

Coeds Coming Next Year - Trustees Give OK

Jet Designer Lear Comes Down To Earth, Builds Steam Cars

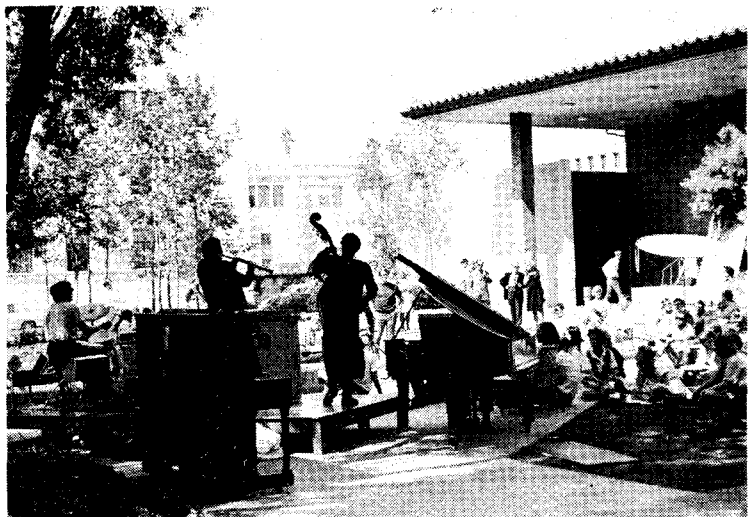
On Friday, October 10, Dr. Harold Brown introduced to an overflow audience in the Bridge Lecture Hall a man who will influence greatly the present search for low-emission alternatives to the internal combustion engine, Mr. William Lear. His background is a diverse one which started with radio engineering in the 30's. His most noted project is the Lear Jet which brought the jet age to small planes. Presently he is working on a Steam Car, a project which has attracted a great deal of public attention.

Lear began by stating that, despite misleading press coverage, his current work is broader in scope than the development of a steam car. His real thing is the production of a practical alternative to the internal combustion engine. Such an alternative must be completely equivalent to the internal combustion engine in terms of power, economy, and reliability. Lear does not believe that the public will accept less than that just for low emissions. To produce an engine in just a few years that will be competitive with the internal combustion engine, which has almost 70 years of refinement, will take a dramatic and imaginative engineering effort. That is Lear's approach.

Mrs. Lear's Money

The idea of working on a steam car was first brought to Lear's attention by one of his former engineers who suggested he look into the steam car developed by the Williams Bros. After driving the car, Lear decided that problems of heat, noise, and space made the brothers as ready to produce a steam car as to do brain surgery. He did see, however, that the development of a practical steam car was a wide open field.

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ELECTRONIC JAZZ QUARTET turns on a crowd on Firestone Plaza.—Photo by Belsher

End ROTC Where It Makes Trouble - Report Finds

(CPS)—The Pentagon is feeling pressure to cancel defense education funds at schools where R.O.T.C. is discredited, according to Rep. F. Edward Hebert (D-La.), chairman of the House Armed Services subcommittee which has made a study of campus friction over military training and recruiting.

Hebert, releasing a report of his committee, said most campus criticism of ROTC is "without merit." The committee rejected criticisms that drill and the wearing of uniforms is excessive, and that a student whose education has been paid for the government should not be subject to immediate induction if he drops ROTC.

The committee agreed with one criticism: that academic rather than military instructors should teach academic ROTC subjects. The military should not waste its time trying to maintain ROTC at Ivy League schools where pressure against it is great, the committee also said. ROTC units should be removed whenever a school makes

its continuance "impossible," it said.

The study was commissioned by Rep. L Mendel Rivers (D-SC), chairman of the full committee early this year.

BOD All-day Discussion Centers On Creative Grads, New Programs

by Stephen Horner

Last Sunday, the Board of Directors held an all-day informal discussion of operating procedures and goals for the coming term. Time was devoted to the mechanical procedures of BOD meetings and our personal interactions as well as the general philosophical and scientific goals that we might strive for. Attending were Stephen Horner, President ASCIT; Peter Szolovits, Vice-President; Derry Hornbuckle, Secretary; Leonidal Guibas, Treasurer; Marc Aaronson, Director of Student Life; and Glen Spain,

Women undergraduates will be admitted by Caltech for the first time next fall. This was announced officially October 7 following final approval of an expanded entrance policy by the board of trustees.

The proposal envisions enrollment of 25 women, including both freshmen and transfer students, in September 1970. Another group of 25 women will be admitted in the fall of 1971. Ultimately the plan foresees up to 70 undergraduate women in the student body. As planned now, the women will be in addition to the normal male quota, depending upon faculty committee approval.

Women graduate students have been admitted since 1953, and an increasing number has been added to the campus in recent years. There are about 50 women doing postgraduate work here this year, compared with 45 last year and 39 in 1967-68.

"The admission of undergraduate women at Caltech," said President Brown, "will improve the esthetic climate and should stimulate intellectual diversity without diluting the strength of Caltech's attention to science and technology. I'm all for

it." Most Techers are for it too, but not for exactly the same reason.

Academic qualifications for female and male undergraduate applicants will be the same. The requirements, as usual, will stress aptitude and interest in mathematics, science, and pre-engineering courses.

The coeds will live on campus in a renovated complex between Blacker and Dabney. Basically, the new area will be separated from the adjoining houses and will have its own lounge and facilities, for the sake of privacy. However, the coeds will be integral members of a house, eating their meals there, and sharing the main lounge and the activities with the rest of the house. (Showering?) There is no plan for a "house mother," but there will probably be a time when no men are allowed in a coed's room.

Caltech thus follows the lead of many other previously all-male or all-female colleges and universities which have switched to coeducation in recent years.

The Caltech admissions office has already received queries from some 125 women students from Quebec to Louisiana to Hong Kong. The letters from the prospective applicants followed board approval last November of a resolution favoring the policy pending completion of administrative plans. Originally, the policy was proposed by the faculty, after prolonged study and discussion.

Dr. Arnold O. Beckman, chairman of the board, expressed satisfaction at the trustees' action.

"This is a recognition of the growing interest of girls in science and technology," Dr. Beckman said. "As long as they are willing to meet the same high standards set for the men, Caltech should make its facilities available to them."

Dr. Lyman Bonner, director of student relations, termed the action as "a very important milestone" at

Continued on page eight

Service League Plans Activities

by Mike Stefanko

This brief blurb seeks to recognize the most wonderful, generous, warm-hearted group of people who exist around Caltech. The CALTECH SERVICE LEAGUE is the rarely mentioned benefactor of many, many Caltech activities. The life of every student at Caltech, no matter how much he participates in campus activities, would be worse off, if the Service League did not exist. Furthermore, the Service League is always interested in what is going on around campus; pure and simply, THEY LIKE US. They can help with financial and/or other support, always enthusiastic. The Service League's presence is rarely felt, and even more rarely acknowledged, but I for one know that they would be sorely missed. I urge each and every one of you to check around and find some of the things that the Service League has done, and can do for YOU. If you would like some help, or just want to say thanks, drop a note to MRS. RIPPEL c/o Caltech Service League (462-8331) in the campus mail.

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From The Money Tree

NSF Grants For Grads, Postdocs

WASHINGTON, D. C. -- The National Research Council has been called upon again to advise the National Science Foundation in the selection of candidates for the Foundation's program of graduate and regular postdoctoral fellowships. Panels of outstanding scientists appointed by the Research Council will evaluate applications of all candidates. Final selection will be made by the Foundation, with awards to be announced on March 15, 1970.

Postdoctoral and graduate fellowships will be awarded for study in the mathematical, physical, medical, biological, engineering, and social sciences, and in the history and/or philosophy of science. Awards will not be made in clinical, education, or business fields, nor in history or social work, nor for work toward medical or law degrees. Application may be made by college

seniors, graduate students working in a degree program and individuals wishing to do postdoctoral work. All applicants must be citizens of the United States and will be judged solely on the basis of ability. In the postdoctoral program only, fellowships will be offered also for work in applied and empirical studies in the field of law which employ the methodology of the social sciences or which interrelate with research in the natural or social sciences. The plan of study or research in the field of law must be at the postdoctoral academic level, since postdoctoral fellowships are not intended for study toward an advanced degree of any kind.

Applicants for the graduate awards will be required to take the Graduate Record Examinations designed to test scientific aptitude and achievement. The examinations, administered by the Educational

Testing Service, will be given on January 17, 1970 at designated centers throughout the United States and in certain foreign countries.

The annual stipends for Graduate Fellows are as follows: \$2400 for the first-year level; \$2600 for the intermediate level; and \$2800 for the terminal-year level. The basic annual stipend for Postdoctoral Fellows is \$6500. Dependency allowances and allowances for tuition, fees, and limited travel will also be provided.

Further information and application materials may be obtained from the Fellowship Office, National Research Council, 2101 Constitution Avenue, N.W., Washington, D.C. 20418. The deadline date for the submission of applications for graduate fellowships is December 5, 1969, and for regular postdoctoral fellowships, December 8, 1969.

Editorials

The Unquestionable

This week's issue includes letters from three people concerning last week's article on Caltech students and the Security Staff. One letter decries the questioning of an established and just system, while the other calls for its complete and somewhat radical overhaul. The *California Tech* agrees with neither of these views.

The Honor System at Caltech is unquestionably the finest characteristic of undergraduate life. Historically, it has been with us for almost as long as the Institute, but in recent years it has expanded, and we think risen, to include all phases of personal interactions at Caltech. We do not believe, however, that the Honor System is a static and unshakable code of behavior; and we certainly do not believe that the procedures used to administer the system are unchangeable.

Carroll Boswell's article was no form of heresy. He certainly did not imply that the Honor System had died, or even dying. He did, and we think accurately, explicitly state his and others' belief that the Honor System is in grave danger, both from within, and from without. The danger from without has been repeatedly stated and should not be ignored: The Caltech campus is not an island; it exists in a large city and cannot prevent its penetration by the surrounding environment. There is every reason to believe that the recent vandalism was caused physically by those from the surrounding city. There is little we can do about such violations.

We do express great concern over the Techer attitude that "I don't cause the damage, therefore I am not concerned." The Honor System does not, let us face plainly, apply to anyone other than those of the Caltech community. The Caltech campus does have to face the problem of non-honor bound neighbors invading our neat little haven. We believe that the Honor System does imply the responsibility of every Techer to do whatever he can to maintain the security of the school and the system of trust on which it thrives. If it means that he is going to have to limit his nocturnal wanderings we think it is a small sacrifice for keeping up the freedom of action in every other respect.

Secondly, and perhaps more important, we do not believe that the Board of Control is the sole spokesman for the Honor System and that it should make all decisions concerning the conduct thereof. The Honor System is made up of all the members of the Caltech Community and its maintenance, including the questioning of its inherent problems, are the responsibility of all in its domain. When it quenches all the public discussion, then it will die.

