The Caltech Library extends a warm welcome to new students and faculty. Did you know that there are about forty libraries and reading rooms on the campus? This is a special characteristic of Caltech. There is actually no real central library collection. Even the collections in the Millikan Memorial Building are mostly individual subject collections.

There are some centralized collections and library services in Millikan. The Reserve book service is on the first floor, for books and publications which have been assigned for specific reading by professors. Here you will also find a collection of records and some equipment.

On the second floor is the general reference collection and the union card catalog of holdings in most campus libraries. Readers’ Services Librarian Casper and his staff will be glad to help you find your way to the various collections. On this floor you will also find an extensive collection of telephone books and indexes to Caltech dissertations. The interlibrary loan office is here, for the convenience of faculty and graduate students.

You can sign up here for the intercampus vehicle which operates between Caltech, USC, and UCLAC, which is the Norris Medical Library (part of the USC School of Medicine), located near campus, specializing in 17th and 18th century English civilization.

On the fourth floor is the Humanities and Social Sciences Library. This has many books of general interest, like a small public library. You will also find a large collection of college catalogs and information on scholarships and grants.

On the fifth floor is the government documents collection. Mrs. Casebeer will be glad to help you find specialized information in your subject field. Here also is the microform center. Many publications are now available on microfilm, and some, because of staff, are not available. This microform room is open 5 p.m. and on Saturdays and Sundays (due to lack of staff), so arrange to visit it during regular weekday hours. This floor also has humanities journals.

The upper floors are science oriented.

Continued on Page Ten

All the News That Fits

Flu Clinic
Available to all Caltech personnel, students, and spouses on the Caltech campus.

Fellowship Deadline
The deadline for submitting applications for the Churchill, Fulbright, Marshall, and Watson Fellowships is October 22. If you have any questions, come to see the Dean.

Missing Tapes
Will whoever borrowed the tapes for lesson one through four of the elementary Russian course please return them to the library language lab in Dubney Hall.

Continued on Page Eight
Letters to the Editors

Stay Off Pot

To whom it may concern:

We (the members of Ricketts House) are now involved in the major undertaking of reconstructing the Pot in our courtyard. Several hundred man-hours of work, centered on a fund-drive of the alumni of the House, have brought in the necessary capital to begin work on the replacement.

We are going to great pains to insure that the new Pot, to be made of concrete, will resemble the old one in size, shape, color, and overall appearance. Once the project is completed (probably within two months), we would like it to stay that way.

In other words: please do not interfere with the reconstruction in any way. Several stages of the work to be done are critical for good results. Also, after the job is finished, please leave the new Pot alone.

This letter is not a challenge; it is a warning. If anyone does anything to the new Pot, either while it is being worked on or after it is finished, they will be liable for possibly expensive repairs, and they will be considered by the House to have taken unfair advantage not only of its current members but also of more than a hundred of its alumni. The latter have donated an average of more than ten dollars apiece, and we would like to stay on good terms with them.

We want to put the new Pot back into the condition the old one was forty years ago, and have it stay that way: unpainted, clean, and not the target of any interhouse rivalry. We will sincerely appreciate your cooperation.

-Alan Silverstein
For Ricketts House
If you're not desperate yet, you will be...

SOONER OR LATA

In your now no doubt desperate search for diversion, I'm sure that at least six of you (in the appropriate units) have discovered the Listings in Calendar. Congratulations. A more comprehensive index is not easily found. This week, for example, under the general heading of Stage three appeared over one hundred offerings. This comp as a whole represents a breadth of topic and general accessibility unapproachable by the major houses such as the Ahmanson or the Shubert.

I say accessible not only because these theaters are scattered all over the L.A. area, but also because tickets are almost always available. It is, after all, rather easy to become lost in the jungle of promotion disgorged by Ahmanson or the Shubert. The Bread of Topic and general accessibility unapproachable by the members is probably academic dead party at the Shrine. For to those of us attending the rest, however, there will be munchies, strolling players, street fencers demonstrations from one of the members, the Globe Playhouse (The Shakespeare Society of America), and ongoing improvization by the members through an open stage on the Mall.

