

## ASCIT of Seita

### Student Garage to be Available

by Alex Seita

Only five of nine members of the B.O.D. were present at last week's meeting as conflicting activities caused the absenteeisms of Barker, Duncan, Morgan, and Smith. Meeting without a quorum, the Board discussed the issues of the ASCIT Educational Policies Committee, student observers to the Faculty Board, and a possible student garage.

#### EPC Revival

Bob Abarbanel, student representative to the Faculty Academic Policies Committee, reported the APC's desire for the re-establishment of the ASCIT Educational Policies Committee. Established by ASCIT Resolutions, some of the responsibilities of the EPC are to handle course complaints, to suggest course changes and to recommend new courses. Defunct this year, last year the EPC was active in polling student opinion of instructors which led to teaching awards for deserving faculty members.

Showing a liking for Abarbanel's request, the B.O.D. indicated that the EPC should be active and ambitious, perhaps initiating a student catalogue of courses (rating difficulty, content, instructors).

#### Student Observers

Learning that the Faculty Board would like to have two student observers, the B.O.D. will select the two representatives as soon as possible. It was also announced that the Faculty Board was ready to discuss the issues of the Physical Education Requirement and the Independent Study Program.

#### Student Garage

A proposal by Stu Sando concerning the creation of an ASCIT Garage was discussed by the B.O.D. This would provide a place for Techers to make minor car repairs, to change oil, or to just tinker around with a car. With the facility

Continued on Page Three

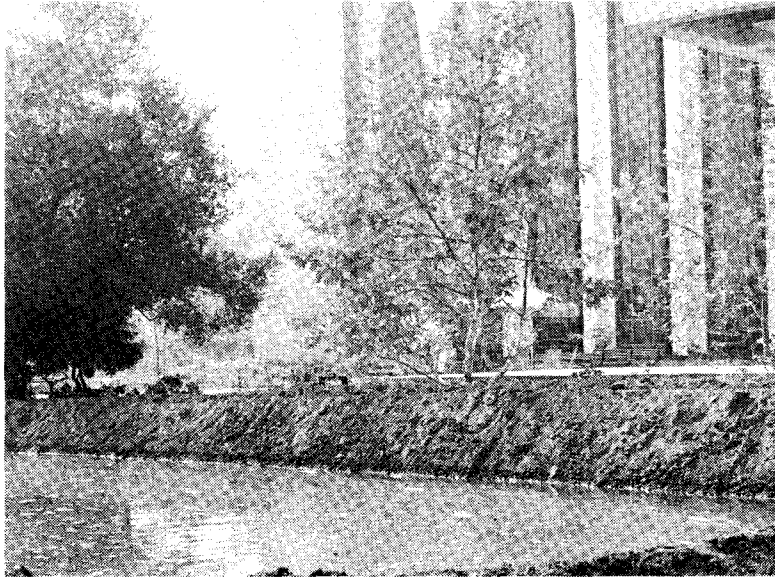
## News Briefs

### Feynman in Paperback???

The Caltech Bookstore now stocks all three volumes of the Feynman Lectures on Physics in paperback in addition to the cloth-bound versions. The paperback version must be purchased by complete sets (\$14.95 as opposed to \$28.40 clothbound) rather than by individual volumes. This new innovation has aroused a wave of controversy. Some claim that the paperback editions won't make as much noise when they are hurled into trash barrels, but proponents of paperbacks are quick to point out that paper burns better.

#### Y Fund Drive Begins Friday

The YMCA will hold its yearly fund drive beginning tomorrow. It hopes to raise \$5,000 from the Caltech students, undergraduate and graduate. Giving is "a simple, painless operation" (where have you heard that before), and you can even charge it—on your next term bill.



Widely acclaimed as the outstanding cultural event of the fall season, the Mudeo pit awaits the classic struggle between freshmen and sophomores. —Photo By Fish.

## Mudeo

### Mud Fling Next Friday

by Tom Matoi

Frosh, have the sophomores been unbearable; have frustrations mounted beyond known limits; have midterms given you a new low point in life? If you have an affirmative answer to any of these questions, your prayers will soon be answered. At 3:00 p.m., on Friday, November 13, the annual Mudeo, which matches the wits and wiles of the freshmen and sophomores against the junior class judges, will be held on the east side of the Noyes Chemistry Laboratory.

A new crop of grass by the football bleachers displaced the event this year from its traditional area to the neighborhood of the CEAC recycling dump. The new location may require minor modification of the old rules. For example, the dunking of judges may be forbidden.

Junior class president Bob Dullien has already produced a pit and only requires bodies to fill it. All freshmen and sophomores who are not on Warren Emery's restricted list are eligible to compete. Additional rules will be available in the student houses.

#### The Caltech Hillel Club Is Alive and Well

There will be a Hillel Club meeting on Sunday evening, November 8, at 6:45 p.m. at the roof-top patio of the Business Services Building. We will be discussing future plans for the club. If you have any ideas concerning activities for the club, write them down, come to the meeting, and discuss them. Israeli folk dancing will follow the meeting at 7:30 p.m. as usual, with one hour of instruction and two hours of free dancing.

On Thursday, November 12, the Hillel Club has asked Mr. Al Melman, the Director of the Commission on the Middle East of the Jewish Federation Council, to speak on the Middle East problem, from 1947 to present. All members of the Caltech community are invited to attend this talk on one of the world's greatest problems, which will be held in the lounge of Winnett Center at 7:30 p.m. Refreshments will be served.

Highlights of past Mudeos, featured in the "Big T" and "The California Tech," have included television coverage and participation by girls.

By the way, sophomores, you aren't going to let those wimpy frosh win? Are you?

## Beckman on Beckman

### McCann Eyes Flies

by Peter Beckman

Prof. Gilbert McCann explained how he has opened up numerous flies in order to study their optical nervous systems Monday night. Speaking on "Science Through a Fly's Eye," at Beckman Auditorium, Professor McCann told of his studies in which computers were used to evaluate the results of experiments on flies as the experiments occurred.

Professor McCann is Director of Booth Computing Center and an expert on informational science. This field is concerned with the organization, processing, and delivery of scientific information.

Computers have been of prime importance in this area. They can collect data, analyze it, abstract it, and give continuous results as the experiment goes on. This is especially important in the animate

## Tech Trustees Meet At Palm Springs

by Phil Neches

The notion of a National Board of Trustees meeting brings to mind visions of grave issues anxiously debated and earth-shattering decisions made. On the contrary, the annual national meeting of the board in Palm Springs provided more along the lines of education about Caltech and socializing for both the new and old trustees.