—Ira Moskate

Schroeder Strikes Again

Why not have the Art Department design a new Institute seal?

—Ed Schroeder

Lear Turns to Turbines

Continued from page one

The first \$2 million of the \$10 million spent so far was spent on a Delta Steam Engine, a reciprocating piston type of engine. In the course of this work a boiler ten inches high and 33 inches in diameter was developed which was able to develop 1000 degrees Fahrenheit, 1000 psi steam with 93% efficiency. The project ran into problems because lubricants are not available which operate satisfactorily at 1000 degrees Fahrenheit.

At this point Lear stressed that rumors saying that auto makers and oil companies were trying to hinder his efforts were complete bunk. In fact, they are leaning over backwards to help him. The results of work done in company laboratories were made available to Lear on an unrestricted basis. Auto makers furnished him with test cars. Oil companies worked on special lubricants to try to overcome the temperature problems.

Turns to Turbines

In aircraft usage, turbine type engines have proven themselves

In aircraft usage, turbine type engines have proven themselves several more times more reliable than reciprocating engines. Furthermore, the lubrication requirements are less stringent. So the next area of investigation was a steam turbine. Using water there was the danger of liquid water hitting the turbine. At the requisite speeds of the turbine this would have disastrous results. By using CP27, a dense organic liquid, this was overcome. Because of the law of conservation of trouble, the new problem became flammability of the liquid. No way of avoiding this

could be found.

The next move was to a twin-screw expander. This type of engine isn't bothered by what goes through it. Actually having some crud helps to seal it. This need for sealing also reduces efficiency at low speeds to unusable levels.

His Daughter Shanda

Phillips Petroleum showed Lear the results of its research on combustion. The rate of quench, the cooling of the gases after combustion, affected the concentration of nitrous oxides, one of the important pollutants from engines. If the temperature is maintained at more than 2000 degrees Fahrenheit

for at least 3 milliseconds, nitrous oxides will decompose.

A gas turbine will meet the requirements for the decomposition of nitrous oxides. So that's where Lear went next and where he now is. The concept he is now pursuing is to use a constant rpm turbine driving an alternator which supplies power to electric motors at each wheel. The input to the turbine would be balanced to produce the power needed by the alternator. The necessary alternator and motor have been developed. The hitch for this plan lies in the turbine. To get a reasonable efficiency, it is necessary to use some of the exhaust heat in the input stream. The present methods for doing this have maintenance problems. But, in the meanwhile, work continues on the steam car. After all, Lear doesn't want someone else to put out a successful steam car before he does.

Bill Lear may not know the answers, but he sure knows the problems!

Letters

Szolovits Criticizes Boswell Article

Caltech Honor System Still Effective

Gentlemen:

Speaking for the Board of Control, I wish to take strong exception to certain portions of an article by Carroll Boswell in the October 9 issue of the *California Tech*. Mr. Boswell has taken it upon himself to act as coroner in the investigation of the death of the Honor System. I believe that the least courtesy he could pay to us, who are charged with its welfare, is to consult us. I do not believe that Mr. Boswell has thought through the implications of his article, so I would like to clarify some of the points that he should have made.

The honor system is indeed a fragile flower. It thrives at Caltech only because of a traditionally passed-on faith among the students, faculty and staff of the Institute that a small campus dedicated to the best of the academic tradition can live in trust and honesty among its members. Experience indicates that in areas that are truly academic, the honor system works exceptionally well. It is in the non-academic areas that the validity and the effectiveness of the honor system are sometimes challenged. The Board of Control has consistently considered this problem and ruled that the honor system should cover only such actions that we do not impose a particular moral system on Caltech. We wish to

impose only such obligations on members of the Caltech community as can be recognized as universal. Thus in cases such as drug usage, the Board has taken the position that we may take action if we believe the usage of drugs has taken advantage of another member of the community, but such problems will otherwise be handled by some disciplinary body not invoking the honor system as its justification. As part of the universal code that we believe exists at Caltech, the Board has included the consideration of non-academic cases such as those involving the privacy of a professor or theft.

This brings us to the question: Just how much theft at Caltech is committed by students. Although Mr. Boswell implies that it is a major percentage, my information indicates that that is not true. It seems to be that most theft is the action of non-Caltech people who have some knowledge of the campus. Some of these persons have

Continued on page six

Destruction of Peace Posters Deprecated

Dear Tech,

By now, October 15 has already passed, but even on Sunday I am shocked and confused by what I hope was just the actions of a small number of students. I am referring to the removal and burning of the posters on one of the grass islands in front of Winnett. For those of you who did not notice them, one of them read, "Construction Site, Vietnam 69" with a smaller one below it asking for newspaper for papier mache. Another placed beside the plaque which designates the area as a gift of the Class of 1963 read, "How many have we lost in the WAR?"

The purpose of October 15 was to allow for a day in which all could stop and think about the war and the U.S., and if so inclined, participate in the activities sponsored. I personally believe that the actual situation in Vietnam should be made vividly clear to all Americans, and I therefore favored depicting a military scene.

The willful burning and any future damage can only make me feel that there are persons who would rather not have the actual situation shown. By acting as they did, the sign burners inflicted an injustice on the Caltech community.

I hope these individuals have been responsible enough to name themselves, and if not I expect them to do so now.

Sincerely,
Stephen Horner

Dennis DiBartolomeo
Physical Monument Committee

Further Coverage by Tech Requested

Editors:

It often happens that people need to be reminded of their promises. The BOD is no exception. We have indicated that we would increase our use of the *Tech* pages in order to keep students informed as to what we are doing. It is our sincere desire to do so and I believe that you will find our participation in this issue and in the following issues at a high level.

At the same time, the *Tech* is reminded that it is welcome to all board meetings, to read the minutes, and to question any of us at any time on any matter. Furthermore, it is in the interest of the *Tech* and the students to write its own articles on ASCIT activities, rather than relying on the BOD to fill the *Tech's* newly expanded editions. We will, however, offer articles on relevant problems in all issues of the *Tech* during our term of office. Thank you for the reminder.

Honor System Limits of Jurisdiction Disputed

Dear Editors,

Last week, the *California Tech* published an article by Carroll Boswell concerning the Honor System and the Caltech Security Staff. The gist of the article was that the Honor System is partially threatened by an irrational (and presumably unjustified) student hostility toward the Security Staff. It is perhaps difficult for younger students to recognize the historical context which has generated the current situation. Because of the considerable danger of misdirected action in the absence of such a background, we would like to review the last decade in regard to both the Honor System and the Guard Staff.

Somewhat prior to 1960, when the Honor System dealt only with academic matters, the Chemistry Department became quite concerned about the presence of unauthorized people in their buildings after normal working hours. After some considerable discussion and pressure the BOC agreed to make presence in Gates and Crellin in such circumstances an Honor System violation. Thus a precedent was established and almost incidentally, the BOC showed its distrust by also outlawing mere possession of so-called

Continued on page three

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The CALIFORNIA Tech

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Thursday, October 16, 1969

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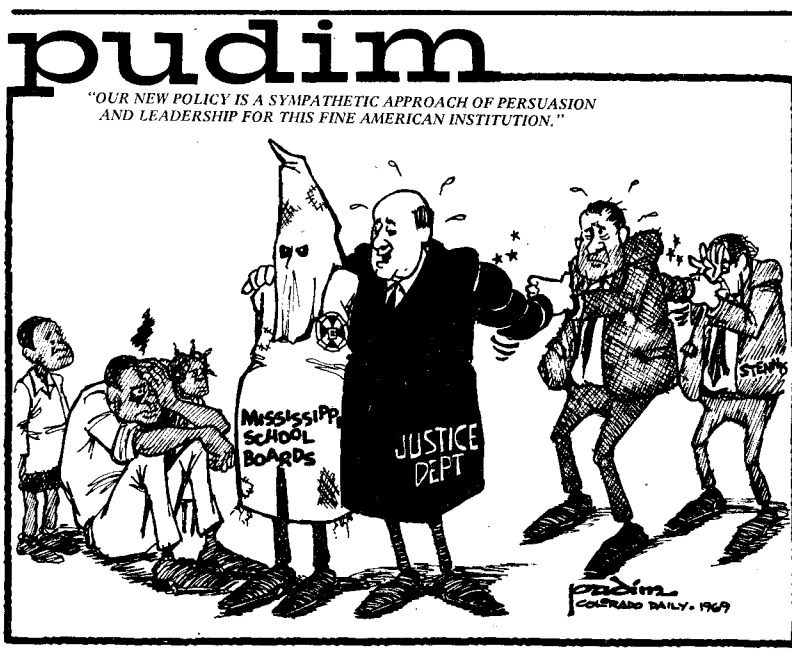
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DR. HUTTENBACK'S OFFICE moves to the Olive Walk each Wednesday morning, with coffee, milk, and cookies provided to all who want to see a real, live dean (such things actually do exist). —Photo by Belsher

“Fourth?”

by Robert Geller

Players are often forced to take unusual actions in an attempt to improve their score in duplicate play. These unusual actions offer much better odds in team-of-four matches than in any other form of bridge, since the usual conditions of team-of-four scoring place value only on winning a match. If a team is behind in a match it will gamble in an attempt to catch up, since if these attempts fail the losing team will be no worse off than before.

Today's hand, played in a qualifying match in the Desert Empire Regional in Tucson, was a dramatic demonstration of what a losing team will do in the struggle to regain lost ground. The hand was the fourth in a seven board match which North and South felt they were losing by a large margin. On the second board East-West had bid and made a cold vulnerable grand slam, and on the third board North-South had bid a small slam missing two top tricks. Desperate measures were clearly called for in an attempt to recoup these losses.

Shoot the Works

The shadow of their deficit can be seen very clearly reflected in North-South's bidding. Once North bid two no-trump, showing a hand of sixteen or more high-card points, South was determined to bid a slam. He bid slowly mainly to stop his partner from bidding seven clubs. The state of the match made it imperative to make a slam whether or not there was really one there.

South was not exactly happy when he saw the dummy, but at least the opening lead gave him

chances of making twelve tricks, as long as the opponents did not take theirs first. After the spade lead South could count two spades, three hearts, and seven clubs, for a total of twelve tricks. It was necessary though to give up a spade before cashing the second spade. Since the best way to steal something is to hoax the opponents as early as possible, South ducked the spade lead, planning to take the marked finesse later. West, lulled into a false sense of security, shifted to a trump and it was all over. Larceny triumphed, as North-South's team won the match and later went on to qualify for the knockout finals.