Among the members at the bazaar are La Mama Hollywood, whose acclaimed Skyjack '76: Entebbe (which, incidentally, is free; there's a hassle-free plate for contributions from those who can near the door) has been involving audiences as hostages, Synthaxis' Theatre, where Brecht's The Elephant Cell and Ionesco's Improvisation directed by Cindy Turtledove can be seen, the Megaw Theater, where Elmer Harris' Johnny Belinda plays, the Melrose Theater Annex, Noit, and the Open Circle Theatre.

Information about the bazaar, the members and the LATA is to be had from the LATA itself between the hours of 11:00 and 4:00 by calling 463-3121. If you want theatre close to home, be patient. Spectrum 12, Venice's Minks' Olymipia, opens in Ramo (at the south end of Baxter) next Friday, October 22 at 8:00. For the nearly sum of $2 for Techers (and don't forget the $1 rush) you can have an engaging look at imperial Vienna just before the fall—a look which somehow reminds one of Los Angeles today.

—Chris Harcourt

Any Offers

Soft Music, Natural Lighting

by David J.E. Callaway

Man's quest for truth and beauty in his world is one of his few stable aspirations. Caltech presents the obvious scientific search for truth, and combines it with a small involvement with the beautiful. One of the better parts of this involvement is Anya Fischer's "Art Studio Workshop", which happens Saturdays during the term between 1 and 4 o'clock in the Blacker-Dabney basement.

Since its start 3 years ago, the workshop has been very successful. It's truly a "college-level" course—thoroughly developing all media of drawing and studying color. It's success has been noticed by the Caltech community as well—according to Ms. Fischer, more people come to the workshop's exhibit in Debye Hall last May than to the gallery in Baxter Hall. "Caltech is a wonderful place to teach art," says Ms. Fischer. "Students here have a great span of attention—they're not "fly-by-night"—they often work on one drawing for hours. They think hard on a little space, a piece of drawing paper. It's wonderful to have this kind of student." Her students work in a very relaxed atmosphere, with primarily natural lighting and soft music. Several of the students admit this is very important to them, but that without Ms. Fischer it would probably not work. It is the "high point" of the week to many, which Ms. Fischer attributes to the fact that her students can "be themselves" here—an outlet they consider very necessary.

"Physical outlets like athletics are fine," she says, "but people also need a mental outlet. The only spot they have is here. If a person relaxes, they find they are able to do science better, and this makes them better for science."

Unfortunately, the workshop is very short of money—it has only enough to operate one semester. As each cultural island at Caltech disappears, it leaves the place a little more colorless (if that is possible). So—contribute!
HAROLD BROWN INTERVIEW

Continued from Page One

size. I'd known about some of the work at JPL. I'd known Pickering. So that I was, I think, fully aware of Caltech's scientific reputation. It's only since I've been here that I've come to realize fully some of the distinctions that I hadn't had a chance to go into, but which I think follow from the small size. People here know each other. At a faculty meeting, maybe a quarter of the faculty will be there, which sounds small, say compared to the number of people who vote in elections, but it's enormous compared to the fraction of faculty that turn up at a faculty meeting elsewhere. I've only been here that most of the faculty are sufficiently in love with their own work that they are reluctant to take a very deep role in what might be loosely described as institutional politics, so that Institute people hardly exists in the sense that University politics at other places exists. An active faculty member, active in research and teaching, really makes a tremendous sacrifice when he devotes some of his time to administrative responsibilities. That's a common evasion elsewhere, but I think people don't really mean it there. They really do mean it here. I think that I wasn't aware, for example, of the existence here of the honor system. And the degree to which, at least in academic matters, it appears to work very, very well. I've seen difficulties that have occurred in some other places—particularly the service academies: the military academy, the Air Force academy... the Naval academy doesn't have one... that have occurred with honor systems, and I am even more impressed, therefore, with the way that it appears to work successfully at Caltech. And I think that's something you really do know only by being here.