Dr. Brown informed them of the "State of the Institute" in the Friday afternoon session, an overview which was supplemented by descriptions of some of the research associated with the Institute. Dr. Christy spoke of "Continuing Efforts Toward Caltech's Pre-eminence." Dr. Pickering, Director of JPL, spoke of the future of that organization.

For the faculty, Dr. Lees spoke of an environmental laboratory, while Dr. Brooks addressed himself to "Special Laboratories." After a break for a reception in honor of

the new trustees and dinner, Dr. Jesse Greenstein explicated the "Marriage of Astronomy, Physics and Technology."

The next morning, the financial people claimed the trustees' attention with the details of what Caltech could expect and would need financially in the next five years. Public relations will play its part in all of this, according to a report presided over by Dr. William Corcoran, in which the various phases of the Institute's PR program was presented.

Thus filled with useful facts about Caltech presented from the top, the trustees turned to a view of the Institute from the bottom in the Saturday afternoon session, as presented by fourteen students, six grads and eight undergrads. In the first segment, Bob Fisher, Tom Carroll, and Leonidas Guibas gave short presentations, after which the meeting opened up for a free-for-all style discussion.

Fisher began his talk by pointing out that the resort at which the meeting was being held had a history of "racism and anti-Semitism," and that the ASCIT

Continued on Page Six

## Computer Flicks Could Replace Chl But Never Georgene

by John Tristano

Last Thursday Professor Kent Wilson and a group of undergraduates from San Diego State demonstrated the use of computer designed films. Their films illustrated non-trivial chemical models and theories, and how they can be exhibited in a comprehensible fashion. The patterns for the films are created by computer programs which are sent to a private corporation where the films are created. Some of the flicks shown also have computerized sound effects. The films provided entertainment while demonstrating chemical principles and should soon enter all levels of the educational system.

## First Meeting Tuesday

### Art Festival for Baxter Opening

by John Bennett

Baxter Nights Festival is an awesome, beautiful celebration currently scheduled for the opening of Baxter Humanities Building at the start of third term. It will be a gala Music, Art, and Technology show presented on the Beckman Mall to highlight the new building. It will be open to the public, widely advertised, and probably filmed.

The Festival has two organizational levels: Advisory and Works. The Advisory Committee is comprised of representatives from the Dean of Students, the Institute Art Program, the Interhouse Council, the Graduate Student Council, the Office of Public Relations, and the

Office of the Campus Architect. Already formed, its function is to advise in planning to insure that the Festival is of an inspired, artistic quality.

The actual design and layout of the artistic effects may be performed by any interested person cooperating directly with the Works Committee. Quite clearly, it is their ideas and effort which will create the show. An organizational meeting of the Works Committee will be held on Tuesday, November 10, at 7:30 p.m. in Clubroom 2 of Winnett. A that time, a brief explanation of organization and purpose will be given, then subcommittee chairmen will be

appointed to coordinate various aspects of the Festival. These will include: Music, Lighting, Art and Sculpture, Financial Procurement, Refreshments, Public Relations, and whatever others may be considered desirable.

This first meeting is of critical importance. An integrated arts festival is only so good as its organization and the enthusiasm of its planners. If you would like to put your technical imagination to work for an artistic end, please note the meeting on your calendar.

For further information, you may phone John Bennett at 684-2126 (days) or 355-0492 (evenings).

EDITORIAL

Y Fund Drive Needs Help

Tomorrow the Caltech YMCA begins its annual fund drive. Caltech students will be given cards by which they pledge money to be put on their term bill, or with which they may return their donation for the annual support of the campus organization. The fund drive is held once a year and lasts one week.

The Caltech YMCA performs many of the functions performed by student organizations and administrations at other universities. The 'Y' serves the entire campus in organizing informative programs, as well as entertaining activities. Many of the stories in the Tech each week cover speakers brought to campus by the 'Y.' Political action groups have found the 'Y' a convenient place to get together and a central sponsor for their activities. The last function is particularly important in light of the recently announced policy on political action.

The annual YMCA budget is about \$63,000. About one-third of the funds come from a permanent endowment fund. Approximately one-half come from donations from friends. The Institute contributes about 15% of the annual operating budget. Student contributions amount to about \$5,000.

Even though the percentage contributions by the student body is low, the extra money can provide many more activities, as well as show to prospective donors that Caltech students really do use and appreciate the 'Y.' Since much of the \$63,000 goes for fixed expenses, student contributions really mean quite a bit. You can contribute as much as you wish for this important campus organization. Support It!

-Ira D. Moskatel

Guardian Angels

Trustees Support Institute

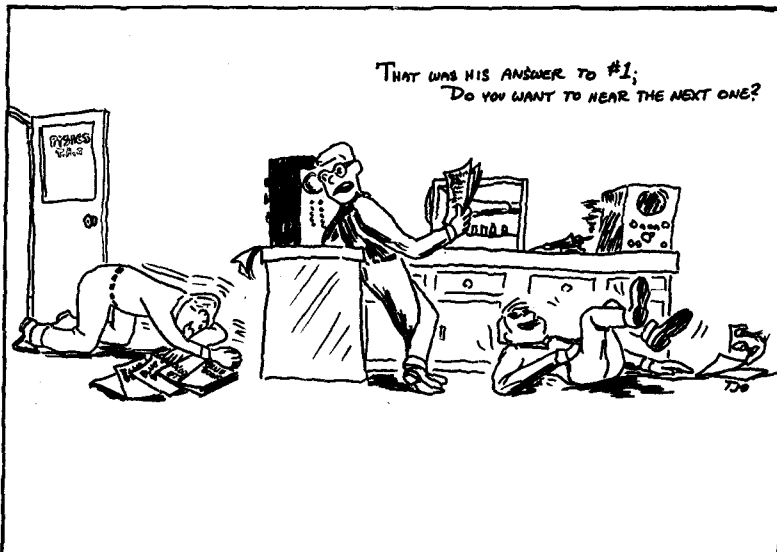
by Paul Levin

The annual Caltech Board of Trustees meeting at Palm Springs was held this weekend. The people at this meeting were not paid to come, and some of them had to come a long way. The Trustees, well established in business and industry, are mostly from the southern California area. Their average age is 59, and at 43 Harold Brown and Otis Chandler are competing for the title "youngster of the board." Only five out of forty-five are alumni. They have served for an average of four years, though a fifth of them have more than ten years' service. Here is a list of our Trustees:

- Robert O. Anderson, Chairman, Atlantic Richfield Company; Roy L. Ash, President, Litton Industries, Inc.; George W. Beadle, Director, Institute for Biomedical Research; Stephen D. Bechtel, Jr., President, Bechtel Corporation.