NORTH			
S	A J 4 3		
H	A Q 5		
D	Q 7 3 2		
C	K 4		
WEST			
S	K Q 8 6		
H	J 8 4		
D	K 9 6 5		
C	7 5		
EAST			
S	9 7 2		
H	10 9 7 6 3 2		
D	A 10		
C	6 2		
SOUTH			
S	10 5		
H	K		
D	J 8 4		
C	A Q J 10 9 8 3		

Neither side vulnerable
THE BIDDING:

South	West	North	East
1 C	Pass	2 NT	Pass
3 C	"	3 D	"
4 C	"	4 H	"
6 C	"	Pass	"

West led the King of Spades.

Summer Institute

ARC Experiments With Teaching

by Bill Inwood

The ARC Education Project has developed as a follow-up to the 1969 ASCIT Research Center Summer Institute on Educational Change. The Summer Institute consisted of a five week school operated by college students, high school students, and local teachers and parents at Cleveland Elementary School. In this period this staff experimented with various innovative concepts in education applying these through teaching 220 elementary school students. The school was followed by a five week evaluation period during which the successes and failures of the summer were assessed and a program developed for implementation in the Pasadena Public School System this fall. McKinley Junior High School was chosen as the pilot school for the fall programs by the summer project.

The McKinley program as proposed by the Summer Institute consists of seven programs:

- 1) Science: several college students will assume responsibility for a regular science class through agreement with the regular instructor and present demonstrations and applications of modern science.
- 2) Modern City: several college students propose to teach students about Pasadena through field trips in the city.
- 3) Chicano-awareness: college students and teachers will run an after school program in Mexican-

American Studies.

4) Black studies: teachers and college students will teach Black history and culture in eighth grade social science classes.

5) PME: a proposal for an adaptation of the Caltech YMCA's political-military exercises to the junior high school level.

6) Mixed media experience: college students in cooperation with the Pasadena Art Museum propose after school classes for McKinley teachers and students in non-verbal expression.

7) Cosmetology: parents and teachers have organized this self-awareness program for the McKinley school girls.

All of these groups will willingly accept any interested people. Other suggestions for programs include:

- 1) Utilization of photography as a method for teaching the social sciences and other courses.
- 2) Updating the music curriculum to include free discussion of more recent developments in that field.
- 3) Teaching the techniques of making clothing through fashion designing rather than by book-taught mechanics.
- 4) Organization of soccer teams or other sport teams not usually found in junior high school.
- 5) Other teacher-aide programs in the variety of subjects taught at McKinley.

These programs may be initiated if sufficient interest is expressed. In addition to this program of active participation in the schools the Summer Institute proposed a

second set of active participation in the schools the Summer Institute proposed a second set of programs for college students interested in improving the public school system. These programs do not involve teaching; instead they are meant to supply insight necessary to organize our efforts to the best effect.

1) Community relations: a study of community group feelings about the public schools and their willingness to make any effort and initiating charges they deem necessary.

2) Politics: study of power groups in Pasadena and their relationship within and without government structure.

3) Structure: an exploration of the Pasadena school system specifically with regard to how changes are made in public schools.

4) Teacher education: a study of the teacher education programs at the feeder colleges of the Pasadena School System.

5) Curriculum: an examination of the curricula now used in Pasadena's schools.

The transition from summer to fall has left us with many ideas but a minimal staff to organize these into realities. If you are interested in any of these programs please contact us in 66 Church.

Caltech students and SRA's are planning to tutor and conduct special opportunity workshops at nearby McKinley Junior High School. Although this program is conducted under the ASCIT Research Center, it will also involve students from other colleges in Pasadena.

Gould and Henerey

Continued from page two

"master keys." Later, under BOC chairman Gordon Myers, other special cases followed, including similar presence in Beckman Auditorium and Throop Hall. The justification for thus compromising the Honor System has remained unclear, especially in that 1.) Specific activities were not proscribed, but rather out of distrust, mere presence and possession were outlawed. 2.) It was never established that students (as opposed to non-Caltech people) had caused the alleged trouble.

After this more extensive precedent had been around for a few years, a faculty member, Dan Kevles of the Humanities Department, realized that it would be only the smallest step to increase the BOC's coverage to include such places as his and other faculty members' offices. This extension was also made in 1965-66, and with the help of BOC chairmen Myers and Smith, the extension soon included not only faculty (and staff) offices, but

Continued on page eight

NOTICES

HELP!!
KPFK, the L.A. area's non-commercial, listener-supported radio station, is in the midst of its 1969 money-raising marathon. KPFK is well worth supporting. Send your contributions to KPFK Fund Drive, c/o Caltech YMCA.

REMEMBER TO VOTE TODAY!
Don't forget to vote in today's election (Oct. 16). On the ballot will be candidates for Interhouse Committee Chairman and various class offices.

FRISBEE FOR FUN
Help form a Caltech IFA approved Frisbee Club. Improve your game, advance through different levels to Master and help on a Mt. Wilson to Caltech Frisbee throw. Contact Ric Lohman through the O.C. box in Ricketts or call 795-3092 after 9 p.m. Organizational meeting to come later.

STATE SCHOLARSHIPS AVAILABLE
Undergraduate college students who are in need of financial assistance to continue college should file a State Scholarship application. Approximately 6,000 new State Scholarships will be awarded in April, 1970, for use in 1970-71. Most of the new awards will be available to high school seniors but the number available for currently enrolled college students who are not already in the State Scholarship Program has been increased by recent legislation.

State Scholarships are available for use at any accredited four-year college in California. The awards range from \$300 to \$2,000 at independent colleges, \$300 at the University of California, and are in the amount of fees charged to students at the California State Colleges (approximately \$130). In addition, students planning to attend junior college may have their grants held in reserve for them until such time as they attend a four-year college.

Applications are available in the Office of Financial Aid or directly from the State Scholarship and Loan Commission, 714 P Street, Suite 1640, Sacramento, California, 95814. Applications must be filed with the State Scholarship Commission by midnight, December 10, 1969.

HARLAN ELLISON!
The Caltech Science Fiction Society presents award-winning writer Harlan Ellison at Winnett Lounge, 7:30 p.m. on Tuesday, October 21. Everyone is invited.

BAND CONCERT
Saturday, October 18, 1969, at the Alumni picnic at Tournament Park, in two parts, at about 12:00 and 2:30. As an added attraction, the football team will perform at intermission and after the second concert.

ART (CONTINUING)
JACK ZAJAC retrospective of his sculpture and CORDA ZAJAC paintings, Dabney Hall of the Humanities. 9 to 5 weekdays and until noon Saturdays through November 14. Free.

CALENDAR

Thursday, October 16
GRAD SACK LUNCH, Y Lounge, Winnett Student Center, 12 Noon. "Art at Caltech," Lukas Van Vuuren, Resident Artist, Caltech. Sponsored by Caltech YMCA.

Friday, October 17
SPECIAL BIOLOGY SEMINAR, 168 Church, 4 p.m. "Neurogenetics of a Nematode," Dr. Richard L. Russell, University of Cambridge, Cambridge, England.

Saturday, October 18
OPEN SOCCER, Pierce College at Caltech, 10 a.m.
VARSITY WATER POLO, UC San Diego at Caltech, 10:30 a.m.

FOOTBALL, Pomona at Caltech Field, 1:30 p.m.
VARSITY SOCCER, Caltech at Pomona College, 2 p.m.

Sunday, October 19
MELOS ENSEMBLE opens the Coleman Chamber Music Series, performing Divertimento in F major, K 247 by Mozart; Trio in E flat for violin, French horn, piano, Po. 40 by Brahms; "Trout" Quintet for violin, viola, cello, contrabass and piano, Po. 114 by Schubert. Beckman Auditorium, 3:30 p.m.

Monday, October 20
THE BRAIN OF POOH: An Essay on the Limits of Mind, by Robert L. Sinsheimer, Ph.D., Professor of Biophysics and Chairman, Division of Biology, Caltech. Caltech Lecture Series. Beckman Auditorium, 8:30 p.m. Free.

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Directed by DENNIS HOPPER Produced by DENNIS HOPPER Associate Producer WILLIAM HAYWARD Executive Producer BERT SCHNEIDER

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Released by COLUMBIA PICTURES



ACTRESS LILLIAN GISH, visiting Beckman Auditorium, tells of her past times in the acting profession.

Lillian Gish to Show Films, Discuss Hollywood's Golden Era

An international legend in her time, Miss Gish is still today not only one of the busiest actresses, and in demand, on both coasts, for movies and the legitimate theatre, but she is also a lively and witty speaker and a most successful authoress.

Miss Gish will reminisce about her illustrious career and will talk of her friends—those stars whose careers paralleled her own — Mary

Pickford, Douglas Fairbanks, Sr., Rudolph Valentino, Charlie Chaplin, and many others. Some of these luminaries she brings right into the Auditorium, with a series of scenes from famous silent films, including "Broken Blossoms," "Birth of a Nation," "Orphans of the Storm," and others from Miss Gish's private film collection.

For a brochure and ticket information, telephone 793-7043.

Good Old Porno

Movie Exploits Sex Boom

By Tom Miller
College Press Service
Starlet! Produced by David Friedman and William Castleman for Entertainment Ventures. Directed by Richard Kanter.

(CPS)—Pornography is having a revival. Sex is good wholesome fun. Nasty sex is even more wholesome. New sex papers in New York are embarrassingly successful—one is even considering coming out with a sex daily. Other long time periodicals have been using the sex angle for years with gory details of how a girl was gang-raped repeatedly and loved it, incest with a seven-year-old daughter who got pregnant, and other funny stories.

But now in the age of McLuhan, film takes over as the primary conveyor of sex titillation, so the book "I Am Curious (Yellow)" raised nary a voice, but the movie got all the publicity. Such is the case with the Entertainment Ventures' release "Starlet!"

"Starlet!" is about a nudie film factory in Hollywood named Entertainment Ventures which goes about the sleazy job of turning out stag flicks and feature length skin jobs. Included in the movie is the filming of a stag film, plus the interaction among the cast and crew at the EV studios.

Entertainment Ventures has a grabber. It appeals to everyone's prurient interest, no matter how dulled it may be. For the true lech,

there is good porno, the kind we've all grown to know and love. For physical torture fans, there's some good ole fashioned S & M; and for media freaks, the movie within the movie—and the transition between the two should stimulate anyone. Not unlike "Six Characters in Search of an Author."

Call it pornographic navel-gazing if you will. The crowd at EV must have had a proverbial ball working on this one. There is a thread of a plot, for people who care about such things. Carol Yates, ambitious young actress, does a short ball scene for a stag film. She is picked to do another, better film, and eventually becomes the top sex symbol of EV. (Her biggest flick is about sex on campus, called "A Youth in Babylon.") Meanwhile, her roommates have deviations going for them: one is a virgin at 23, and, as if that weren't bad enough, is engaged to a nudie film director, raped by another director, and casts off her fiance when he asks her to star in a sex flick on the pilgrims called "They all Came Across."

