

# Caltech Announces Environmental Quality Lab

by Roger Goodman  
A new Environmental Quality Laboratory (EQL) has been established by Caltech to attempt to solve some of the many problems of our deteriorating environment. President Harold Brown announced the program at a press conference yesterday at the Athenaeum.  
The EQL, like the Jet Propulsion Laboratory, will be operated by the Institute but kept organizationally distinct in order to insulate its program of direct action and interfacing with government and industry from the basic Institute functions of research and education. It will, of course, involve Institute personnel and will have its headquarters on campus, first in a

conference room in Karman and soon in Thomas Lab.  
The EQL will be staffed by engineers, natural and social scientists, and visiting experts in governmental and industrial policy-making. The director of the lab is Lester Lees, professor of environmental engineering and aeronautics. Other Caltech professors on the senior staff include Dr. James Morgan and Dr. John List, environmental engineering science, and Dr. Burton Klein, economics. Rounding out the staff are Mahlon Easterling, a space communications and information engineer at JPL; Dr. Guy Pauker, a political scientist and senior staff member at RAND Corporation; and Dr. Kenneth Heitner, a research

engineer who received a Ph.D. from Caltech in applied mechanics in 1969.  
Additions to the staff may include another economist, an ecologist, a cultural anthropologist, a social psychologist, and a lawyer interested in legal controls of pollution. To preserve its informality and to promote constant contact among the specialties represented, EQL will probably limit itself to 14 senior staff members. There will be a support staff that will also include Caltech graduate and undergraduate students.  
The EQL will be supported by governmental, private, and Caltech sources. A three-year, \$1.5 million, grant is being sought from the

National Science Foundation. Several corporations and foundations have already pledged financial assistance. The initial support for EQL came from the President's Venture Fund, which enables President Brown to launch worthwhile projects relatively quickly.  
The EQL was considered promising because of the unique contribution it could make towards resolving environmental problems. The Caltech study groups which laid down the groundwork for EQL decided that such a contribution would require 1) a broad approach to the whole question of environmental quality, 2) a broad range of expertise, and 3) a definite end product of studies, experiments, and

policy advice to decision-makers in government and industry.  
The EQL will not have labs of its own but will propose and stimulate research at Caltech, JPL, and elsewhere. Close cooperation with the Caltech program in environmental engineering science is anticipated. EQL has already begun to work on two important environmental systems. The first is the interaction between power-generating systems and the environment. The second is the economics of air pollution control in Los Angeles. Drs. List and Heitner, Easterling, and sophomore Steve Warling are working on the former,  
**Continued on Page Four**



President Harold Brown and Professor Lester Lees explained to reporters yesterday that the Environmental Quality Laboratory, which Lees will head, sees its role as that of a spark plug—making people aware of the problems and proposing possible solutions—sort of a “Consumers Research” for the environment. —photo by Levin

## IHC Discusses House Portraits, IH Sing, Parking

by handte  
As expected, last Thursday night's IHC meeting produced the usual batch of momentous changes. Interhouse football was put back in touch mode, to the delight of flag-football's many enemies. Lee Sparling, Page President and *Big T* editor announced that house pictures will be taken in the near future. Subject to reasonable limitations, the *Big T* is willing to allow pictures to be taken off campus (at the High Life?). Mike Lammanna (Ricketts) was appointed to “do something about the parking situation.” John Bennett asked for, and received, one hundred dollars to help fund the Baxter opening

program which will feature psychedelic light shows, rock music, and a display of laser art.  
The IHC also decided to keep closer track of who is or isn't living on-campus, in order to keep as many rooms as possible occupied.  
The IHC also released a list of the rules under which the Interhouse Sing will be contested. The annual event will be held on February 19th, at 7:30 p.m. in Beckman Auditorium, with financing compliments of the ASCIT BOD. It will consist of competition in three categories: house choruses, small vocal groups, and “random entertainment.” The rules state, “all  
**Continued on Page Twelve**