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More Trustees on Page Three More Article on Page Eight



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Lettuce?

Who Shall Represent The Workers ?

by Ken Mills

Two months ago, just after the history making signing between Delano's grape growers and Cesar Chavez United Farm Workers Organizing Committee (UFWOC), it was announced in Salinas by that valley's growers that they had negotiated, en masse, contracts with the Teamsters Union to cover their field hands. When the dust settled, California had the largest farm strike and boycott in its history going full swing.

This relates to Caltech in a very direct way. Don Williams, Food Service Director, has informed me that he is purchasing UFWOC label lettuce, and this may be one of the first such commitments by a college or university in Southern California. As such, it would be enlightening to put forth the history of the farm workers struggle in order to more fully understand the importance of this action.

Five Years Ago

The farm workers movement began approximately five years ago, with a then little known man by the name of Cesar Chavez. At that time, as head of the National Farm Workers Association (NFWA), Chavez called a strike-boycott in the California table grape industry. The movement rapidly gained momentum, and soon became a cause of national prominence.

The issues then and now are equally valid. Of primary concern is the fact that farm workers live in conditions that have been termed a "national disgrace" by the United States Senate. As of 1967, farm workers in California averaged \$2,024 per year. This is due to both low wages (\$1.60 to \$1.85 per hour), and idleness forced by the inconsistencies of the harvest system. On the average, farm laborers work only about 55% as much as industrial workers - a statistic they have no control over.

Wages Not Primary

Wages, however, are not of primary consideration. What is,

however, is that farm workers live in a very inferior environment. 80% of farm workers family dwellings are considered unsafe and dangerous to the health of the occupant; in many cases, the housing is totally unfit for human habitation. 1 in 3 dwellings has no toilet, 1 in 4 has no running water. Finally, in the fields, conditions are similar to those in the houses - no toilets, no running water, no sanitary provisions.

Equally important, many growers use pesticides indiscriminately. Before UFWOC signed contracts with the table grape industry, laboratory tests showed residues of fourteen persistent pesticides, including Aldrin, Dieldrin, Parathion, and DDT derivatives. More importantly, these pesticides are used in many cases without any concern for the safety of the workers, with the end result being that each year hundreds of people are killed or injured by pesticide poisoning.

Issues Incorporated

The recent lettuce strike in the Salinas valley incorporates these issues, as well as those of child labor, grievance procedures, and proper health care. Aside from this, however, there is one basic issue that is unique to this strike: does the farm worker have the right to choose his own representatives, or should the company provide the union?

The Salinas growers signed a contract with the Teamsters union; thus it has been argued that the strike is a jurisdictional dispute. This, however, is predicated on the assumption that the Teamsters represent the workers; and this is simply not true. Elections were never held prior to the signing of the Teamster contracts, and hence the workers never had a chance to elect their representatives.

Interharvest Corp., one of the companies that reversed its position and signed with UFWOC, admitted in court that the Teamster contracts were signed solely to keep UFWOC out. When one considers, however, that 5,000 workers were willing to strike at the word of Chavez, and

that secret elections held by the Bishop's Auxiliary Committee of the Roman Catholic Church certified that the workers want Chavez, it becomes apparent that the UFWOC is the true farm workers union.

Mistake Recognized

The Teamsters union, recognizing its mistake, has agreed to withdraw from Salinas and turn over its prerogative on organizing field hands to UFWOC. The growers, however, have refused in most cases to renegotiate with Chavez, and have continued to claim their Teamster contracts as evidence of their good faith. It is obvious, however, that the growers were looking for a company union when they signed with the Teamsters.

Despite these inconsistencies, injunctions have been granted that have in effect stopped the strike. Since UFWOC and Cesar Chavez are committed to the principle of non-violence, and since Salinas was like an armed camp, Chavez called off the strike and called for a nationwide boycott of all non-union lettuce. While it is true that a boycott is an obvious pressure tactic, it must be noted that when the government fails to help, and one is committed to non-violence, this is the only solution.

Promote Human Dignity

So, in effect, Food Service is, by buying union label lettuce, promoting human dignity and helping the migrant farm worker to a better life style. Add to this the fact that UFWOC lettuce is free of hard pesticide residues, and that the crop is picked under better sanitary facilities in union fields, and we can indeed see why it is necessary to "boycott for justice."

The CALIFORNIA Tech

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LISTEN I'VE WAITED HERE NEARLY TWO YEARS FOR AN AMERICAN PICTURE I COULD FULL-OUT GET BEHIND, NO HEMMING AND HAWING, NO QUALMS THAT MATTER. SO FAR THIS IS IT! I'M REALLY PRESSING YOU TO CHECK THIS ONE OUT! -JACOB BRACKMAN, Esquire. JACK NICHOLSON FIVE EASY PIECES KAREN BLACK and SUSAN ANSPACH. COLUMBIA PICTURES Presents a BBS Production. 4th RECORD WEEK! Daily 2:30 - 4:20 • 6:10 - 8:00 • 10:00 P.M. Extra Fri. & Sat. Late Show at 11:45 P.M. EXCLUSIVE ENGAGEMENT. Loew's CREST WESTWOOD. 1262 WESTWOOD BLVD. 772-5376 • 47-7456.

The Dope Sheet**Facts On Drugs Are Hard To Find**

by Ira Moskatal

The poll seems to be an established method by which American pollsters express their opinions. The activists of Right and Left have also chosen to use surveys to prove their theories on the use and abuse of drugs.

A number of studies of the use of hallucinogenics have been made on university campuses in the U.S. Three years ago such a study was made by former Caltech staff psychologist Kenneth Eeels on the Caltech campus. Over 90% of the student population returned the questionnaires. The questionnaire was written with the standard double-talk questions designed to ferret out inconsistencies in answers. The resulting analysis probably was as good as any ever made, simply because the poll covered the entire campus.

Most surveys of this sort are not so carefully made nor so representative. Administrators at St. Norbert's College in De Pere, Wisconsin, wanted facts about student drug use. They picked a random sample of 240 students, to which they distributed printed forms. 100 students replied with answers. The

original 240 constituted a small fraction of the student body. 100 replies on a *totally random* choice were used to model the activities of a student body tens of times that size. In a drug poll such data could hardly be relevant.

My point in the above descriptions is the following: There is a lot of literature on the market claiming to represent the 'facts.' Most books are merely polemics. All of the literature has a bias.

