polo

Caltech's tankmen played one of their best games of the season against one of their best opponents, league leading and undefeated in league competition, Pomona. Unfortunately, the result was the usual inability to score more than their opponents and a 4 to 2 defeat at the hands of the sagehens. Norm Whitely and Henry DeWitt contributed to two Tech goals, both on penalty shots. One bright spot was the few fouls incurred by the Teckers so as to not give Pomona its penalty shot.

Saturday, Rio Hondo came and trounced Tech by being much more alert and picking off passes frequently to finally with 11 to 3.

This Sat. the tankmen end the season at the Alumni pool against perennial rival Oxy.

2nd, U.C.L.A. once more at Westwood for the Miller Trophy, perhaps the only annual trophy that Caltech currently holds.

There's talk too, of a 'Hate' game with the varsity soccer squad. Their biggest loss is 0-7 while the open team's biggest win is 9-0, so look for new records if that game comes off.

Candidates for PhD degrees and Postdoctorates in . . .
Chem., Bio-Eng., Solid State Physics,
Applied Math., Sanit. Eng., ChE, ME, EE,
Operation Research

Meet the Man from Monsanto

Nov. 20

Sign up for an interview at your placement office.

This year Monsanto will have many openings for graduates at all degree levels. Fine positions are open all over the country with America's 3rd largest chemical company. And we're still growing. Sales have quadrupled in the last 10 years . . . in everything from plasticizers to farm chemicals; from nuclear sources and chemical fibers to electronic instruments. Meet the Man from Monsanto—he has the facts about a fine future.



An Equal Opportunity Employer

This "patch"



identifies the world's best beer drinkers!

ANHEUSER-BUSCH, INC. • ST. LOUIS

CIT Distance Men Nip Pasadena Team for Second Victory

by Schneringer

Little children make obscene gestures and throw rocks at them, playful two-hundred pound German shepherds take healthy bites out of their legs, swet old ladies try to run over them in their fuel injected Continentals, but the Tech cross-country team plods ever onward, and occasionally it even wins.

Like Tuesday, when Tech pulled out a 28-29 victory over arch-rival Pasadena College. It was only Pasadena's second defeat of the season, and although their best runner couldn't make it to the meet, there is little doubt in the minds of our team that we would have won anyway, now that the meet is over.

Once again our freshmen led the way. Tardiff took second

on the three mile course in 16:30, missing Lane Mason's school record by only a minute and a half, and fellow frosh Ledford took third, fighting off the finishing kick of an ambitious Pasadena runner for his place.

Martin Smith was sixth, Schneringer was eighth, followed by Jackson, Thompson, Hermeyer, Johnson, Stoecker, and Pasadena's fifth man, respectively. Thus it was Tech's famous depth that won the meet.

This was our second victory, which puts the team one up on last year's group of Cross, Mason, and friends. The conference meet is Saturday, and if Mason can be coaxed out of retirement for one last effort, the team may do reasonably well (i.e., finish out of the cellar).

Undergraduate Soccer Team Loses

by Engelman

In the past few weeks, Caltech's undergraduate soccer team has added three losses to its season record. The victorious teams were Whittier, Westmont, and UCLA.

On Wednesday, November first Whittier came to Tech's home field for a fast-moving afternoon game. The game started with Caltech taking the lead on a goal by Burton less than seven minutes into the first half. Whittier's teamwork and the Caltech apathy combined to give Whittier two goals, one sixteen minutes into the first quarter and another less than a minute into the second quarter. The third quarter was evenly split, with both teams scoring a goal. The Beaver's goal was by Armando Moreira off a penalty kick by Burton eighteen minutes into the third quarter. The fourth quarter was scoreless and the final score remained Whittier 3, Caltech 2.

After a Saturday morning drive to Westmont, the Beavers lost by the humiliating score of 7-0. Caltech was hurt by the loss of one of its strongest players,

Nelson Briceno, who was out with leg injuries sustained in the Whittier game.

The soccer team started acting like the football team and watched the game go by rather than play in this game, and was unable to keep the ball anywhere near Westmont's side of the field.

The Tech team was able to get near enough to the Westmont goal to shoot only five times, while one player on the Westmont team scored five goals against Tech. The scoring went: three goals in the first quarter, one in the third, and three in the fourth.

On Saturday, November 11, the UCLA soccer team came to Tech and walked away with an easy 7-0 victory. The Beavers, after the first quarter, settled down and pretended to be spectators. That and UCLA's very strong team combined to make the game a bad one for Tech. CIT played cleaner than UCLA, but had fewer shots at the opponent's goal. UCLA dominated every quarter, scoring once in the first and twice in each of the three remaining quarters. The

ease with which UCLA beat Tech was unexpected, since last year's game was fairly close.