The other roommate is AC/DC, digs grass and sex, and gets melodramatically killed at the end trying to blackmail the EV chief honcho who has screwed close to a zillion girls in his 59 years. Plot? Shmot.

There are a few choice clever spots in addition to the nudie on

Visits Universities

Guibas Writes On European Travels

by Leonidas Guibas

Below is the main body of a letter I sent to Dr. J. H. Richards, chairman of the faculty travel prize committee, thanking him for the committee's financial contribution to my travelling expenses this past summer. Although my trip to Europe was mainly cultural and recreational in a personal sense, I felt that some of my observations on European schools were worthwhile enough, or in any case interesting, so as to try to make them known to a larger audience.

...Of particular interest were my visits to a few foreign universities, where I had the opportunity to compare any information I collected about their structure and function with the corresponding facts about Caltech. The schools I visited along with my co-traveller Peter Szolovits were: Cambridge University in England, the Sorbonne, l' Ecole Normale Supérieure and the l' Ecole Polytechnique in Paris, and the University of Heidelberg in Germany. Unfortunately time limitations and the fact that it was summer and consequently most students were gone made possible only a sporadic collection of facts about each of these schools. Below I will limit myself essentially to only this side of my trip because I think this is a subject of interest to both of us and also because I would like to mention in my letter some interesting points without making it unduly long.

Four Wilde Gems, "Dorian Gray" In Beckman Concert Reading

Four gems from Oscar Wilde's treasury of fairy tales, together with "The Picture of Dorian Gray," will be presented in a concert reading by the State Repertory Theatre, in Caltech's Beckman Auditorium, for two performances on Friday and Saturday, November 7 and 8. Curtain time is 8:30 p.m.

The State Repertory Theatre de-

pilgrims. The director's name, for instance, is Phil Latio (get it?). He tells one set of actors, "If you kids ever want to work again, I'll give you a call." Very clever, Latio, very clever.

In another sequence, a guy is asked by one of Carol Yates' (remember her?) roommates about his balling habits and whether he's carrying any dope, all within 20 seconds of being introduced. "You're coming on like a student revolutionist," he warns her. Ah, if revolution were only that simple.

And when the top man at EV gets told off by one of his former sex stars, who stalks out on him, he sighs, reflects philosophically, and quotes from King Lear, "How sharper than a serpent's tooth it is to have a thankless child."

Done in fine taste, the movie was well within my wildest expectations. It went to court in Tucson, Arizona, and won. And it's a good thing, too, because to deprive

people of a self-conscious spoof of the whole sleazy porno film industry would be tragic; a tragedy for EV, for the censors, for the media freaks, for S & M fans, but most of all for lovers of good, wholesome pornography.

(Tom Miller, a former CPS editor, has written for Rolling Stone and Hard Times, among other periodicals. He is currently a highly unsuccessful free-lance writer in Tucson, Arizona.)

Cambridge University is architecturally the most beautiful school I have seen. Aside from the buildings that house the different faculties the University contains twenty-three colleges. College buildings, arranged around courts after the medieval pattern, incorporate dining hall, library, chapel, along with the individual rooms for students and senior members. Some of the colleges date from the fourteenth century and their chapels with the pointed gothic arches capture one's eyes. The whole town is very picturesque and is swarming with lively students. The University and the colleges play complementary roles in the educational system. To quote from their admissions prospectus, "the University provides formal instruction such as lectures and laboratories, conducts examinations and confers degrees. The colleges on the other hand, admit and accommodate the students and organize the individual type of instruction which at Cambridge is called supervision. Most Fellows of colleges are also University lecturers, and this ensures a close link between colleges and University."

The academic year is divided into three eight week long terms. It is recommended, however, that students stay in school for about five weeks during the summer to pursue study on their own. Three years of study are ordinarily required for graduation. Graduation is dependent on passing two comprehensive

examinations called "Tripos", usually at the end of the second and third years. And an interesting detail: the Feynman Lectures on Physics is the textbook used for their two-year introductory physics course.

Student participation in the running of the University takes place at three levels: In the departments for the discussion of curricula; courses and examinations, in the colleges for discussion of matters of common concern; and at the central University level there is a joint committee with wide terms of reference, as well as undergraduate participation on bodies concerned with specific topics, for instance lodgings and student health. The above structure is presently under reconstruction.

To summarize my impression from Cambridge I would say that the school has such an air of calmness and timelessness about it so as to make one feel that this is really a community set aside for the pursuit of knowledge.

Continued next week



Tech Paint-In at Construction Site

President Brown, upon contemplating the dull, drab construction fence surrounding the projected Baxter Humanities Building, wistfully noted the lack of artistic embellishment by Techers. In order to remedy this situation, the Art Program, Dr. Huttenback's office, and the Master's office are plotting a Paint-In for Saturday, October 25, starting at 1 p.m. Paints and masonite boards will be provided, along with refreshments and entertainment (live, of course).

Persons, houses, and groups (recognized and otherwise) are encouraged to raise the esthetic level of Caltech by creating scintillating works of art to grace Beckman Mall. Persons, places, or things interested in this worthy project should contact the Master's Office (ext. 2194) so that the appropriate amount of materials can be ordered in advance.

Lyghtre Thaenne Aire Faire

The Graduate Student Council is sponsoring a welcome party in Dabney Lounge called "Caltech's Fall Festival and Lyghtre Than Ayr Fayr"



There will be free admission, free beer and food, and single girls from surrounding schools. Singles and couples are welcome. A live rock band, the Matchbox, and a lyght show, St. Elmo's Fire, will be featured.

8:30 p.m.
Sat., Oct. 18
Dabney Hall Lounge

EVERYBODY WELCOME!

Letters

Students Deplore Visit Of Russian

Students Deplore Visit of Russian Scientist
To the Editor:

We deplore the visit of Dr. Kapitsa to this campus. We do not believe that a community of scientists dedicated to the pursuit of truth should thus sanction as a colleague a man who has placed his mind in service to the goal of enslaving mankind. Action cannot be divorced from ethics; Dr. Kapitsa cannot be divorced from the secret police, the "labor" camps and the Berlin Wall perpetrated by the Soviet rulers, for he has helped provide them with the means.

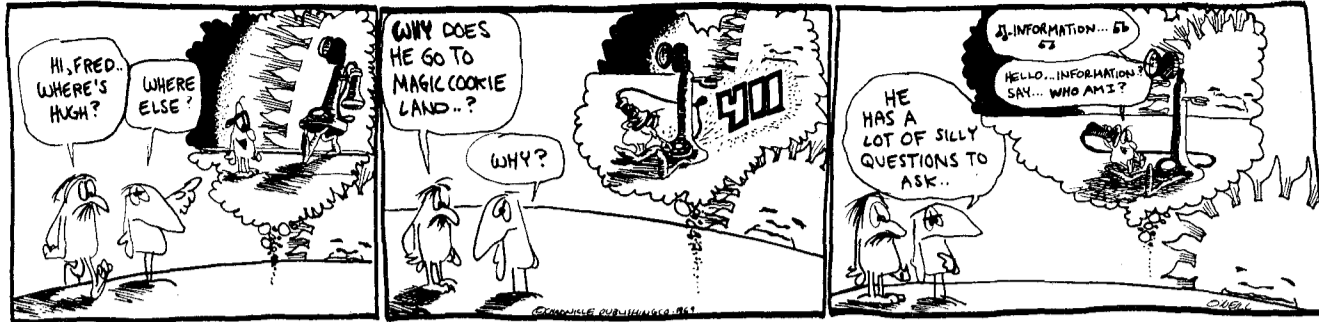
Terry Boardman
Lawrence Rhodes

We believe that intellectual ostracism of an individual because of the actions of his government, as counselled above, is a foolhardy and naive course of action. The extent of Dr. Kapitsa's commitment to those activities of the Soviet Union referred to above cannot be established by any individual save Dr. Kapitsa himself, being a matter between himself and his conscience, and at any rate outsiders cannot even try to form a valid judgement without contact with the accused individual. Trials in absentia are not, we hope, in the American tradition.

Let him whose country is without fault cast the first stone at less fortunate individuals. Has America done nothing for which you would choose not to stand liable? Crying "Unclean!" will not cleanse. Separation and ignorance do not breed understanding.

-The Editors

Dan O'Neill
D
BODKINS



The Critical Ear

LEONARD BERNSTEIN AND THE NEW YORK PHILHARMONIC: *Pomp and Circumstance*, Columbia MS 7271.

This record is definitely *not* one of Bernstein's best. First, there is a total lack of life in almost all of the selections. The flat quality is something quite alien to Bernstein recordings, at least, those I have heard. Secondly, I have heard better recordings of all but one of the pieces on the record. I have not heard that one anywhere else. If you want the convenience of having eight pieces of pompous music on one record, then by all means buy this record. However, if you prize quality more than quantity or convenience, save your money. There are better Bernstein recordings around, and there are better recordings of these selections.

Selections: Bizet: MARCH OF THE TOREADORS from "Carmen Suite No. 1," Elgar: POMP AND CIRCUMSTANCE No. 1, Mendelssohn: WAR MARCH OF THE PRIESTS from "Athalia," Verdi: GRAND MARCH from "Aida," Wagner: FEST MARCH from "Tanhauser," Meyerbeer: CORONATION MARCH from "The Prophet," Ippolitov-Ivanov: PROCESSION OF THE SARDAR from "Two Caucasian Sketches," Berlioz: RAKOCZY MARCH.

-Bruce Britton

THE MORMON TABERNACLE CHOIR, RICHARD CONDIE, Director, and THE PHILADELPHIA ORCHESTRA, EUGENE ORMANDY, Conductor: *Hallelujah Chorus-The Great Handel Choruses*, Columbia MS 7292.

The Mormon Tabernacle Choir and the Philadelphia Orchestra combine to create a full, rich recording in this album. We hear choruses from, among others, "Israel in Egypt," "Saul," and "Samson." Although my tastes usually do not run to opera, even excerpts, I found myself enjoying all of the selections in this album. I recommend this album to anyone who thinks he dislikes "opera music," as an opportunity to have his mind changed. The tried and tested combination of the Mormon Tabernacle Choir and the Philadelphia Orchestra has produced another good recording. I hope you enjoy it.

-Bruce Britton

AARDVARK: *Kensington Market*, Warner-Seven Arts 1780

The best thing about this album is the aardvark artwork on the album cover. The music inside is fair, but that is largely due to the writing and backup work of Felix Pappalardi. Kensington Market is one of the Many Canadian groups

who have appeared in the last two years. On this album, the group shows vocal and instrumental competence, but not excellence in anything.