In the YMCA drug library there are a number of the less biased survey reports, as well as explanations of the legal statutes and implications.

*The New Social Drug*, edited by David E. Smith, M.D., is an anthology of research reports and legal perspectives. The authors of the excerpts are prominent scientists and lawyers—and none claims that he is unbiased. Each, however, attempts to present as fair an evaluation of their own research.

Gilbert Geis is a sociology prof. at Long Beach State College. In "Social and Epidemiological Aspects of Marijuana Use," Geis examines the methods by which marijuana use is propagated. He traces the

history of marijuana surveys and resultant legislation. The late Fiorello La Guardia, mayor of New York during the 40's and a member of Congress prior to World War II, conducted the first survey, believing that the drug was not harmful. Oddly enough the results of the investigation were that the weed was probably a harmless euphoric (In paraphrasing, I quote ex-Tech editor and continuing disciple of cannabis, Mike Meo). Odd it is since the investigators were six New York Narcs.

*Marijuana—The New Prohibition*, by John Kaplan, a law professor at Stanford, is an analysis of "medical and social evidence on America's third most widely used drug." It is a polemic and makes no bones about it. The author is an expert and writes in the form of a text — it is not a light style.

There are a number of such references in the library in the Y, put together by Institute Psychologists Nancy Beakel and Ian Hunter. If you've got questions, go to Ian, Nancy, after checking the Drug Library.

**Seita Continues  
on ASCIT BOD**

Continued from Page One

for such a garage already existing, Sando felt that ASCIT should appoint a person to run the garage.

Along a similar subject, Greg Sharp talked of the possibility of hiring a mechanic who would teach Techers about motors and car repair. Both ideas were received favorably by the B.O.D.

**Announcements**

"Synesthesia," a program sponsored by ASCIT and Dr. Smith, will be held in the dining room of Lloyd House on Thursday, November 12. To be shown from 8 to 10 p.m., "Synesthesia" will deal with art presented through mixed media. More information about it will be in next week's *California Tech*.

If an on-campus student wishes to paint or decorate his room, it is allowable under institute policy provided that certain conditions are met. Interested students should contact Mr. Robert Gang, head of Residence and Dining.

The ASCIT Executive Committee recommended By-Laws changes and gave their opinions regarding referendums, the B.O.D., and ASCIT membership.

This week's meeting of the ASCIT B.O.D. will be held at 7:30 p.m., Thursday, November 5, in Winnett Clubroom II.

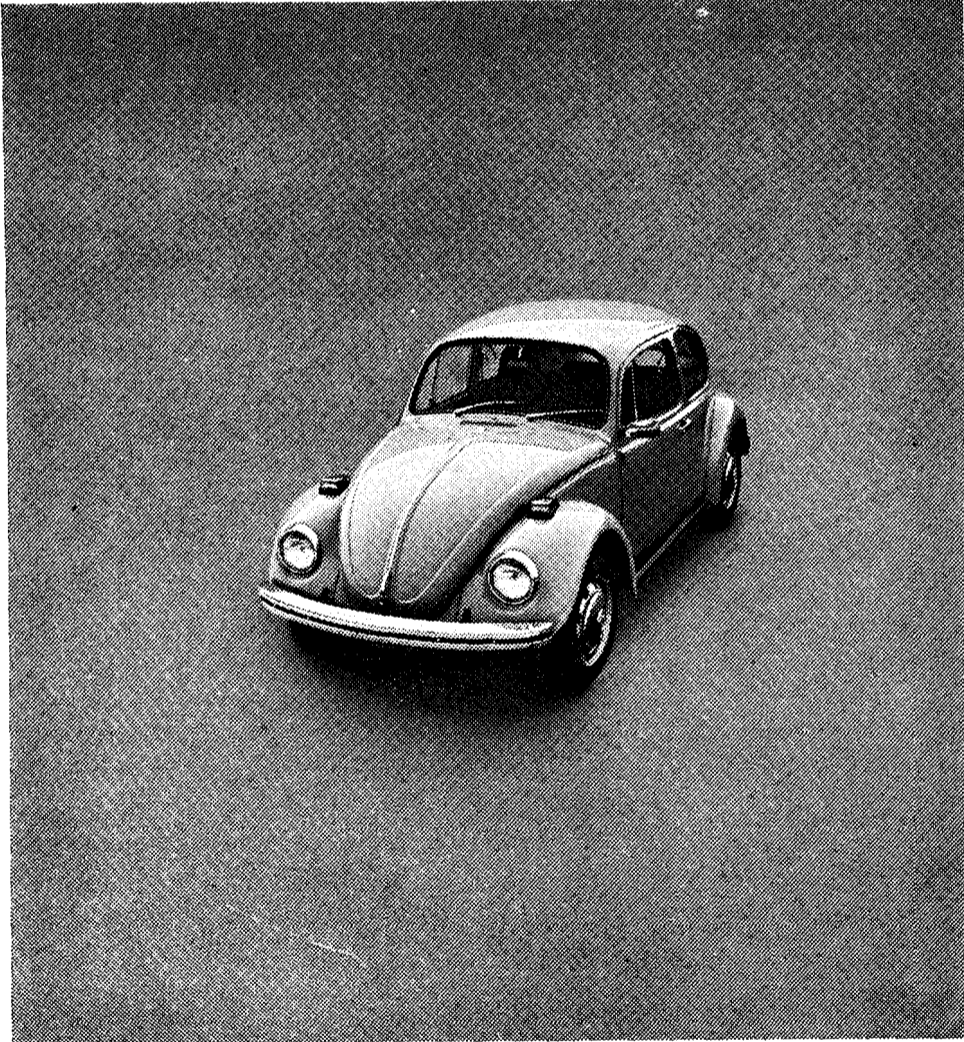
**Trustees**

Continued from Page Two

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Continued on Page Eight

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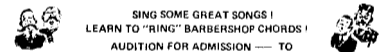
See the Yellow Pages for the dealer nearest you.

**WANTED**

100 MEN  
WHO LIKE TO SING

The Pasadena Chapter of the Society for Preservation and Encouragement of Barbershop Quartet Singing in America, Incorporated, invites you to come to Michillinda Presbyterian Church, Corner Rosemead and California Street, Pasadena.

FRIDAY, NOVEMBER 13, 1970 — 7:30 P.M.