Tech: You speak highly of the small size of Caltech and that's understandable, yet it's also a source of real problems. The conflicts get worse the more diversity there is. Is this what we are doing something different, and that it is to try to introduce a very different sort of people to the Caltech environment. That has often been suggested, and I guess at the beginning I thought that might be a good idea. Now I am inclined to think otherwise. Because, I think, that diversity, although it has its advantages, is a source of real problems. The conflicts get worse the more diversity there is. Is this what we mean by efficiency and contact?

Small size means efficiency and contact

by Alan Silverstein

According to Gavin Clappoyle, "it was pretty dam close to a full house." Dr. Sagan, six-Tech alumnus Ed Schroeder, upon seeing me jot down my first quotation of the evening smirked and said to also-ex-Tech-editor Gavin, "Well, at least he spelled your name right," to which the latter shot off quickly, "if he's going to quote me like that, he might as well spell my name wrong.

Silicon Giraffes?

Carl Sagan talks on Mars

The conversation there in the front rows of Beckman Auditorium last Tuesday evening proceeded to make evident the coincidence that Gavin was planning to write up Dr. Carl Sagan's talk about Mars, also (though not for the Tech; he's graduated on to bigger and better things). I wondered what the article I might produce could be titled, at which point Ed (Etain Schroeder) Schroeder wryly re-marked "Well, if Gavin's quote weren't so long, you might use it for a kicker."

Starting an article, I've discovered in the several years I've written for the Tech is the hardest part of writing it. Thanks, Gavin and Ed, for your clever suggestions on how to start this one—based, no doubt, on many combined years of editing experience.

Dr. Sagan, of course, was far more polished, therefore, in his presentation than the above paragraphs could ever be. Only a five-minute late for his thrilling conversation on space science, Ed and Gavin were interrupted by the start of the evening's program, entitled, "Viking and Mars." Carl Gilray, the Tech Y Student ExCom president, thereby became legitimate representative of the Y (which sponsored the event; do you know how much it costs to rent Beckman for a few hours?), introduced Dr. Bruce Murray, CIT Professor of Geology and more notably and recently the Director of the JPL. Dr. Murray, the evening's host, then turned the show over to Dr. Sagan, who, in addition to being deeply involved in the Viking mission, is also a Professor of Astronomy at Cornell and a noted author.

The gist of his talk, which lasted nearly two hours (includ­ing a few Q&A s at the end), was a slide-show-discussion of the results of the Viking project to date. Unusual as well as well-publicized views of the Red Planet were shown, and a good deal of info was disseminated, most of which the competition (i.e., UPI, AP, theTimes, etc.) certainly received but never saw.

I will now take you on a brief tour through Dr. Sagan's talk, as I remember it at least a few of the amusing and/or profound things he said word-for-word and will do my bestest at quoting him, interspersed with a lot of other neat tidbits he mentioned but I couldn't get down because, all after, when the lights are out, it stinks it's dark in there... .

First, Dr. Murray had a few words to start off the evening. The Viking mission has been an "exciting exhibition" of the power of modern technology, he said.
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Continued from Page Four

likely to be able to get that kind of diversification in our environment by bringing in people from the outside than by expanding our student body to include fine arts majors, for example. I haven't really answered your question about numbers, and I do want to answer it, I don't want to sound like a presidential candidate in a debate by answering a different question, but I still think it may make sense to go up to a thousand in the undergraduate student body; but I worry that doing so might decrease the quality of education here by making it too crowded, by losing this sense of intimacy and interaction that I think students on the one hand among themselves and on the other with the faculty and even with the administration now have. How

BROWN

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Attrition too large.

Cure? Upper class transfers. They don't want to really be in sciences or engineering. Well, if that takes work. if you're at Harvard, and went in as not only on the part of the people. I've seen some pretty intentions is strong enough you're really quite likely to leave Caltech either but not the only reason for attrition here is that some students decide

Continued on Page Nine

How much foam on a glass of beer?