One problem might be that someone tried to fit too many cuts onto the album, with the result that there are eight songs on the first side, all of them short. The shortest song on the album is "Ciao," 1:13, and the longest is "Dorian," 6:46. The result of the crowding is that the first side of the album is distinctly unmemorable. The second side is slightly better, but only "Dorian" surpasses mediocrity. In short, it's a nice album to listen to, but I wouldn't buy it.

-Nick Smith

EVERYBODY KNOWS THIS IS NOWHERE: *Neil Young*, Warner 7 Reprise 6349

There are only seven songs on this album, of which four are great, and the other three merely excellent. This is the second of two albums he made during the time he spent in between the Buffalo Springfield and Crosby, Stills, Nash and Young. It is by far the better, largely due to the backing of the group Crazy Horse. They flow beautifully around the singing and lead guitar work of Neil Young. There are two long cuts on the album, "Down by the River," and "Cowgirl in the Sand," both approximately ten minutes. These are the best songs on the album, closely followed by "Cinnamon Girl" and "Everyone Knows This is

Nowhere."

The entire album is reminiscent of the songs that Young wrote for the Buffalo Springfield, such as "Mr. Soul" and "Rock and Roll Woman." If you liked that kind of song done by the Springfield, then you will probably like this album by Neil Young.

-Nick Smith

LOVING: *Francoise Hardy*, Reprise RS6318

Francoise Hardy has been a French singing star for several years, but this is her first album in English. She is best known for soft ballads and folk songs, but can sing pop and rock as well.

This album suffers from attempted diversity. It includes such songs as "There But for Fortune" and "Let It Be Me," but also does such driving numbers as "Who'll be the Next in Line" and "That'll Be the Day." This makes for a disconnected album that shifts moods quickly. Admittedly, the same theme of "Loving" exists throughout the album, but changes are still abrupt.

Francoise Hardy has an excellent voice, but the album is slightly over-instrumented. Thus it has somewhat the effect of Judy Collins singing with the Radio City Music Hall Orchestra for accompaniment.

Overall it is a good album, but it could have been much better with a little finesse in the arrangements. I would recommend it to anyone who is not a real devotee of Francoise Hardy.

-Nick Smith

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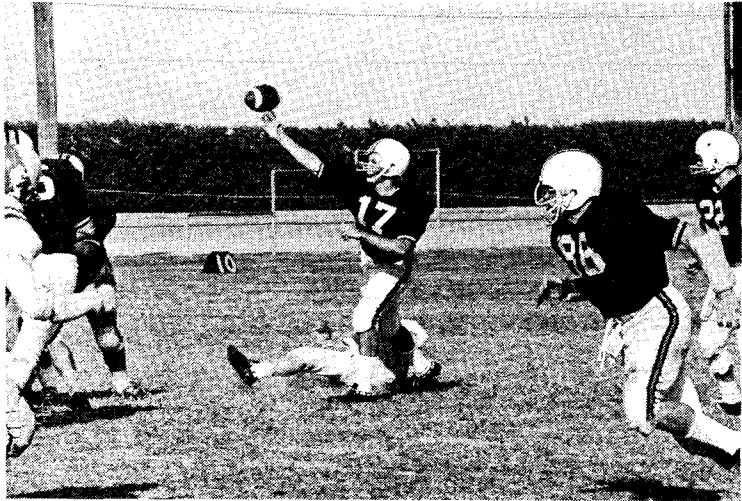
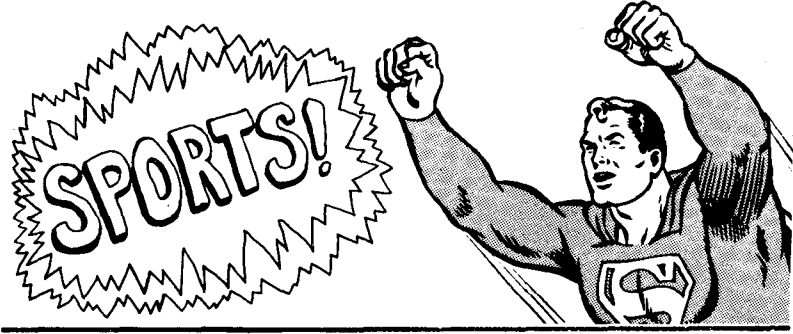
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QUARTERBACK STEVE BONDOW throws a pass while avoiding rushing linemen in last Saturday's football game. —Photo by Ctein

Redlands Jayvees Top Caltech Gridders 20-7

The Redlands junior varsity pigskin squad outscored the Beavers of Caltech 20 to 6 Saturday in Tournament Park.

The victorious Bulldogs took the opening kickoff and drove 50 yards in three and a half minutes to score and go ahead 7-0.

Midway through the second period Caltech scored its first TD of the season on a two yard dive by fullback Mike Brennan. The score was set up by an 82 yard pass play from Steve Bondow to Lee Morris. The running try for the two-point conversion fell just short, and Tech trailed 7-6 until the final minute of the first half.

Redlands put another 7 on their side of the scoreboard on a 30 yard pass play with less than a minute to go in the second period, and the

score stood 14-6 at half time.

Early in the final quarter a 35 yard return of an intercepted pass gave the Bulldogs their final score. The extra point attempt failed and the final gun sounded with Caltech losing 20 to 6.

The Redlands offense did not overshadow the Beaver offense. The Bulldogs executed 69 offensive plays to Caltech's 67, and gained just 11 first downs to Tech's 8. The Beavers had 296 total net yards gained compared to just 240 yards for Redlands. However, Tech lost two fumbles and suffered three interceptions as they brought their record to 0-2.

Caltech hosts the Pomona varsity this Saturday. The homecoming game will begin at 1:30 at Tournament Park.

BOC Holds Planning Session

Continued from page one

not all grad students are satisfied either. About an hour was devoted to this type of discussion.

The last two hours of the meeting were devoted to generation of possible programs to embark upon. The method of discussion is called brainstorming: ideas are stated quickly and simply with a minimum of discussion. No negative comments are allowed and all suggestions are recorded for later, more serious detailed discussion and possibly, implementation. Here is a partial list without details or comments:

Excellence in teaching award, total living integration, aid to entering females, house system revitalization, an alternative to the present rotation process, frosh camp revamp, new advisor system, new aid for students in academic trouble, computerart, psychology and social sciences at Caltech, a coordinate college (female), general science option, student representation on faculty committees, study elsewhere, seminar on governance at Caltech, communication with or representation to the Board of Trustees, special communication links to the administration (one to one), a "tough EPC" to handle substantive complaints, increase of

research opportunities for undergraduates, weekly *TECH* columns, academic exchange programs, aid for Caltech's development program, an Institute Aims and Goals Report, new teaching techniques, live-in scholars or professors, food, social life on campus, more money for house governments and ASCIT, credit for non-course oriented academic work, a hired ASCIT secretary, Honor System study (evaluation of existing procedures, its application to campus guests), communication with grad students, total academic reorganization, Institute Board, fast opinion sampling, political process, Alumni study, parking problems and fines, taped lectures, more and better seminars, national political involvement, communication with off-campus people, undergraduate teaching, extension or curtailment of pass-fail, operating procedures with Brown, etc., influence with faculty, separate room and board contracts, continuity of leadership, academic integration, and other wild and not-so-wild ideas.

At the third planning session to have been held by the time of distribution of this *TECH*, more detailed discussion of these ideas

will ensue. More to come.

Tech Cleans Up In H₂O Polo

Let us briefly mention that Caltech lost to Santa Ana College, one of the best JC's in California Water Polo. But Caltech showed a comeback potential previously unheard of. Down 5-0 halfway through the first quarter Caltech fought back to eventually lose 8-5. Santa Ana was faster and had better ball control, but the spunky defense led by ace goalie Ken Hansen, held SAC to only three goals in the final three quarters.

This spunkiness and will to win paid off immensely for Tech at the Invitational Tournament Saturday. Playing a weakened CHM team, Caltech gained a well-deserved victory, **THE FIRST IN THREE YEARS OF CHM DOMINANCE**. Although the final score was 3-2, the closeness doesn't reflect the

dominance which Caltech displayed. CHM was faster, but Caltech ball control and **TEAMWORK**, completely suppressed the CHM offense. Watkins and Stefanko scored for Tech and Hall, Coates and Tyson put their Page House knowledge together to stop CHM cold.

In the second game all the breaks went against Tech, but refusing to give in, Tech gained a 2-1 win over a tough OXY squad. The teams were so evenly matched that the scoring was provided by one penalty shot from each side and a magnificent second effort shot by Steve Sheffield. Tech's perennial defensive lapse was skillfully averted by Ken Hansen, who turned in yet another stunning performance on his way to becoming an All-League goalie. Tech had few breaks and OXY tried

everything they could think of, but Tech wouldn't let them capitalize on the breaks.

Tech followed this second win with the decision to win the third game by more than one goal. Poor UCR never had a chance as Tech, with its eyes, hearts, and minds firmly set on the Tourney Championship, outfought the Highlanders, 2-1. Tech's defense sparkled and the offense was strong with ball control and good passing proving to be the margin of victory. Credit should also be given to Edwards, Hight, and Bell, who with the other members of the bench have improved so much that the team is twice as effective. This really helps when you are playing three games in one day. Tech now must be considered the front-runner for the **LEAGUE CHAMPIONSHIP**.

Szolovits Continues On Honor System

Continued from page two

been Caltech students in the past, some have become acquainted with Tech because of the over-eagerness of Techers to explain in detail just where which tunnel leads and just which common key opens which lock. Some of them are common burglars that abound on any open college campus. Perhaps some are Caltech students, though I have no evidence of that. I certainly do not believe Mr. Boswell's implication that these thefts prove the demise of the honor system is justified.

What is justified is the series of suggestions that he makes. I wish to concur strongly with the recommendation that Techers get to know the security guards better. They have a difficult task to perform. They must be kind and friendly enough to fit into the academic community with its loosely construed rules and regulations, yet serious enough to protect the campus. Partly as the result of discussions in the Ad-Hoc Committee on Campus Disruptions during the summer, the guards have been requested not to wear guns during the day or police helmets except in the steam tunnels, in

order to reduce the image of "cop" that the security guards at other campuses have acquired. Our guards generally like students, and try to protect them from harm. Mr. Ken Charles, head of the guards, and I have been talking about arrangements to deal with students found in unauthorized places by guards when the action of the students is not contrary to the honor system.

About the honor system, I can say only that it is not a static system written in some old decaying

books. It is a live expression of the ideals and actions of the present members of Caltech. I therefore welcome and urge considerations by any person at Tech, but I ask that any criticism be constructive in nature, and that it be directed to the Board of Control before the honor system is publicly written off as dead on account of an unexamined criticism. Sincerely,

Peter Szolovits
BOC Chairman
ASCIT Vice President

These two firms paid good money to advertise in the little t, but the printers made mistakes in setting their ads. You are likely to have use for their services in coming months, so we hope you will correct their ads in your copy of the little t. H. B. Bennett has a direct campus extension, 1571.