SING SOME GREAT SONGS!  
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PASADENA'S CLOSE HARMONY CHORUS

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THIS FRIDAY, ASCIT BRINGS YOU

**Barbarella**

Starring JANE FONDA  
(Cows love her)



7:30 p.m. and 10:30 p.m.—Culbertson Hall

**Admission 50¢**

Friday, Nov. 13

**The Good, the Bad,  
and the Ugly**



**The Tech**



**About Town**

This is coming out weekly now. Oh! Wow!

**Company Theater** (1024 S. Robertson Blvd.) "The James Joyce Memorial Liquid Theater." Avant Garde theater at its vigorous best.

**Ahmanson Theater** (The Music Center) "Forty Carats." Barbara Rush finds love complicated with a younger man.

**County Museum of Art** New Talent Award winners John Alberty, David Deutsch, Patrick Hogan. 5905 Wilshire Blvd. Now Through Nov. 29.

**Cal State L.A.** "4 Chicano Artists" Charles Almaraz, Leonard Castellanos, Robert Gomez, James Gutierrez; through Nov. 26.

**Caltech** (What???) Lithographs from Gemini Graphics, works, American contemporary, through Nov. 19 (Go see it!).

**Downey Art Museum** "Fibers and Fabrics" Contemporary American Artists. Through Dec. 6.

**County Art Museum** "The Art of India, Nepal, and Tibet." First showing of recently acquired Nasli and Alice Heeramanek Collection, prints by Jacques Callot, selections from the museum's permanent collection.

**Junior Art Center** Coherent Light Art Show, an environment with lasers, holograms; through Dec. 11 (Go see the light fantastic) Barnsdall Park, 4814 Hollywood Blvd.

**Cal State Fullerton** Judy Chicago; paintings, sculpture, photos, atmospheres (Breathe man, Breathe!) through November.

**Scripps Potpourri** from Scripps collection. A really random gathering through Nov. 17.

**Pasadena Art Museum** Photo-

graphs before Surrealism, 50 pics, through Dec. 13; the Rowan Collection of Contemporary American Art, Chinese snuff bottles, prints from the Frank Lloyd Wright Collection.

**UCLA** "Ceramics, Form and Technique," continues through Nov. 25. Honoring Prof. Laura Anderson; selections from the Cordea and Grunwald Graphic Arts Foundations.

"Lest we forget," are you ready for this?

**Beckman Auditorium** William T. Jones "Science and the Arts" on November 9; "Dr. Jekyll and Mr. Hyde" and "Cat and the Canary" silent films November 10; Virtuosi Di Roma, noted Italian Chamber Music Ensemble, November 13; Baroness Jane Godall "My Life Amongst The Wild Chimpanzees," November 14; Karl Kohn, second in the Coleman Chamber Music Association Series, November 15.

And now after midterms try these on for size:

**Dante's Terry Gibbs Quartet** and the **Bud Shank Quartet**, 4269 Lankershim Blvd., North Hollywood.

**The Ice House** would you believe John (California Bloodlines) Stewart, Kajsja Ohman and Maggie all this week and next at 24 N. Mentor Ave.

**Shelley's Mann-Hole** features Thelonius Monk all this week.

**IHC Immaculate Impulse** Coffee-house - More music and IHC women, more poetry (and IHC women), and certainly more IHC women (and IHC women...)

For those who are extremely horny after midterms, may we suggest 890 E. California Blvd. -RWM

**THE EXCHANGE**

People grasping  
Cocktail glasses  
Stand in gasping  
Teeming masses.  
People smoking,  
People drinking,  
Coughing, choking,  
Getting stinking.  
Some discreetly  
Boiled or fried;  
Some completely  
Ossified.  
Liquor spilling,  
Trousers sopping,  
Steady swilling,  
Bodies dropping.  
Glasses falling  
On the floor  
People calling  
"Drop some more."  
Bodies steaming  
Morals stretching  
Women screaming  
Freshmen retching.  
Heavy smoking  
Air gets thicker.  
Someone croaking  
"No more liquor,?"  
What? What???

No more liquor . . .  
People snicker,  
Unbelieving  
No more liquor?  
Let's be leaving.  
No more drinking?  
Groans and hisses!  
What a stinking  
Party this is.

-1949 Hot Throbbing Rivet

**SESTONA I**

As i now sit and think of smoking grass  
I wonder, though I have some numbers rolled  
and surely could light up a random joint  
to get my head extravagantly blown  
I've ambiguity at being spaced.  
Should visions waver like green fragrant fields of pot?

It's been some years since I discovered pot  
Since then I've flown a thousand trips on grass.  
These years contain those incidents which, spaced,  
mark my emerging self; these years have rolled  
behind me far to quickly, winds have blown  
me nearer Hamlet's hassles, "the time is out of joint."

My ownership of memories is joint:  
some, shadows of my mind, and some of pot;  
Some lucent crystal glassware, calmly blown  
Some phantom aberrations of the grass  
Yet all these figments in my brain are rolled  
and welded, lumped together, co-existent-spaced.

Mankind was once Earthbound, we now are spaced.  
This planet felt too small; we split this joint  
and solemn cosmic peals of thunder rolled  
Too long the fire seethed beneath our pot;  
Too often hardened rock above the grass;  
And so into the depth of boundless night we're blown.

Oh, many a crackling reefer I have blown  
And often have I been supremely spaced.  
I've felt attuned to God and Girls and Grass  
and seemed some holy junction, pious joint  
But such illusions mostly went to pot  
and since beneath steam-roller-massive truth been rolled.

Right now life's weighted dice are being rolled  
and when at last the final trump is blown  
there won't be any further need for pot,  
there can't be any way of getting spaced.  
Someday I'll be dismembered joint by joint  
by mindless worms, six feet beneath the grass.

So why should I get rolled? In time I'm spaced  
And ultimately blown. Well now, forget that joint:  
Why bother smoking pot when "all the flesh is grass.?"

Jon Post

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Times Grand Prix

Is Hall vs. All

by Alan Lederman

For the American sports car enthusiast, the highlight of the auto racing season is the L.A. Times Grand Prix. For the Caltech auto enthusiast, The Man To Watch is Jim Hall, Caltech engineering graduate turned renegade racer.

The center of interest of the Grand Prix was Jim Hall's "Chaparral 2J," a car with such revolutionary design as to differentiate it from all others in the race. In fact, the Grand Prix was in some sense Hall vs. All.

"Chaparral 2J" has moveable parts, fans, and aero-dynamical parts which under strict interpretation of SCCA (Sports Car Club of America) and FIA (Federation of International Auto Racing) rules, would have disqualified the car from racing. Other drivers complained loudly, their two major points being the following:

(1) Although perhaps technically legal, the Chaparral cars were not appropriate in competition against the standard cars.