As part of the vibrant entertainment section of The California Tech, "Rock on Rock" is back with more chatter about the latest platters to titillate the palates of all you rock-and-roll-hungry Techers. This week's review features some releases from the early part of last summer. Firefall by Firefall Most debut albums have to be judged by their musical content and approach as opposed to their polish and technique. This is not so for the debut album by Firefall which is notable mostly for its precision. The reason for this is that all of Firefall's members have gained experience in name bands such as Spirit and the Flying Burrito Brothers. The sound of Firefall falls into the easy listening category of rock. The music is dominated by bass and four part harmony a la Crosby, Stills, Nash and Young, backed by the guitar of Jeff Beck. The material is much less challenging and interesting that the CSNY sound. Still, the over all impression I received from the album was favorable because of the musical cohesiveness which the group and because of a few cute touches (such as some neat fake endings) that the band creates. With some improvement in material this band may become fairly popular. Wired by Jeff Beck After his stunning Blow by Blow album, Jeff Beck must have felt he had reached the pinnacle of rock guitar music. So in his latest album, Wired, he makes a near sidetrip into the rapidly expanding field of jazz rock. To assist him he calls upon a noted jazz musician, Jan Hammer. As may be expected the sound is quite different from previous Beck records, the fiddle, I'm a bit disappointed. The lack of any solid musical ideas leaves Jeff little to do but attempt to mark time with his guitar leads. The unusually appropriate title describes the result which is an energetic record that wanders around rather aimlessly. Thus apart from some good upper class transfers, Tech! You spoke of restricting the additional students to Tech to essentially the same type of student we have now, how do you view the 'typical

Continued on Page Ten

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Continued on Page Ten

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PAGE 6 Friday, October 15, 1976

THE CALIFORNIA TECH

Brown:

BROWN

Continued from Page Four likely to be able to get that kind of diversification in our environment by bringing in people from the outside than by expanding our student body to include fine arts majors, for example. I haven’t really answered your question about numbers, and I do want to answer it. I don’t want to sound like a presidential candidate in a debate by answering a different question, but I still think it may make sense to go up to a thousand in the undergraduate student body; but I worry that doing so might decrease the quality of education here by making it too crowded, by losing this sense of intimacy and interaction that I think students on the one hand among themselves and on the other with the faculty and even with the administration now have. How

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Hurschler Collection

Despite the trauma of disint-
egrate which at one time threat-
ated the art form as a distinct entity, the fact that the art form has survived and is now enjoying a resurgence of interest is a cause for celebration. The tapestries on exhibit varied in size, scope and style, offering a rich array of options for viewers.

Tapestries were first woven by the Copts in Egypt around the beginning of the Christian era. After flourishing for centuries in Europe, tapestry-waving declined in the 18th and 19th centuries, owing to a lack of interest on the part of the artists themselves and the aristocracy, principal patrons of the tapestry. There is evidence that the beginning of World War II, artist-teachers once again began weaving tapestries, both traditional in nature and abstract, experimental designs. Two famous weaving centers now exist, in France and Portugal, where the traditional method of artist design and weaver execution is employed. A full-sized color design is made and several weavers execute it at the rate of about one square yard per month.

The tapestries on exhibit varied both in size and scope of subject. "On the Way to the Sun," a masterwork of swirling sun colors covers 126 square feet. "Houdah" a piece done in 1973 shows the evolution of ideas toward the non-traditional. It is a three-dimensional "living" work of various fibers, and was eye-opening to say the least. Other works fell more easily into the very loosely defined concept of the tapestry. Subject varied from vivid, pastel-like dreamscapes and abstractions to stark studies in texture, to rather quaint woven pictures. "Parasem Possival" clearly pays homage to the wave of abstract concepts which marks much of the art of the 60's (incidentally, this is the one tapestry I would like to see hanging on my wall). "Jan IV" and "Jan III" are texture studies where the artist's role use of the varied textures of different fibers to give life to his work. "Zoo" is the most tradi-
tional of the pieces in the exhibit. All the characters from a child's fantasy-world, lions, ti-
gers, et. al. are carefully woven into this rich tapestry from Egypt.

On the way to the sun

Jere Muller

With such apparent diversity among artists who design tapes-
tries, it is unlikely that the art-form will stop evolving and become a remnant of the past. But non-artists must acknowledge the aesthetic warmth that the tapestry can bring into their world, and see it as a drawn expression of some facet of man's existence.