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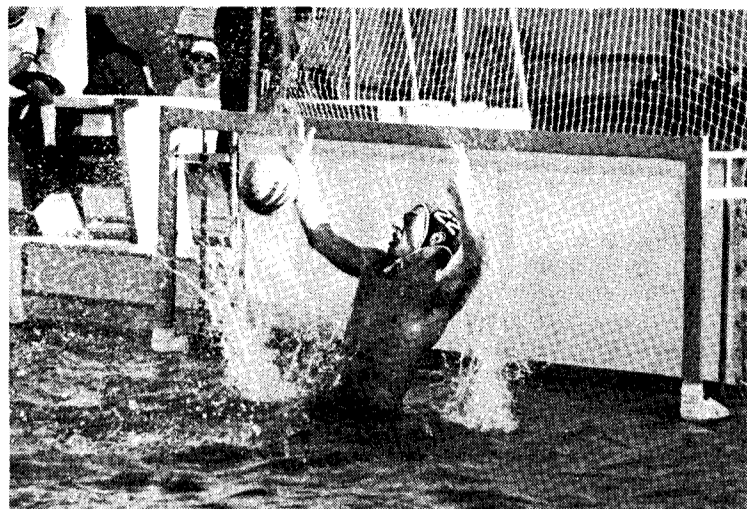
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GOALIE KEN HANSEN makes one of numerous saves in the final game of last Saturday's tank tourney. Such fine defensive play enabled the Beavers to win the tournament. —Photo by Dash

Harriers Win Soccer Team Double-Dual Plays To Tie

The Caltech cross country team brought its record for the season to three wins, two losses Tuesday, by beating Azusa Pacific and Pasadena Colleges. Frosh Gary Pope led the Beavers, taking second to Gregg in the Azusa meet and leading a first through fourth, sixth through ninth near sweep of Pasadena.

Close behind Pope followed Nelson (Azusa), Higgins, Tardiff, and Folsom (Azusa). After a gap came Smith and Appleby (Azusa), with Ross, Pasadena's first runner ninth overall. Almquist, taking over fifth spot on the team, finished next to give Caltech the Azusa meet, while Hermeyer and Frosh Dave Evans added the frosting to the cake.

The final scores were: Caltech 27, Azusa 30, and Caltech 16, Pasadena 47. Tomorrow (Friday), the harriers meet Occidental's powerhouse, and Tuesday, October 21, they meet Pomona, both in home meets at the Brookside course.

Soccer Team Plays To Tie

The Caltech soccer team played Claremont-Harvey Mudd to a 3-3 tie here Saturday in the Beavers' first conference game.

Each team scored one goal in the first period and it was evident that it would be a well-played, close contest. CHM rallied twice in the second quarter to go ahead three to one, but the Beavers bounced back with two goals in the third stanza to knot the score at three all.

The two squads played to a standoff through the fourth period, and since neither team managed to score in two five minute periods of overtime, the game ended in a 3-3 deadlock.

Sophomore Andy Chow scored two of Tech's three goals on the two shots he made. Jerry Eisman added the Beavers' third goal.

The soccer team now has a season record of two wins, one loss and one tie. The Beavers play Pomona there this Saturday at 10:00 a.m.

Urban Problems In Space Group Uses Space Science On Cities

As a result of extensive discussions between Caltech, JPL, and NASA, interest was stimulated in the application of space technology toward urban problems. Thus was born a Caltech-JPL project last summer. A JPL engineer, Al Hirshberg, was named to head the project, while interest at Caltech and among the students was provided by Dr. Robert Oliver, who was teaching a course in urban problems third term. The course eventually supplied at least four of the student researchers. In addition to these and several other Techers, eight girls, three master's degree holders and all kinds of "beautiful" people brought the total personnel to 21 researchers from 10 different campuses. Everything from Anthropology through Biochemistry and English to Physics was repre-

ented for a truly interdisciplinary approach.

Preliminary research and intensive discussion with the City of Pasadena narrowed the topic to the area of housing. A senior planner from the City was assigned to work with the Project. Extensive Project-City co-operation has been the keynote of the research.

The first several weeks were devoted toward gathering information about Pasadena, what information existed, where, in what form, how usable, etc. Over 60 agencies were contacted, interviewed, researched, and catalogued. Books and articles useful to the research were read and catalogued.

As the housing system became better understood, two major groups developed. The Housing Group was interested in the

structures, while the Population Group concentrated on the people. Deterioration and population migration became major areas of concern.

Subgroups soon took shape to delve more deeply into easier grasped concepts within each group. By the end of the summer, analysis was performed (to varying degrees) upon a housing inventory (what really exists), deterioration indices, neighborhood definition, the realty transfer system, racism, and modeling theory. A data bank containing several innovative features was also developed. Computer application and utilization of programming techniques were both extensive.

ASCIT Beware!

PITTSBURGH—(CPS)—The Pitt News, thrice weekly student newspaper at the University of Pittsburgh (Pa.), ceased publication late last month after the staff issued a set of demands for better compensation for its work.

In a full page editorial on Sept. 25 signed by 32 staff members, the News said, "In this day of self-determined individuals, fewer and fewer people find the time to work for nothing. Considering the quantity and quality of the Pitt News staff, it is quite obvious that the self-satisfaction received from doing something with one's ability and time is no longer sufficient payment for services rendered.

"The staff wants money, credit, and other rewards for their time spent on the newspaper." The staff ceased publication of the News with that Sept. 25 issue. They are seeking \$9,000 to spend on staff salaries through mid-March and one academic credit per term for participating in a journalism seminar. The University does not have a Journalism School.

While the News seeks closer ties with the university through academic credit on the one hand, it seeks greater freedom through financial independence on the other. "The Pitt News can work out its financial problems by becoming an independent corporation. After initial help from the University, it would not have to bother Student Government of the Administration for funds."

Canadian Students Protest Alaskan Nuclear Test

CANADA—(CPS-CUP)—Numbering into the thousands, students and supporters clustered at border crossings and airport terminals across the country Oct. 1 picketing, snarling traffic, and occasionally getting arrested or run over in a spectacular but unsuccessful protest against the U.S.'s underground Atomic blast in the Aleutians.

Mobilized in less than 24 hours notice, the snow-balling protest involved approximately 14,000 students from at least 14 post-secondary institutions, backed up by other supporters who learned of the protest through news reports.

Threats from the attorney general of British Columbia, harassment by police, and the reckless driving of blockaded motorists failed to prevent the demonstrators from

voicing their fears about the blast which occurred near a major fault in the earth's crust. Many persons, including U.S. and Canadian government officials, had urged President Nixon to postpone the test, but Nixon refused to postpone it.

The idea for the protest originated at the University of Victoria, and the response provided the largest demonstration in the history of that university, involving nearly 10,000 British Columbian students. Nearly 2,500 Victoria students blockaded the docks of American-owned Blackball Ferry on Vancouver Island. On the mainland, about 5,000 students from the University of British Columbia and four other colleges gathered at the border crossing at Douglas, B. C. to hear speeches from ecologists, geologists, and students.

Elsewhere along the border, Canadian students held similar protests. In Ontario, for example, 2,000 students blocked U. S. border crossings or demonstrated near Sarnia Windsor and Niagra Falls. Dr. Benjamin Spock warned students at the University of Alberta, "It is not necessary for the U. S. to test and we know that some of these underground tests have leaked fallout. There is danger to everybody on whom the wind can bring the fallout. We have to protest loud and often and dramatically to get that message across."

Coming: October 20

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Henerey and Gould Write on Honor System

Continued from page three

such things as the (then privately run) food service.

Finally in 1967, the Honor System was made to state that not only could students not enter large areas of the campus after "hours" nor have "master keys", but that they could not have any "unauthorized" keys either. The next step will presumably be that students will be honor bound not to have any "unauthorized" papers; perhaps books will follow. The whole thing is progressively less an intelligent group of students looking out for each other, and more a BOC-Administrative authority (big brother) watching and commanding.

Correlative to this shift of the function of the BOC was a shift in the nature of the Guard Staff. Up until about 1965 the Caltech student could and often did count on Security Guards to direct and help him in case of any kind of trouble. But the last four years have seen the phasing out of kindly helpful guards, here to protect students and the Institute. They have been replaced by "enforcement officers" bent on projecting the "tough guy" image, complete with motorcycle helmets, sunglasses (at night?), chin straps, "quick-draw" holsters, boots and the whole childish routine. Presumably these people are also here to protect the Institute, but more from the students than the Institute including the students.

When one is harassed by an armed bully on campus and Dean Bohnenblust takes the side of the bully, one wonders. When one is inconvenienced in an innocent situation by the legalism of an untrusting "honor" system, one wonders. When one violates the Honor System in the course of legitimate scientific pursuits, one wonders. When President Brown reveals the existence of the secret committee on Student Disorders, one wonders. When one observes the bricked up windows in Throop, one wonders. What are "they" afraid of; why is it no longer "we"; when and why have Caltech students been expelled from the Caltech community?

We would suggest to Carroll Boswell and Tech readers that Caltech is indeed threatened, but not from the direction its paranoid trustees and slick-paper administration think. Caltech is a world-renowned center of learning, research, and probably the single most successful exemplar of the "Small School Philosophy". Caltech arose to this position, as we here have heard many times, by the inspiration and daring of a few remarkable individuals, bestowing for a long time, a reputation for exceedingly clever and high quality

research. But the Institute is now in the position of baseball's second-year rookie. The first generation was very excellent, how can we hope to match it a second time? The reaction visible in every part of the Caltech administration is the same—"For God's sake let's hang on to what we've got." We seriously doubt that Millikan, Noyes, Hale, Pauling, or any of Caltech's "greats" spent much time worrying about the Institute's "reputation"; after all, it's pretty hard to make a killing in the stock market while you're busy burying your gold in the backyard.

What, specifically, do we find today? We find a several hundred page catalogue, and books like *Facts About Caltech* and *The Hundredth Man*, completely debasing scientific values with overstatements, boasting, occasional outright lies, and in general, a disgusting lack of aloofness. The entire concept beginning with "We're great," and ending with "Let's not change," is scientifically fatal. A reputation is the human reaction to greatness, it is dynamic and cannot be locked and preserved inside a glass jar. If Caltech would like a reputation, it should exhibit intelligence and courage in its deeds, and not its museum showcases.

The physical security of the campus from criminals is the epicenter for such conservative feelings. If a contradiction arises between saving the physical plant from hoodlums and maintaining the free small-school atmosphere, it is pointless and debasing to choose the former. Even if we should go bankrupt from theft, we must accept the facts: without the spirit of Caltech there is nothing left to save. This spirit includes freedom

for students to do their work, to investigate the universe and not to be insulted with lab lockouts, armed guards and the constant overt suspicion of being "outsiders".