(2) Should such a precedent of allowing Chaparral cars to race be set, and Hall successful, all entrants would feel the pressure to buy Chaparral cars at heavy cost. This would reduce sharply the number of entrants dramatically and turn racing into solely a sport of wealthy combines.

Thus all eyes were on Jim Hall Sunday in perhaps the most significant race of 1970.

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by Dan O'Neil



The Caltech Forum

An interchange of views on any and all topics of interest.

Institute Non-Involvement Questioned

Dear Dr. Haagen-Smit,

It is true that the Institute is a collection of individuals as you said in your response to John Lehmann's letter, but individualism does not necessarily require isolationism. If all the individuals at Tech went only about their own business, the Institute's actions would come to a stand-still.

There is considerable student interest in environmental action, and this interest needs direction. (An example of this interest was the cooperation between students, the Secondary Schools Relations Office, and the Pasadena school system in presenting a program at Pasadena High School where Tech students gave talks to high school classes about several phases of ecology.) Actions such as the Clean Air Auto Race and the ASCIT summer research projects, while having decided results in the abatement of environmental problems, are only a portion of what is needed to clear the problem. It is easy to say someone else will come along and solve the problem, but that is not the case here. The public, while being concerned about ecology, can do nothing major about preventing ecological crises. The public relies on two groups for this prevention: industry and scientists. In many cases, it has been seen that industry has concerns such as economics which prevent it from taking effective action. Needless to say, this means that scientists in general, on whom Caltech has tremendous influence, must accept the bulk of the responsibility of directing action.

The "big difference" lies not in bypassing group action for fear of committing other individuals and instead only taking individual actions, but rather it lies in finding those individuals who are interested in taking action and channeling these actions in a common direction to achieve a major goal.

-James E. Price, '74



It has been a few weeks between columns, but the show at the Ice House was definitely worth the wait. This is one of those weeks when everyone should go and see a feature.

The show starts off slowly, with the weakest of the three acts, a rock group called Maggie. If they stuck to instrumentals, they might be quite reasonable, with electric, amplified acoustic, and pedal steel guitars, along with drums and electric piano. However, they insist on singing, which is their definite weak point. Rock groups would do well to lower their volume when playing at the Ice House. Maggie reverberated the audience to death at times.

The second act was a girl named Kajsa Ohman (how else would you spell Kajsa?) who played electric and acoustic guitar and sang. She writes some of her own material, and reminds me somewhat of a Buffy Saint-Marie with a smoother

voice. Kajsa also has a very keen sense of humor, and told a few anecdotes of Montana, where she has lived much of her life. Kajsa Ohman is one of those entertainers who are best suited for placed like the Ice House, because they bloom in informality. Kajsa Ohman is worth listening to.

John Stewart is IMPRESSIVE live. He sounds even better than he does on records. He did almost every well-known song from his two albums, "California Bloodlines" and "Willard." Both title songs, plus "Big Joe," "July, You're A Woman," and a host of others form one of the best shows ever to grace the Ice House. Also, John Stewart tends to get interesting backup guitarists (was that Chris Darrow on guitar, mandolin, and fiddle?) and is a good guitarist himself. If you have ever liked anything done by John Stewart, go and see him at the Ice House. It is well worth the money.

-Nick Smith

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STEREO Treasury SERIES

# Trustees, Techers Exchange Ideas

Continued from Page One  
contingent considered not coming to the meeting because of it. They did, however, decide to come, he continued.

Fisher told of some of the frustrations and some of the joys of being a Caltech student. He indicated that students are basically happy with the Institute, although often frustrated by some of the requirements, which can seem to have little relationship to what the student ultimately wants to pursue. He called for more latitude in selection of courses and curriculum by individual students.

Tom Carroll focused on the dilemma of students with personal problems. Family problems, lack of personal direction, and the like impair academic success at Caltech, he indicated. The two Institute psychologists have their hands full just with personal problems, and have no time to deal with more general questions of the relationship to the Caltech environment and students' mental health. He urged that more be done for the mental wellbeing of students, especially those with personal problems.

Guibas called for better relations between trustees and student leadership in his presentation. He also gave a few proposals for programs aimed at accomplishing this, which included a more formalized "intern" program and a program in which students could visit plants of trustees and see first-hand how research and management scientists live and work in industry.

After the presentations, a lively discussion ensued, primarily focused on the issues of curriculum and requirements. Several members of the faculty pointed out that in some fields, notably biology and chemistry, formal requirements had been abolished per se. Some philosophical questions concerning requirements in general were raised and debated.

Although nothing specific came out of the discussion (but then,

nothing specific was supposed to), students and trustees came to the realization that each group contained a diversity of opinions and life styles. Also, a basis for further discussions was created.

In the recess that followed, small groups of students and trustees continued some of the discussions which had been started in the larger group. Interestingly, some students and some trustees sought specific members of the opposite group with whom they had apparent disagreements, many of which were resolved in completely informal groups of two or four.

When the meeting reconvened, the graduate students had their prime time. Bob Patenaude explained the origin and purposes of the Graduate Student Council, and some of the frustrations associated with heading it.

The problems of the graduates in many ways seem the reverse of some undergraduate problems, he explained. Graduate students have a tremendous diversity of interests and life styles, which makes representing their views difficult. The GSC, he related, was formed at the behest of the administration and faculty, rather than spontaneously by the graduate students themselves, but since has taken on somewhat more independent life.

Caltech students, both graduate and undergraduate, have something unique to any student body, said Geoffrey Magnus in his presentation, namely, that the faculty respects both them and their ideas. He informed the trustees that Caltech students find that they can deal with their professors on an "equals" basis, rather than as the lowly, unlearned soul who dares not impose on any professor's time, a situation all too prevalent at other colleges and universities.

Jessica Tuchman reported on the singular problems of female graduate students. Uncertainty in the choice of a professional life represents one of the major obstacles for this particular minority group. The presence of women on the voting faculty, especially in the science departments, would help, she indicated.

After more general discussion, the meeting adjourned for cocktails and dinner. In that interregnum, conversation flowed more liberally than either the bartender's stock or the hors d'oeuvres, as discussions started or inspired by the afternoon's events continued in small, informal groups which constantly shifted members and topics (as such conversations and groups are apt to do).

Following dinner, all assembled

## Hall Appreciates Tech Education

by Alan Lederman

Prior to the drop of the green flag at the Riverside 500, I went to the pits to interview Jim Hall. In the interests of expediency, I asked only questions with no overlap in the general press. The results, I think, will be of surprise to C.I.T. students.