## News Briefs

### John Chemistry Contemplates Navel

Dr. George Hammond, chairman of the Division of Chemistry and Chemical Engineering, will discuss the philosophy of chemistry in a talk he has entitled “John Chemist Contemplates his Navel” at 4:00 Wednesday Feb. 3 in 22 Gates. As usual, this meeting of the Chemistry and Society seminar series is open to all interest.  
**Newman Club Announces Second Term Activities**  
Caltech's Newman Club has joined with the P.C.C. Newman Club this year. Unusually active, the club participates in folk masses on the second and fourth Sundays in Winnett Center Clubroom 2 at 7:00. Folk masses are held other weeks at 5:00 in St. Phillip's Roman Catholic Church at Hill and Cordova. Discussions are held following the masses.

A retreat (advance?) is planned for late February. Come and join the fellowship!  
**Campus Head-Shrink To Go On the Air**  
Ian Hunter will appear on a panel discussion program on radio station KRLA this Sunday at 10:00 p.m. The topic will be suicide.  
**Students Reject By-Laws Change**  
The proposed ASCIT By-Laws change concerning the jurisdiction of the Board of Control failed to receive the necessary 2/3 vote in the election last Thursday. The vote was 220 for and 135 against.  
**Hillel-for-Lunch Bunch**  
Starting this Tuesday, February

2, members of the Hillel Club will be meeting weekly over lunch in Dabney Gardens. The purpose of these meetings is to get members of the club and other interested people together on a regular basis. Interested persons should order a box lunch on Monday and pick it up at noon Tuesday.  
Israeli folk-dancing is still being done Sunday nights at 7:30 in the Cabaret-Penthouse of the Business Services Building. Get P.E. credit while being in a crowd of more girls than guys.  
**The Dark Shadow Moves West**  
It has been noted that there may be a very long winter this year: the Frosh physics midterm is on Ground Hog's Day.

# The CALIFORNIA Tech

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Volume LXXII Pasadena, California, Thursday, January 28, 1971 Number 15

## Detention of Two Youths Prompts Throop Disturbance

by Philip Massey  
The detention of two youths prompted a disturbance by a group of twenty-five to thirty Mexican Americans outside Throop last Thursday night at 9:30. The youths were detained by Security when a workman saw the youths wandering through Booth carrying tools.  
Security notified the Pasadena police in order that an identification check could be run. The youths carried no identification. By the time the police had arrived there was a group gathered outside the security office. Shouts of “They've got two of our brothers in there—let's get them out,” could be heard. The crowd gained entrance to Throop when the policemen entered. For a while everyone was at a loss to explain where the crowd had come from, and what if any connection they had to the two subjects security had.  
A call then came in from Dr. Lyman Bonner, Director of Student Relations, who had been called by one of the members of the crowd. He notified Security that the crowd was part of a Community

Planning Committee meeting, which had been allowed the use of 102 Steele that night.  
Wishing to expedite the matter, the police and Security attempted several times to clear Throop. One of the speakers at the meeting, who had been trying to keep the assemblage in check, finally succeeded. The youths were subsequently released.  
Dr. Bonner, commenting upon the fact that Security had not been notified of the meeting, stated that Physical Plant had known because they had unlocked the meeting room doors. He said that it was the responsibility of Physical Plant to send a routine notification to the Security office in Throop when a meeting was to take place on

campus. However, one of the Security officers on duty that night pointed out that they would have done the same had they known of the meeting. There were two unauthorized persons in a campus building containing a rather large amount of expensive equipment. They had tools of some sort. Security thought this was enough justification to attempt to find out who the youths were.  
Dr. Bonner also commented that no one had yet determined what connection if any, the youths had to the people at the meeting, or what they were doing in Booth. Another question that remains unanswered—if the youths had simply lost their way going to the meeting, why were they carrying tools?