Caltech has three remaining games. On tomorrow the Beavers meet Fresno Pacific on the Tech home field and on the 18th they travel to Pomona. The last game of the season will be on Wednesday November 22nd, with the Caltech Open team.

Mudeo

(Continued from page 1)
by giving up the rope. The frosh led 1-0.

The next event was the sack race. The first frosh across the pit was atrociously assaulted by a sinister group of soph onlookers. The frosh team immediately emulated their upperclassmen by drowning the soph contender. The doves of the judging staff intervened, however, and proclaimed that both teams were disqualified for unsportsmanlike conduct. No points were awarded.

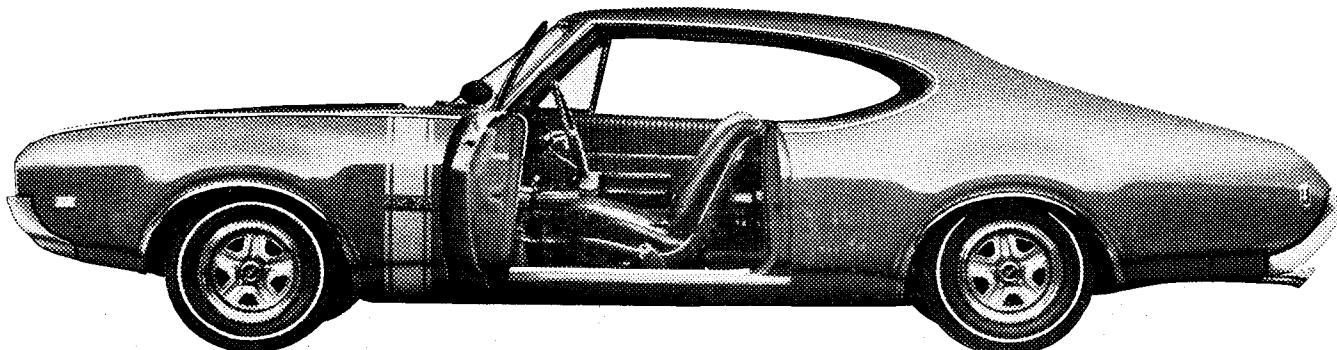
The colorful wheelbarrow race followed, and was the only gentlemanly competition of the afternoon. Several infractions of the rules were recorded, but the judges, remembering their financial sanctions, decided that the soph's four infractions overshadowed the frosh three. The frosh margin was raised to 2-0. Soph Ken Broll stood out as Tech's most capable wheelbarrow.

Two points were at stake in the next episode, which was entitled 'horse and rider'. Barring a few radical outbursts along the sidelines, the struggle progressed smoothly. The sophs won and thus tied the score, since this was a two point event.

The climax of the afternoon then came in the form of the tire spree, worth two points. The frosh gave their all at the cost of many sneakers and blackened eyes. When all the sophs finally cleared away from the frosh area, where they had been diligently trying to steal tires, seven tires out of eleven were found, and the neophytes were declared the winners.

Following traditions the loser sophs then sacrificed the judges to the great Mud God and all — or at least most — went home to snake happily.

'68 Oldsmobile: Great spot for a sit-in.



You're looking at the year's sweetest place for a sit-in—Olds 4-4-2. This is the scene: Louvered hood up front. Crisp sculpturing in the rear. Rally Stripe and Custom Sport Wheels available in between.

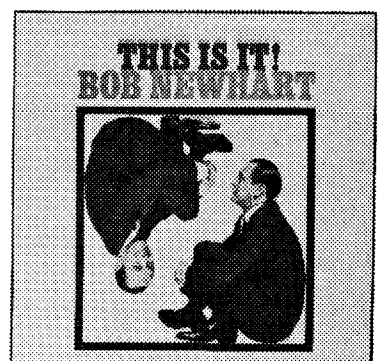
And what gleams beneath that rakish afterdeck? Two telltale flared exhausts that give voice to a 400-cube, 4-barrel, 350-hp Rocket V-8. And look where you live: in foam-padded, bucket-seat comfort.

The center console is also available, as is the clock/tach/engine gauge Rally Pac. And with all the new GM safety features, including energy-absorbing steering column, 4-4-2 is the greatest sit-in you ever sat in.

Drive a "youngmobile" from Oldsmobile.



NEW NEWHART



THIS IS IT! / Bob Newhart W/WS 1717

WARNER BROS./SEVEN ARTS RECORDS, INC.

Bookstore Policy Criticized

(Continued from page 3)

dollars that would be received by each person cannot do as much good as the lump sum given to ASCIT.

The topic of the bookstore was brought up at a meeting of the Faculty Committee on Undergraduate Student Relations (FCUSR) and its student members on November 9. It was suggested by several that the Caltech bookstore be operated as a cooperative, as is done at UCLA, Harvard, Yale, Princeton, and other leading schools. Under such a system, students who patronize the bookstore receive either discounts at the time of purchase or else bonuses at the end of the year, based on the amount of goods bought.