Sagan on Mars

Continued from Page Four

"Many of us, including myself, had some doubts whether it could be pulled off," Dr. Sagan, he explained, has only helped analyze the results of the latest Mars mission, but is also pa-

rily responsible for the popular interest in science that allowed the mission to take place at all. Both of them are interested in the search for extraterrestrial intelligence, Dr. Murray said. One reason to start looking for non-human broadcast signals is that we ourselves have been broadcasting our presence, primarily at TV frequencies, for more than thirty years. "I've often wondered what that might mean to future communica-
tions," he remarked.

Dr. Sagan took the stage and began his slide show, which was designed to be presenting a few of the highlights of the project results: "It's been an exceptionally rich mission so far," he said. Tens of thousands of photographs alone may be received or seen before it is over. The Cornell astronomer quickly mentioned some ways that Mars has been important in our own scientific development. For example, its existence in a highly eccentric orbit may have led Kepler to his Three Laws. It wasn't until 1965 however, that we first saw the planet at better than several hundred kilometer resolution, with the Magellan four, and then six, seven and nine missions.

The first slide showed the Viking spacecraft during a pre-launch checkout: "You can see a couple of organisms in the vicinity, which will serve to give you an idea of the scale," Dr. Sagan said, referring to two naked apes in clean-room clothing. (Him odd and provoca-
tive perspective was revealed many times during the evening.)

Viking was the first Mars probe to clearly show its craters (the planet's, not the vehicle's, fortunately) in a whole-Mars mosaic, which was stunningly projected in full color ("a little too green") the size of the Beckman screen (maybe that's one reason why Beckman costs so much to rent?). A picture being worth a thousand words (or a million bits), there's no way to describe the glory (yes, magnificence) of some of the photos shown that evening. It's not quite the same feeling as looking at an 8X10 glory. (Pity the poor workers at the Image Processing Lab, JPL, who say they can't see the picture for the pixels.)

But, diverting digression-the slides continued. One fabulous recent shot showed Phobos (the inner moon) as it has never been seen before. A significant number of linear and parallel striations appeared to cross its powdery marking surface. (Dr. Sagan called them "stretch marks"). The best hypothesis so far is that they are caused by grazing collisions by rocks in the suspe orbit as the moonlet, which are in turn the ejecta of other collisions of smaller rocks with The Big Rock. Lots of rocks all going around and around in a cosmic sand blast! Nifty (if it's true).

So far, nothing has failed on any of the four spacecraft we now have operating across the Solar System, except for the unloading of one seismometer on V1.

Dr. Sagan pointed out many features of Mars in photon taken from orbit, and compared them liberally with other planets we've seen close up down our own orbit. "Comparison of the two planets will almost certainly illuminate both" he said and I've not yet figured out if that was intended as a pun.

For example, the lobate cra-

ters seen on Mars have been observed nowhere else in the Solar System but in the Antar-
tic regions of the earth. Hence, it is suggested that the sur-
crounding flow arms may be the result of rocks riding on melted permafrost.

It has been noticed that "dark areas like to have channels in them more than light areas." Could the light regions be dust-covered? In any case crater counts indicate that the larger channels are about one billion years old.

Some interesting gases (argon, nitrogen, krypton, and xenon, among others) have been discov-
ered in reasonable abundance in the Mars atmosphere. For a number of reasons, their presence and isotopic ratios indicate that there was once a quite respect-
able atmosphere of other gases, now boiled off or something. A guess would be that it was perhaps a minimum of ten times as dense as today (or about 70 millibars)-a sufficient pressure to explain channel production by running water.

In some sense Dr. Sagan followed the mission chronologi-
cally in his slide show. He talked about the decision that had to be made about where and when to land V1: "It obviously would not have been a great birthday present to the U.S. to crash on the Fourth of July!" He also showed what he called "perhaps the last artist's rendition of what the Martian surface might look like" as seen during the landing. As long as people remember the Viking mission, "you'll never again see a picture of Mars that looks like that. There are, as it turns out, nasty looking rocks, but not like those nasty looking rocks."