An interesting question which might be asked in this regard is: "Why should outsiders not be allowed to use Caltech facilities?" If a man is sitting in the library reading a book, what is it to a guard whether that man has a Caltech I.D.? If a man is in the basement of Crellin stealing chemicals, again what difference should it make to a guard whether he has a Caltech I.D.? All of a sudden, Caltech no longer desires to be the community center of learning for Pasadena and the San Gabriel Valley, now it is private property, closing steel doors to every Einstein who is not a card-carrying member of its machine.

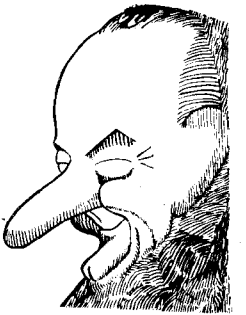
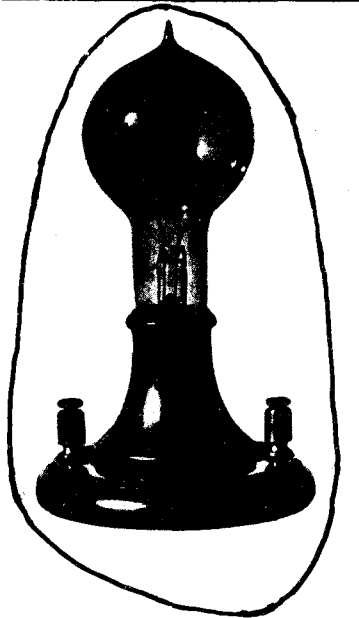
Back to the point, we have stated that even if Caltech's physical plant were at stake, it would not be worth sacrificing our Caltech ideals in order to save it. In fact, there is no such question at issue. Who among us believes that the thefts which are so upsetting the budget-minded are due, even indirectly, to students? Can anyone think even for a moment, that further turning

of the BOC screws, or increased paranoia will have even the slightest effect on these crimes? Indeed, keeping bona fide students out at night makes theft by professionals that much easier.

We believe that it is the ill-motivated expansion of the jurisdiction of the Honor System into personal, non-academic conduct which has caused the deterioration which Boswell has noted. We feel that the jurisdiction should be limited, as it once was, to academics, but in any case, that it must be limited to the areas in which students will support it.

The unrealated question still there is: "What about the theft which continues to plague the campus?" The point has been made that our excellence and freedom (and therein our *raison d' existence*) is more important than the dollars being stolen. An answer is not in sight, but we feel that it cannot lie in more suspicion and fear, nor in more assertion of power, regardless of who directs it.

Sincerely,
James Gould
Mike Henerey
Division of Biology



NOTICE

Under the new bill which is being considered by Governor Reagan, stating that Topless - Semi Nudity - Complete Nudity entertainment will be left up to the adult people of the community, The HI LIFE (1758 E. Colorado) is now conducting a poll to find out what the adult people of Pasadena want to see as entertainment.

We would like you to express your opinion by voting at our Private Ballot Box at the HI LIFE. Then we will be able to give you the type of entertainment you want without offending anyone.

All Three Types of Entertainment are being shown daily to help you decide the type of entertainment you want, thank you.

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The witch, the toad, and William C. Snitzer

ONCE upon a time William C. Snitzer snickered at a witch who was walking her toad through a large park near his home.

"Hey," he said snidely, "What's a good-looking toad like you doing with a witch like that?"

He only had time to snicker this once because before he could say "Member FDIC," the witch had changed him from a 5'6" smart aleck into a five story full-service bank. A Security Pacific Bank to be exact.

William was far more popular as a Security Pacific Bank than he had ever been as a William C. Snitzer. People who didn't even talk to him before now trusted their money with

him. Even the witch opened a savings account. In fact, in time she saved enough to trade in her toad on some male deer. (Male deer were just becoming fashionable for witches.)

She continued saving at Security Pacific Bank so she could buy more deer, and she was always given friendly, efficient service.

Which only goes to prove that Security Pacific Bank welcomes anyone, even if she/he/it only has a few bucks.

SECURITY PACIFIC BANK



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MEMBER FDIC

Co-Techs?

Continued from page one

Caltech, culminating years of planning by students and faculty.

"It was decided," Dr. Bonner remarked, "that it was unfair to deny a good brain a top quality education solely because that brain is housed in the body of a woman."

Actually, the new policy will return Caltech to the coed principle espoused by its predecessor, Throop Polytechnic Institute. The first woman to obtain a degree from the Institute was Diantha Hanes, who received a Bachelor of Science diploma in 1896.

DELBRÜCK WINS!

EXTRA!

The CALIFORNIA Tech

EXTRA!

Volume LXXI

Pasadena, California, Friday, October 17, 1969

Number 4½

Biologist Gives Horwitz Prize to Amnesty Group

NEW YORK -- A German-born biologist who says he owes his "life as a scientist to the fact that I did not remain in Germany during the Nazi days to participate... in the German resistance" will give his share of the \$25,000 prize he is receiving Wednesday, Oct. 8 at Columbia University, to help political and religious prisoners throughout the world through the organization, Amnesty International of the U.S.A.

Dr. Max Delbrück, noted California Institute of Technology research biologist said he would donate his \$12,500 share of the Louisa Gross Horwitz Prize in gratitude for his ability to leave Nazi Germany and to live the free life of a scientist in the United States.

other opinions that do not advocate violence. It has affiliates in many countries. I first heard of it through my sister, Frau Emmi Bonhoeffer of Frankfurt, who is active in one of the numerous groups of the German affiliate. These groups "adopt," in a very personal way, prisoners assigned to them by the International Secretariat. The U.S. affiliate has an active group at Columbia University. Like the other affiliates it has been doing effective work for a number of years. It is also in dire need of financial support because to be effective it has to act responsibly in verifying the facts of each case that is brought to its attention.

A Scientist's Debt

It has seemed fitting to me to use the prize money in this way. If society expresses its debt to scien-



Delbrück's Career Spans Many Countries, Sciences

Max Delbrück, professor of biology at Caltech, was born in Berlin, Germany, on September 4, 1906. He was educated at the Universities of Tübingen, Berlin, Bonn, and Göttingen, and received his Ph.D. at the University in Göttingen in 1930. He was educated as a physicist, but became interested in biology and in recent years has devoted his entire work to this field.

His academic experience includes a Rockefeller Foundation Fellowship in physics in 1931, when he studied in Copenhagen, Denmark, and Zurich, Switzerland. From 1932 to 1937 he was a research assistant in physics at the Kaiser Wilhelm Institute für Chemie, Berlin-Dahlem, Germany.

Thank you, Mr. Rockefeller

Dr. Delbrück came to Caltech in 1937 on a Rockefeller Foundation fellowship in biology, and spent two years on the Pasadena campus before accepting a position as an instructor in physics at Vanderbilt University in Nashville, Tennessee. By 1947 he had become an associate professor in biology. That same year he returned to Caltech as a full professor of biology.

In 1961 Dr. Delbrück was invited to the University of Cologne in Germany to organize a department of microbiology. He spent two years on this assignment.

A member of the National Academy of Sciences, he was elected for his work on the genetics of viruses. He headed a group at Caltech which conducted research on viruses which infect other bacteria. Dr. Delbrück has been credited with important advancement of the knowledge of viruses, especially for the genetic aspects of virus infection or how the hereditary traits are transmitted from one generation of virus to the next.

Where's the Eye? and Etc.

Dr. Delbrück is currently searching for the "eye" of the fungus *Phycomyces*, which causes the microscopic fast-growing plant to grow toward the light. He believes that through this very primitive "eye," biologists should be able to see how the sense organs work in plants and animals.

The physicist-turned-biologist is also researching the properties of a very thin tissue wrapped around cells, their nuclei, and other sub-cellular structures, which has the ability to respond sensitively to biological chemicals or other stimulants. He believes that microorganisms will be as decisive in the study of sense organs as they have been in the study of genetics, and that solid state physics will have as great an impact on biology as chemistry has had.



President Harold Brown released the following statement about Dr. Delbrück's winning of a Nobel Prize in Medicine and physiology:

"The Award of the Nobel Prize to Professor Max Delbrück is a highly deserved recognition of his work over the past decades in the new biology. The inspiration which he has provided to many academic generations by his research, his teaching, and his example is world wide. But we feel it most strongly here at Caltech, where his influence has been strongest of all. Our future activities both in molecular biology and behavioral biology will depend very heavily on the work he has done. We look forward to many years of continued inspiration from this great scientist, who is also an outstanding human being."

Interview With A Newly Minted Nobel

Seated at his desk behind a stack of congratulatory telegrams and near his wife, newly-minted Nobel Laureate Dr. Max Delbrück confided a few of his feelings about the Prize, as well as other matters, in a brief, exclusive interview for the *California Tech* Thursday afternoon.

Both the happy pair were very tired, as the news first hit the local area by wire service at 5:35 a.m. Thursday. "Since then, the phone hasn't been silent one minute," said Dr. Delbrück. Both he and his wife expressed hope that in the future the Prize announcements would be held at a time more convenient for local recipients.

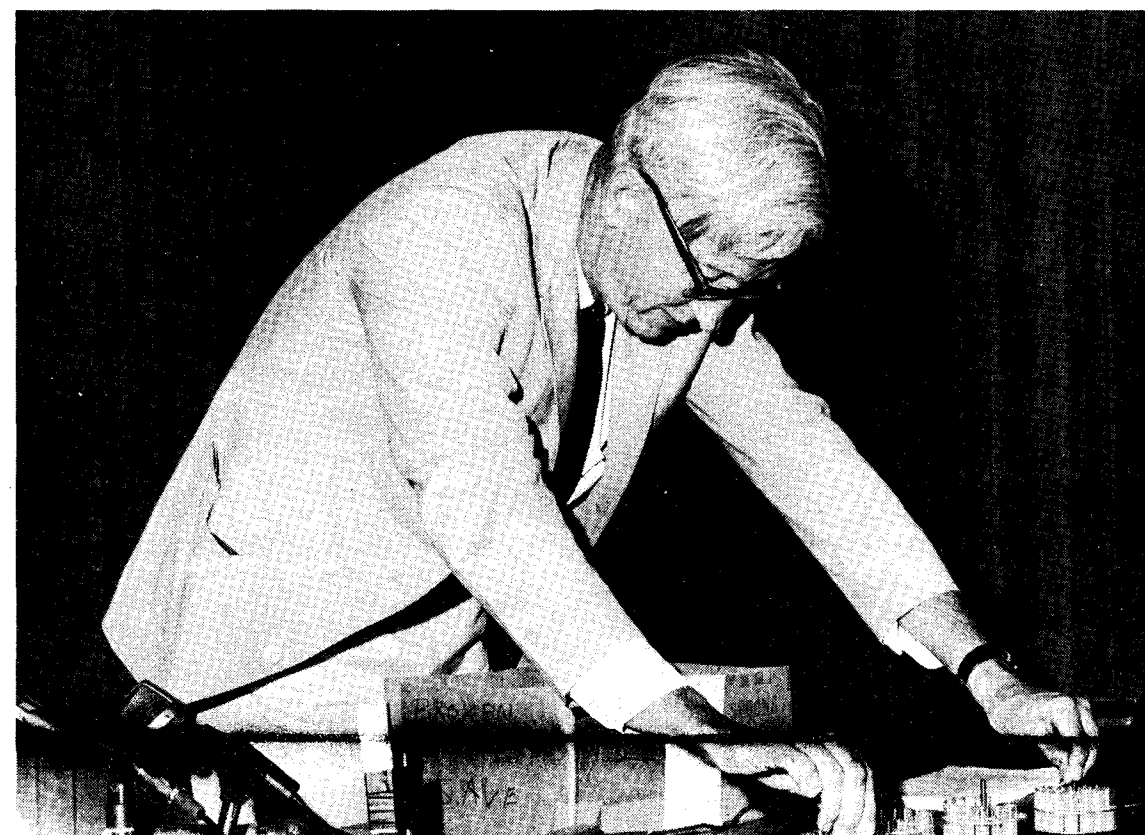
Dr. Delbrück expressed a wish that he could have more interactions with students here at Caltech and feels that he is "under-utilized" by them. He regu-

larly offers courses designed for those in the biology option and certain others, and hopes to be able to offer in some not-too-distant term a special course in the history of science.