Dr. Daniel Kevles suggested at the FCUSR meeting that a coop plan be studied. Many people feel that the faculty is more able to afford books than students. If discounts were offered, more students would buy more books and thus gain a broader educational background. Kevles pointed out that the main issue was whether the bookstore should be just a business or else part of Caltech's educational program. He

said that the bookstore should stock magazines not easily available elsewhere, and added that perhaps students could have charge accounts at the bookstore. After some discussion, Dr. Robert Woodbury, FCUSR chairman, appointed a subcommittee to investigate some of the possibilities.

Jacobson was asked about some of the proposals. He said that the bookstore is doing a good job now and that any changes could be made only after careful study. There is the basic question of whether or not the bookstore should carry its own weight. Fiscal policy at Caltech affects every operation. One must look at the question from both sides, remembering that a change might hurt more than help.

He pointed out that coops often have trouble with capital, management, the facility itself, and a policy for the benefit of students. When asked what the chances of change would be if a majority of faculty and students wanted discounts for students, he said that the administration would have to make the final

decision. This would include himself; Robert Gilmore, Vice President for Business Affairs; and possibly President DuBridge or even the Board of Trustees.

The reason for the present policy of 10 percent faculty discounts is that faculty members must continually buy and read new books for research and for planning their classes. This reporter pointed out that many faculty purchases are paid for by grants and fellowships, and the faculty can still get discounts on purchases for personal use; but students are just as much required to buy books as the faculty. Jacobson answered by saying that if discounts were extended to undergraduates it would only be fair if grad students and employees were included. He

said that there is just enough money; the Bookstore cannot be separated out from the rest of the Institute's structure.

Jacobson maintained that the Bookstore was always willing to accept suggestions from students for books to be stocked; if there

is a sufficient market the books will be ordered. Still, the issue is controversial. The question remains whether or not the Bookstore should pay for itself. Perhaps more time can be taken to pay off the mortgage; then student discounts would be possible.

College Relations Director
c/o Sheraton-Park Hotel, Washington, D.C. 20008

Please send me a free Sheraton Student I.D. Card:

Name: _____

Address: _____

We're holding the cards.

Get one. Rooms are now up to 20% off with a Sheraton Student I.D. How much depends on where and when you stay.

And the Student I.D. card is free to begin with. Send in the coupon. It's a good deal. And at a good place.

Sheraton Hotels & Motor Inns 
155 Hotels and Motor Inns in major cities.

\$399.50 JET to AMSTERDAM
June 27, return Sept. 4.
French Course included at
ALLIANCE FRANCAISE PARIS.
—German Course available—
SIERRA TRAVEL, 274-0729
9875 S. Monica Blvd., Beverly Hills

New Element

A. L. Lavoisier, visiting associate in chemistry, from France, announced a radical new discovery Monday. After metering the combustion of wood, Lavoisier announced that he had found a new element of combustion. He calls this element phlogiston, and declared that the rate of any combustion is dp/dt .

Footballers Still Trying

(Continued from Page 8)

from center. Again the Lions capitalized by scoring a few plays later, and they led 20-6.

That's the way it ended as the Beavers moved the ball down to Loyola's fifteen, but time ran out.

Tomorrow the Claremont-Harvey Mudd Stags visit the Beavers for their annual grudge match in a game at the Caltech Athletic Field at 2:00 p.m.

Faculty Coed Proposal

(Continued from page 4)

women and on the changes in the freshman requirements would be made by the faculty and the trustees. The decision by the faculty on these issues should be made on November 27, the date of the next faculty meeting. Then the trustees would have to act on the question of admission of women, at a meeting after the faculty meeting. This assumes that the faculty does approve the Board's recommendation on this question. Only then would the decision be final.

How to interview 130 companies in half an hour.

Talk to the man from General Electric. He represents 130 separate GE "companies" that deal in everything from space research to electric toothbrushes. We call them product departments. Each one is autonomous with its own management and business objectives. That's why a job at General Electric offers the kind of immediate responsibility you might expect to find only in a small business. Right from the start you get a chance to demonstrate your initiative and individual capabilities. And the more you show us, the faster you will move ahead. As you do, you'll find that you

don't necessarily have to spend a lifetime working on the same job in the same place. We have operations all over the world. Chances are you'll get to try your hand at more than one of them. Our interviewer will be on campus soon. If you're wondering whether it's possible to find challenging work in big business, please arrange to see him. He speaks for 130 "companies."

GENERAL ELECTRIC 

An equal opportunity employer.

TYPING
Term Papers • Essays
Manuscripts • Theses
IBM Typewriters
Special Student Rates
Phone 681-2181