Then, there were photos shown which were taken after the first landing, including a few mind boggling color views (a little bit more staggering when seen nearly life-size). These included the one showing the U.S flag and the Bicentennial sym-
bo. It's an extremely patriotic spacecraft. No doubt about which country it came from. At one point this little gem was placed upon the riveted audience (oh, yes, the Rivet are coming, which has nothing or at least very little to do with this Continued on Page Eight
Bergman Gimmicks
Open Cinematech

by Mark Gubrud

Scene: A starkly beautiful Scandinavian coastline.
The waves beating against the rocks give the feeling of timeless struggle between forces balanced against each other. The camera focuses in on the face of a young woman staring blankly over the sea. Out of the frame come the images of film jagging in a projector; jarring, harsh noises; faces superimposed over each other; a boy reaching his hands into space, trying to touch an illusion; Christ being nailed to the cross.

These and a variety of other cinematic gimmicks helped to create the mood in Ingmar Bergman's Persona, shown along with Sergei Eisenstein's Alexander Nevsky at Cinematech's season opener last Saturday.

As in all of Bergman's later films, the dialogue in Persona seems somewhat stilted and contrived until one realizes that this is in fact how people talk. If all the philosophizing sounds a bit clumsy and trite at first, it is only because no other filmmaker has ever had the courage to show us so accurate a reflection of ourselves.

A story, Persona is really quite simple: A young nurse (Bibi Andersson) is assigned to care for another young woman (Linn Ullman) who stopped dead during a performance of Elektra, and has since cut herself off from life, choosing to remain passive and silent. The two go off to a beach cottage, and there an intense interplay of personalities takes place. The Ullman character never says a word but begins to respond by listening and cooperating. The nurse begins to project her own feelings on to the actress, and soon begins to hate both herself and her patient.

The unifying theme of the film seems to be the struggle of opposing but unequal forces until an equilibrium is reached. Between the two personalities, this struggle is played out to an almost violent conclusion. By the end of the film, the actress has become at least partially reconciled to life, presumably due to the influence of the nurse. But the nurse, always the weaker of the two characters, has become frigid, depressive, and sadistic. It seems that she has become frigid, but the weaker of the two forces has had to give more.

Personally, I feel that film is not quite up to the usual Bergman standard. It relies too much on gimmicks—bizarre images, surrealistic lesbianism, even a repetition of an entire scene—to achieve its effect. It has neither the artistic perfection of his earlier romances and dramas nor the power of his more recent works, which deal mostly with the problems of being a modern, middle-aged Swede. Probably it represents a transitional work, made before the newer techniques were perfected.

As for Alexander Nevsky, it is only slightly interesting as a window on how limited the possibilities of filmmaking were in Stalinist Russia. As a film in its own right, it is a waste and a bore, standing at roughly the artistic level of D.W. Griffith's Birth of a Nation.

Before the Revolution: After the Rev
Dec. 4—Stagecoach; The Ballad of Cable Hogue

MacBride Doth Come.

Continued from Page One

action not just the economic. His call to get the Government off our backs and its hands out of our pockets is but dimly echoed by the major candidates," says Bruce Staller, Monrovian resident, and a Southern Californian Coordinator for the MacBride/Pas President Committee. This will be the Libertarian Candidates' only public appearance in the San Gabriel Valley.

Prior to MacBride's Monrovia speech he will meet with local dignitaries of the San Gabriel Valley at a place to be anounced soon.

The evening speech follows the noon appearance before Town Hall Forum of MacBride and his running mate Dave Bergland Newport Beach on tomeny, at the Bittmore Hote Los Angeles.

The Libertarian Party is formed almost five years ago. It is on the ballot this year in states, including California. Its to California's stringent ball requirements, Mrs. MacBride/Bergland ticket appears on the California ballot as independent.

THOSE SILICON-BASED GIRAFFES WILL DO IT EVERY TIME

MacBride Doth Come.

as follows:
Oct. 16—Adam's Rib; Pat and Mike
Oct. 23—The Lodgers; North by Northwest
Oct. 30—Feast; Night of the Living Dead
Nov. 20—Babes in Arms; His Girl Friday
Nov. 27—Before the Revolution; After the Rev
Dec. 4—Stagecoach; The Ballad of Cable Hogue

CLASSICAL RECORDS

Continued from Page Seven

A simple story: the pressure of the Martian atmosphere has been decreasing since the first few days we were there, when we watered the rye reports from Chryse which included high temperatures below 0 F., pressures of 7 millibars, and "chances of rain: zero." It seems (or is theorized) that the polar caps are forming up due to the summer coming to its annual change.