The Delbrücks are looking forward to the trip to Stockholm, which will be in December, and hope to meet some colleagues there. "I used to be a physicist," said Dr. Delbrück, "and I know of several individual physicists whom I hope to be able to see in Stockholm then."

Dr. Delbrück was also very happy for his co-recipients, with whom he was "very close, and worked hand in hand in the forties."

Then the couple departed for the party the Division of Biology was holding in their honor.



The CALIFORNIA Tech

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Dr. Max Delbrück -Nobel Laureate-

Caltech Bookstore

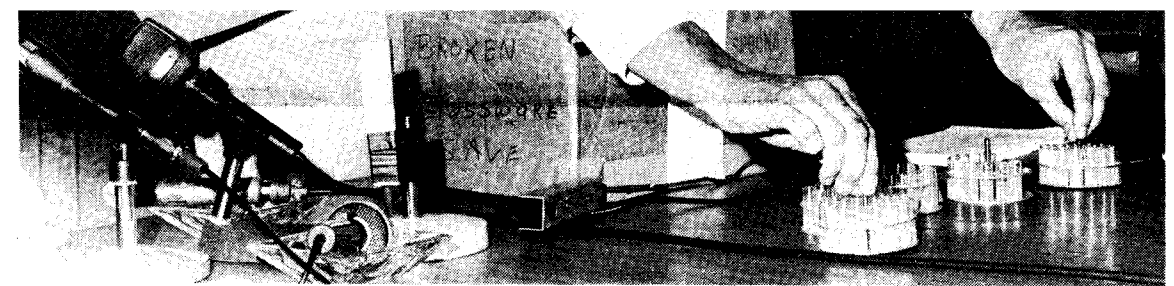
Congratulations,
Dr. Delbrück!

A salute from the staff of
The Physical Plant Dept.

*We're proud
of you,*

Dr. Delbrück!

Best wishes from
the Caltech YMCA

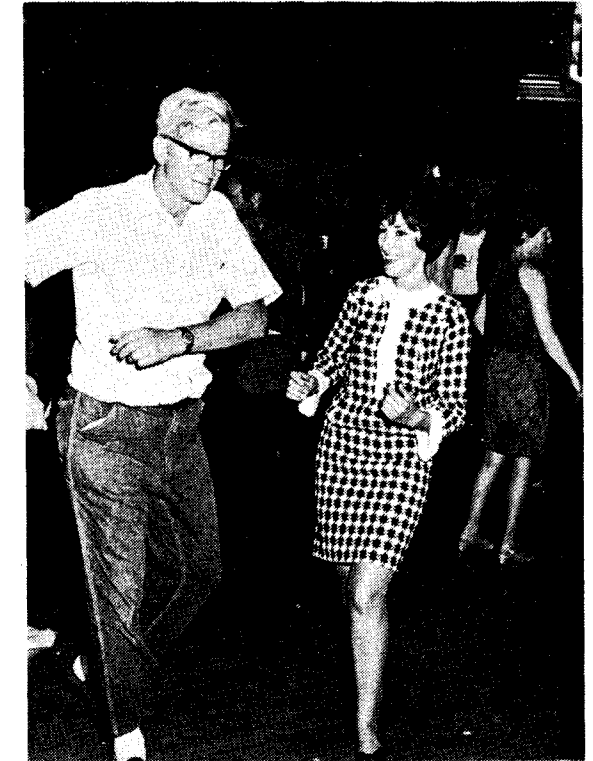


FOR MY NEXT TRICK...

Constrained Phages

Continued from page one

exceptionally free of the constraints put upon most of its members. In my case I feel that I owe my life as a scientist to the fact that I did not remain in Germany during the Nazi days to participate in one form or another of the German resistance. Many did and paid with their lives. It is in memory of these prisoners of conscience, and as a debt to all prisoners of conscience that I wish to support Amnesty International. The pursuit of truth is a many-sided thing. Science is one of them."



Mets Win Too

Chandler Dining Hall salutes

MAX DELBRÜCK

Caltech's newest Nobel Laureate

"In my case I feel I owe my life as a scientist to the fact that I did not remain in Germany during the Nazi days to participate in one form or another of the German resistance," Dr. Delbrück said. "Many did and paid with their lives."

Bacteria and Viruses

"It is in memory of these prisoners of conscience and as a debt to all prisoners of conscience that I wish to support Amnesty International. The pursuit of truth is a many-sided thing. Science is one of them."

Dr. Delbrück and Dr. Salvador E. Luria, of M.I.T., who are sharing the \$25,000 prize, are being honored for their work on the use of bacteria and their viruses in elucidating the nature of the genetic material, its self-duplicating properties and its biological function.

The award to Drs. Delbrück and Luria will be the third given for "outstanding basic research in the fields of biology or biochemistry."

Amnesty International is devoted to helping obtain the release of men and women who are imprisoned because of their beliefs. The organization has undertaken "adopted" the cases of 6,500 prisoners and has helped to obtain the release of more than 2,000.

Amnesty International Wins Big Statement By Dr. Max Delbrück On His Share Of The Louisa Gross Horwitz Prize Award:

My share of the prize will go to Amnesty International, a world-wide human rights organization. It was founded in London in 1961, and is still centered there. It works to secure the release of people imprisoned in any country of the world merely as a result of holding or expressing religious, political, or

artists by happenings like the present one, it seems to me that the scientist might as well express his debt to society, which permits him the pursuit of truth in a life

Please Turn Page



—photo by Ctein

Two of Caltech's Nobel Prize winners stood together as Dr. Max Delbrück spoke to newsmen in the Trustees' Room at Millikan Library.

Biologist Wins Nobel Prize

Max Delbrück of the California Institute of Technology, Salvatore Luria of the Massachusetts Institute of Technology, and Alfred Hershey of the Carnegie Institution of Washington won the Nobel Prize in Physiology and Medicine for 1969 for their work concerning the replication mechanism and genetic structure of viruses.

Caroline Institute of Stockholm: "These discoveries first of all imply a deeper insight into the nature of viruses and virus diseases. Indirectly they also bring about an increased understanding of inheritance and of those mechanisms that control the development, growth and function of tissues and organisms. The work of the three, centering on bacteriophage, which are viruses that invade bacteria, since around 1940, has had great impact on biology in general. Over the years our debt of gratitude to the three leading figures of bacteriophage research has continually increased."

In 1937 at Caltech, Delbrück became interested in bacteriophage. He was joined about 1940 by Hershey and Luria. They sought the simplest living system for their study, the virus, and studied its fundamental life processes, focussing

first on the reproductive system. They developed quantitative methods for their research. They synchronized the virus, followed its method of multiplication and were thus able to learn about its life processes. They studied what happened to the virus in a single cell, by the application of simple statistical methods.

Their work, which resulted in several important discoveries, set the foundation for molecular genetics.

First Thoughts

"What were my first thoughts when I was told that I had won the Nobel Prize? I thought that these people in Stockholm should realize that there is a nine hour time difference between here and there. The news services started calling at 5:25 this morning. It's a terrible thing to call a man before he has had breakfast."

This is the way Dr. Max Delbrück described the first moments when he was told that he had won the Nobel Prize in Medicine and Physiology. Dr. Delbrück spoke at a news conference held at 10:30 on Thursday in the Trustees Room in Millikan Library.

Leather Slippers

Dr. Delbrück was dressed in a light tan sports coat. A sign of the

frantic pace at which the day was preceding, he wore a pair of leather slippers on his feet.

Dr. Delbrück shared the prize with Dr. Salvatore Luria of MIT, and Dr. Alfred Hershey of Carnegie Institute of Washington. He said that he was "very happy to share this prize with my friends. I believe that of the three of us Hershey deserves the prize the most. He did the most important experiments."

Dr. Delbrück began the press conference by describing his career. He began as a theoretical physicist. He worked under Dr. Leise Meitner, and he has an effect, the Delbrück effect, named after him.

Dr. Delbrück is going to Stockholm to accept the prize. He will be accompanied by his wife, and will probably meet one or more of his sisters from Germany in Stockholm. He will not take his children with him.

Going to Moscow

After the ceremonies, Dr. Delbrück will travel to Moscow to meet his old friend, Dr. Timofeeff-Ressovsky, a Russian geneticist who worked with Dr. Delbrück before he moved to America.

When he was asked to comment on fellow scientists who worked on chemical and biological warfare, Dr.

Delbrück stated, "Until recently, I have had the impression that these people were very incompetent. Otherwise, they would not stoop to that sort of work. However, they are becoming frighteningly competent. Biological warfare is so much less controllable than other kinds of warfare."

The Nobel Prize winner ended the conference on a note of humility by reading some verses from an old Japanese poem. In part, they went, "The temple bell echos the impermanence of all things. Pride lasts but a little while."

Caltech's Previous Nobel Laureates

Robert A. Millikan 1923, physics
Thomas Hunt Morgan . 1933, medicine
Carl D. Anderson 1936, physics
Edwin D. McMillan 1951, physics
Linus Pauling 1954, chemistry
William Shockley 1956, physics
George W. Beadle 1958, medicine
Donald A. Glaser 1960, physics
Rudolf Mossbauer 1961, physics
Charles H. Townes 1964, physics
Richard Feynman 1965, physics