Lederman: At Caltech there is much interest in your career. Our readers would much like to be informed on several questions not appropriate to public press coverage. How has your Caltech education helped you in your career?

Hall: My Caltech engineering background was *strictly theoretical*. The theory I picked up at Caltech could be applied anywhere. Anyone can learn the specifics. But someone who knows the theoretical can apply it to any situation.

Lederman: And then innovate, as you have done?

Hall: Yes. I feel my Caltech background in engineering has let me enter the field of aero-dynamic parts. In this field I feel I've revolutionized Formula I Racing.

Lederman: What would be your advice as to the curriculum to be taken by a future (auto) engineer?

Hall: Stress the theoretical. Then adapt basic principles to each specific situation.

Lederman: Thank you, and good luck.

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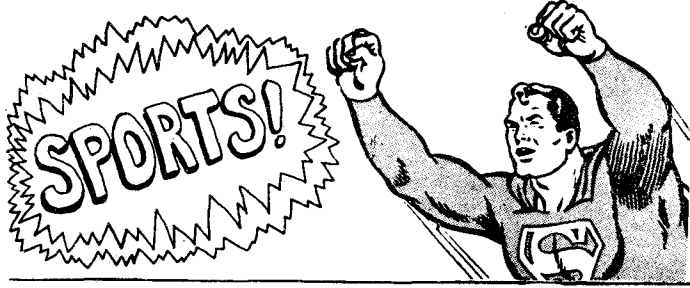
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## Jim Hall #2

# Techer Challenges Racing World

by Ken Mills

Here I am, hero reporter, standing in the paddock of Riverside International Raceway, looking at car No. 66. It is stubbed off at the back with huge wheels, a cockpit that resembles a medieval torture chamber, and a pair of protuberances sticking out the rear that can best be described as refugee exhaust fans from the old steam tunnels. It looks like something either extraterrestrial or a government project; hence, it must have been created by a Techer.

Jim Hall, '57, Mech. Eng., is the designer of the car in question, the Chaparral 2J. It is the latest in a series of Chaparral racing cars, started in 1963, and, as his other cars, represents the most modern advances in automotive racing tech-

nology. Called by many automotive experts the most brilliant designer in racing today, Hall introduced the use of aerodynamic styling — including wings — the use of automatic transmissions, and many other subtle technological breakthroughs into the world of modern automobile racing.

### Composure

Standing in the paddock, one is immediately impressed by the composure of the man. Perpetually calm, he moderates activity like a traffic officer, waving in autograph seekers, pattering with his machine, and talking with friends. He takes time out to pose for a photo with a friend's son, autographs a magazine for a race fan, and then walks over to tinker with the engine in the car. Suddenly, he walks over and

gestures to me, and I'm on.

Once Hall's attention is captured — and this is not easy — it is yours until you release it or abuse it. Capturing his attention in this case was a matter of subtly dropping the hint that I was a fellow Techer — "Please, Mr. Hall, if I don't get this story, my editors will draw and quarter me" — combined with a healthy amount of patience.

The first question I asked, was strangely enough, his reasons for choosing racing as a career. His answer, accompanied by a coy grin: "I guess I just never grew up." As it turns out, Hall was involved in racing before he came to Tech, and decided to mold his education to it.

### Not Transitory

Techism isn't something transitory, as we all know. Witness his answer as to his goal in building cars: "perfection — but of course I'll never reach it." When I queried him about the 2J, which some say may be his ultimate achievement, he replied that it was merely another step along the chain. Finally, when I tried to get him to tell me the origin of his innovative ideas, he replied that the question is basically unanswerable, that the ideas come from his background and spur of the moment inspirations. (Anyone for Feynman physics?)

The next questions was, inevitably, to what extent Hall's success is due to his Tech education. "Not everything," he

Continued on Page Eight

**Editors' Note** — Imagine our surprise when not one but two unassigned interviews with Jim Hall reached our desk Sunday night. (Imagine Jim Hall's surprise at being interviewed twice by reporters for the same paper.) This prompted us to resurrect the 1957 *Big T*, from which the following write-up was gleaned:

*A leading candidate for the title of class father, this tall Texan from Abilene has two daughters, Linda, age 3, and Sharon, age 1½. It would seem that seeing to the welfare of his*

*daughters and his wife, Nancy, and keeping up with his school-work wouldn't have left Jim much time for activities, but he's found time to exercise active interest in SAE and ASME and in racing and designing sports cars. Although his future plans haven't definitely solidified, they undoubtedly include further pursuit of automobile engineering and plans for the growth of his young family.*

How right they were.

# Why isn't a big company like General Electric doing more to clean up the environment?

How much can one company do to clean up the environment?

Until the problems of pollution are under control—until its effects are reversed—no company can ever be doing "enough."

What follows is a listing of things General Electric is doing to ease environmental problems. Some are new. Some are as old as twenty-five years.

Should we be doing more? Yes, of course. Every company should. These are only a few of the more important ones. But every day sees us take more steps in many more directions.

- ▶ General Electric is working toward a process that will use bacteria to convert garbage into a high-protein food for cattle. One possible answer to the mounting garbage problem.
- ▶ Modern, pollution-free mass transit from General Electric is carrying more and more commuters into cities without their cars.
- ▶ GE pioneered the development of nuclear power plants. A nuclear plant makes electricity without making smoke. While there is still

the problem of thermal effects, it's being tackled on a site-by-site basis and can be solved. But for now, increasing demands for power can be met without an increasing output of air pollution.

- ▶ GE has developed a waste-treatment unit to significantly reduce the water pollution from ships and boats.
- ▶ We have been chosen by the federal government to solve the problem of jet-engine noise for the aviation industry. Our present jet is already quieter than those on the passenger planes of the Sixties, and yet it's nearly three times as powerful.
- ▶ GE designed and built an undersea habitat called "Teknite." Several teams of scientists have lived in the habitat while studying coral-reef ecology and ocean pollution.
- ▶ We're designing an earth-resources satellite which will be used for a worldwide survey of the oceans. A first step toward the ultimate control of water pollution.
- ▶ Our newest jet airplane engine, for the DC-10, is designed to be smoke-free. Of course, there's more to jet exhaust than just smoke. And our goal is to one day make them run totally clean.
- ▶ General Electric makes high-temperature vortex incinerators for

the complete combustion of many types of solid waste. Complete combustion drastically reduces the amount of leftover ash, as well as virtually eliminating air pollutants.