Towards the end of his talk, MacBride/Bergland ticket appears on the California ballot as independent.

And (optimistic?) note: "negative organics analysis remains near the sensitivity of the biology experiment. Many earth based experiments remain to be done; the results could change the main results."

The evening concluded with some comments about the possibilities for Martian rover robots (similar to the Viking lander but with tractor treads, perhaps which could "go to their horizon every day.") We hope that seems enough to keep the falling off the edge of the table (a technology exists: build rovers that aren't stupid)."

Some questions followed the comments about the possibility of a Martian rover robots (similar to the Viking lander but with tractor treads, perhaps which could "go to their horizon every day.")

Well, maybe.
Continued from Page Six

Tech: if we shall call him that, or connect with exist, the悬挂
Brown: I wonder if there is a single picture of a Caltech student that would be manageable to the bulk of Caltech students. There are several different styles of student, both in intellectual terms and social terms. It seems to me there is a large fraction of Caltech students who are very very able in theoretical work, mathematical work, in abilities to make good scientists in other words. Many of them are not in the least bit interested in technology or applications and there's a group that is very gear oriented, hardware oriented, and so on. Then there is a group that is very able at some of whose members as I indicated turn out to be more verbally inclined who turn to History or English. Of course if they're not so sure they want to be in the verbal business they go into Economics instead. There is another dichotomy one could draw and infinite number of dichotomies, a student that really isn't interested in extra-curricular activities at all, and works very hard on classes; and there is a different group that is interested in athletics, or the student newspaper or the Glee Club there is a disciplined group, they often go into the Glee Club, and a less disciplined group that go to work for the Y.

Some work.
Some don't.

I really find it hard to--it's hard to find an adjective that describes the Caltech student except bright. That really does describes the Caltech students, some of them work hard, some of them that don't work so hard--some of them in recent years, an unfortunately large fraction perhaps, get turned off intellectually by the fact that there are others that are just as smart. My sense is perhaps you know better than I, that maybe that's not as bad in the last couple of years as it was before.

Tech: What advice would you give to somebody going into the sciences?
Brown: I'm afraid this would sound like a bunch of tired old aphorisms but--if a situation or reason are used so often because they are true. First, don't stay in an area or a job unless you like it or are convinced you're going to like it. I like it here very much, otherwise I wouldn't be here. Second keep your options open--don't be too confined by somebody else's idea of a pecking order. If something else interests you, and you can be good at it don't be turned off by somebody else's intellectual snobbery. Third unless you are positive that you are going to be one of the very best scientists, laboratory or theoretical, and maybe even then try and find out during your undergraduate career about things other than science, something about matters other than scientific, because one way or another you are going to be a part of a group, at least part of a research group, perhaps part of an academic community, perhaps part of a business or industrial community, perhaps part of our government community, and there are going to be other inputs to what you are doing besides science, mathematics, and technology. You're no good unless you're good at what you're doing so if that's what you're going to be in, you'd better get the best possible education along those lines. If you're at Caltech you'll do that; there's not much worry about that; but you may not get such a good education, unless you work at it. It is that it's available here, but it has to be looked for, it has to be worked at, about working with other people, living with other people, integrating non-technical inputs into what you do and thinking about what the consequences are of what you do; in other words, interacting with the outside world which may be a big outside world or a small outside world but is likely to be a world outside the laboratory. In other words, any laboratory world, any academic world is going to interact with the larger context in which it is situated. Whether that comes from taking courses, Larger worlds exist.

whether in the humanities or in the social sciences or in business or in organization of in management or whether if it comes with interaction with other people in extra-curricular activities or student activities or student house activities, I can't say. It's all of this, this is the universe and you have to pick some things out of this. Having said that, I want to add one more thing: it's possible, maybe even good, but it's certainly not necessary to sit down and write all of these things down and make a plan for yourself of the ones you are going to pick out.
science and technology in particular. In actual fact, activities in general, the very best, and I don’t mean those with IQ 140 but the people who have that combination of intellect, perseverance, dedication, vision ability to relate one thing to another, and the ability to get along with people, just well enough to get the work done; that combination of qualities, that requires high quality in output in that area the very best, one of the very best, is worth twice the second best, twenty thousand of the mediocre. That’s what Caltech offers.