The problems of the environment are many. And some of the solutions will be difficult and costly. But, as you can see, we're working on them.

### Why are we running this ad?

We're running this ad, and others like it, to tell you the things General Electric is doing about the problems of man and his environment today.

The problems concern us because they concern you. We're a business and you are potential customers and employees.

But there's another, more important reason. These problems will affect the future of this country and this planet. We have a stake in that future. As businessmen. And, simply, as people.

We invite your comments. Please write to General Electric, 570 Lexington Ave., New York, N.Y. 10022.

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# Being A Trustee Takes Time, Money

Continued from Page Three

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Continental Oil Company
- Dean A. McGee  
Chairman  
Kerr-McGee Corporation
- Robert S. McNamara  
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System Development Corporation

takes work; and it doesn't pay anything. There are two large meetings every year, the Palm Springs meeting and one at Tech in May. At these meetings (and others attended mainly by local members only) major issues are discussed. It was at such meetings that the Immaculate Heart College question, the admission of women undergraduates, and the selection of the Institute President were discussed.

However, most of the Board's work is carried on in committees. The Executive Committee functions as a "small board," handling business between regular meetings. The Investment Committee handles the Institute's endowment fund, now over \$100 million. There are committees to look after the Institute's budget and its physical plant. In addition, other committees handle the audits and nominations to the Board of Trustees.

Being a Trustee also implies giving a needed hand to the Institute's finances. Either through personal donations or soliciting funds from others, Caltech's Trustees are the number one benefactors of the Institute. For example, the gross budget for 1970 is \$36.6 million, an expenditure of almost \$25,000 per student. Of this, \$10.7 million goes for instruction and Institute-sponsored research. This works out to \$7000 per student, roughly \$5000 more than tuition. Not only must the Institute make up \$5000 per student, but it must also supply 62% of the tuition! Roughly half of this money comes from income from the endowment; the other half comes from gifts and donations. The Trustees' efforts in raising funds are the principle reason that Caltech makes up the difference between expenses and income.

Being a trustee amounts to more than having your name on a list. It



**DYNAMIC DUO TURNS TRIUMVIRATE!** Despite the valiant efforts of Players of the Week Paul Dressendorfer, Bruce Johnson, and Gary Stormo, our Beaver squad went down to defeat under Pomona's last Saturday night. Come out this Saturday and watch our team get the ball in there against Azuza-Pacific at 1:30. —Photo by Eaton

## Race Car Designer Finds Tech Education A Help . . .

Continued from Page Seven

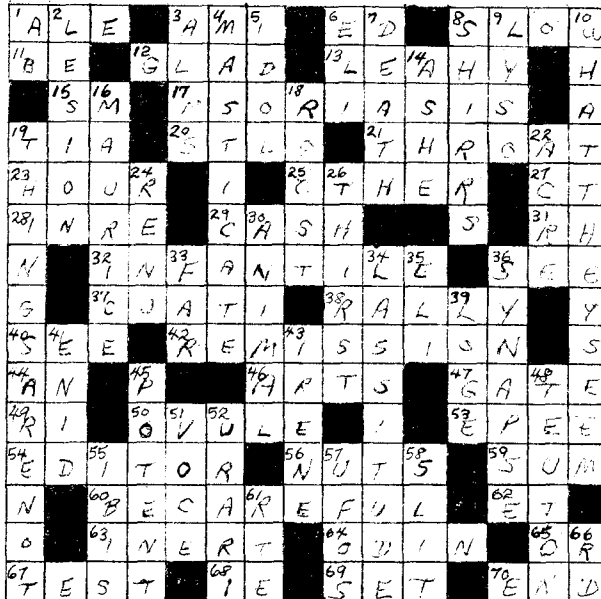
responded, "but a good amount. A person does basically what he has the talent to do, but the proper guidance and stimulation can develop those talents. This I credit Caltech with doing, at least in part."

I also probed Hall's thought concerning racing and the internal combustion engine. When asked if outlawing the internal combustion engine would seriously hurt racing, he replied: "the Federal government is a long way from that, but if a replacement engine is perfected, I can't see any difficulties in racing it."

### Served Its Purpose

Finally, I queried Hall as to the relevancy of his education to the real world. "I feel the education was good for me," he answered. "It was highly theoretical, and that is what I need in my work. Practical things you must learn for yourself; the theory is what is important much of the time. I really liked Tech; the academic freedom to attend classes as you wanted, the atmosphere it had. It served my purposes."

Just for the record, the Chaparral 2J qualified for the pole position of the race by 2 seconds over second place Denny Hulme in his McLaren. After one lap, however, the Chaparral dropped out and Hulme won the race. H.E.I. ????



## Classified Ads

### HELP WANTED

**TRANSLATORS**  
with scientific training required. All languages and disciplines. Free-lance. Send resume to Box 5456, Santa Barbara, Cal. 93103.

### SERVICES

**TYPING**, term papers, technical reports, correspondence and resumes typed in my home. IBM Executive Typewriter. Patricia Clabaugh, 792-1641.

Crestline Cabins and Lodge for groups. Weekend and holiday reservations, call (213) CA 1-6849. Brookside Lodge.

Published writer will polish term papers, English themes, master's theses, etc. 358-8592.

### FOR SALE

'62 Mercury Colony Park Station Wagon. Good condition. \$250 or best offer. 796-1951.

1966 Opel Station Wagon, 1 owner. Extremely economical. \$500. Call ext. 1838.

'63 Falcon Sprint, 4 speed, V-8, red with black interior. 78,000 miles, very clean. Asking \$725. (714) 626-3328.

Lovely home for sale. Two story stucco, 4 brms., 2 baths, playroom, family room, study, formal dining room. Newly decorated carpets, custom drapes. Brick patio, large fenced yard, fenced pool, 2-car garage. Near campus. \$48,500. Eves: 449-6675.

1967 White Saab sedan. Engine needs repair, body good. Barry Turnrose, 0015 Robinson, ext. 2586 or 792-2070.

Lightweight motorcycle, ideal for student. 48 cc. Italian made, new. 100 miles/gallon, 39 miles/hour. \$150. 684-1365 or 466-5141.

You, too, can take out ads in the California Tech!!!! \$1.50 per inch plus 20¢ per extra line for Classifieds. Bring ad copy to the Tech office, or phone Caltech extension 2154. O.K.?

Second Class Postage paid at Pasadena, California. The California Tech is published weekly except during exams and vacation periods by the Associated Students of the California Institute of Technology, Inc., Winnett Center, 1201 E. California Blvd., Pasadena, CA 91109. \$4.00/year.

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