Comment
The record of the interview was terminated at this point because of a malfunction in the tape recording equipment supplied by Hardy Mardel. Dr. Brown went on to talk about the need for even more involvement in the success of the Environmental Quality Lab and the role of students in general and his involvement with issues on a nationwide scale. Since the interview was agreed to on the basis that it would be transcribed from a tape of the interview, we feel it is unfair to submit Dr. Brown to the interpretation of our memory, particularly in the examination of his opinions on issues outside Caltech.

Dr. Brown in a recent part of the interview Brown presents a

Rock

Continued from Page Six
Southern boy, I don’t mean recommending music which doesn’t really get a fair shake down south. The red hot Southern rock band, Lynyrd Skynyrd, now one of the hottest southern boogie bands in the Atlantic Rhythm Section. With their album this band has impon and now Red Tape, their follow-up, their first album,
another future superior effort.

A quick listen shows that the band contains a song to Lynyrd Skynyrd, another Men’s assignment, and a red hot Southern rock band. The album has produced a masterpiece and now is number one Southern rock but that, my friends, is the way you should find the music.
Beavers Lose
THREE IN A ROW

by B. Bible

Caltech soccer suffered three consecutive losses at Whittier, Pomona-Pitzer, and Claremont-Harvey Mudd, maintaining their traditional league dominance. On Wednesday of last week, Whittier dealt a crushing 4-0 defeat to a smog-saturated Caltech team.

The Beavers managed to get all ten shots with several missing an open goal by inches but the six credited saves of Whittier's goalie managed to shut us out. The four Whittier goals came from Gutierrez, Brenes, Wales, and Touar.

Pomona-Pitzer also held us scoreless managing to score five of their 33 shots, while their goalie was credited with one save for our sole attempt. The five goals came from Thanopoulos (2), MacAulay (2), and Thomas.

Finally, this Wednesday after three consecutive shutouts the Beavers managed to capitalize on a penalty early in the second period of the Claremont-Harvey Mudd game, as Jim Hickey fired in a free shot. Yet, the resulting momentum and Caltech dominance in the next few minutes could not match that of CHM with all three of their goals coming from Goldstein, while Lee and Stark each booted in another one to sew up a 5-1 victory.

This brings the season record to 3-4-1 with all the easy teams still left on the schedule.

Friday, October 15, 1976

THE CALIFORNIA TECH

Tech and Pomona race for ball

Beaver in total control

Photo Credit

John Loo

I'll get you guys for last week!

Become a tenor—it's a simple, painless operation
Bonfire
Next Week

by Doug Tally and Marc Wold

The Caltech football team opened its season on Monday by traveling to Claremont to meet the Claremont-Harvey Mudd Stags. Looking forward to perhaps one of the most difficult games of the season, Caltech came fired up and ready.

For the first two quarters, Caltech showed their bonfire potential by holding the Stags to essentially no yards save for one long pass play which set up the only score of the half. The Caltech defense forced many fumbles and sacked the CHM quarterback six times in the first half. Tech's offense, unfortunately, could not mount a sustained drive against the extremely run-oriented Claremont defense. When forced to go to the air, quarterback Mark Fortunato received excellent protection from the offensive line, but a good Stag secondary succeeded in shutting down any consistent passing attack. Being mostly a hard-hitting defensive battle, the halftime score was 7-0 in favor of Claremont.

The start of the third quarter went very much like the preceding two with Clatech coming out on top honors for outstanding defensive linemen.

On the whole, Clatech's showing was much better than the final score of 41-0 might indicate. Bonfires are definitely in the making as Tech continues its schedule. Tomorrow night Caltech will be at Pomona-Pitzer in an attempt to bring their record to 1-1.

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Photos—Tom Snyder

Bonfire
Next Week