## Like Father Like Son Leakey Lectures in Beckman

by Peter Beckman  
In quiet professional tones Richard Leakey, director of the National Museum in Nairobi, Kenya, spoke before a packed house in Beckman Auditorium Saturday night. The talk, and its accompanying film, “Early Man in the Rift Valley of East Africa,” which Leakey narrated, was jointly sponsored by the L.S.B. Leakey Foundation and Caltech.  
The film followed the four expeditions in which Leakey was involved that searched for early human remains in the Rift Valley. The sites they explored were primarily ancient lake shores that had been eroded, covered by sediments, and finally uncovered by the movements of the Rift faults.  
Leakey and his colleagues came up with some important finds including two *Homo Sapiens* skulls over 100,000 years old, numerous *Australopithecus* remains including a complete skull, and stone tools over 2.6 million years old, 800,000 years older than any tools previously found.  
**Monkey Business**  
The film showed the recovery of a complete fossil elephant, which

Leakey did on a dare, taking it intact to the National Museum. Some short sequences dwelled on the wildlife that lived around the sites and the lives of local tribesmen.  
The most interesting parts of the evening occurred when Leakey gave his personal views on various anthropological topics. He stated that, while no one can state with complete certainty where man originated, Africa appears to be the best guess. It provided places for early man to live during times of climatic change, and more remains, in closer chronological order have been found there than anywhere else.  
**“Scavengers and Thieves”**  
Leakey also discards the theory that man is descended from killer apes as proposed in “African Genesis.” He stated that *Genus Australopithecus* was not a carnivore, but a specialized herbivore. The fact that the implements that they made were primarily tools and not weapons indicates the peacefulness of their intentions. “Early man,” said Leakey, “was like many of his descendants a scavenger and a thief.”  
**Continued on Page Nine**

EDITORIAL

Rewrite of BOC Proposal Urged

The amendment proposed by the Board of Control to extend its jurisdiction to matters involving unacceptable behavior in the event of campus disruptions has been defeated. While we agreed that the BOC should have jurisdiction over such matters in some general way, we objected to the proposed amendment on procedural grounds.

We still feel, however, that some change to the By-Laws must be made to give the BOC jurisdiction over campus disruption matters. We hope that the BOD and the BOC will eschew any course other than drafting a tighter version of such a By Laws change which will provide for protection of accused students from the appearance and the actuality of unfairness. We would gladly support such a proposal.

The debate over the BOC's proposal has, we feel, served to strengthen the Honor System. Preservation of the Honor System depends on the awareness and concern of every student, not just the members of the Board of Control. We want the Honor System to be the best possible, and as such feel obligated to speak out against any proposal which we feel would weaken the Honor System or diminish respect for it (as we did).

We urge all involved to try again to draft a fairer version of an amendment to give the BOC jurisdiction over campus disruptions.

—Philip M. Neches  
—Ira D. Moskatel  
—Paul A. Levin

The Caltech Forum

Discussions in Ruddock

by Marc Aaronson

Last Monday at 7:30, an after-dinner discussion on the subject of coeducational housing was held in the Ruddock House Lounge. The meeting was initiated by Ruddock, which has hopes of seeing their house go coed next year. All the undergraduate women were invited, as was the Committee on Undergraduate Student Housing, as was the Committee on Undergraduate Student Housing.

Everybody generally thought that coed housing was a very good thing, and most of the girls were fairly happy about their living situation. However, it was almost unanimously felt by the girls that they should have greater freedom in choosing where they could live. This would result in two benefits. The first is that greater ease of movement would enable the girls to become more easily assimilated into the house and its structure. The second concerned the question of privacy which was the only real complaint expressed. Some girls felt that if women were more widely distributed about a house, they would actually have more time to them-

selves than they do now. The current segregation causes random people to accumulate around the "girl's area," and this attraction could perhaps be lessened by simply un-clustering the coeds.

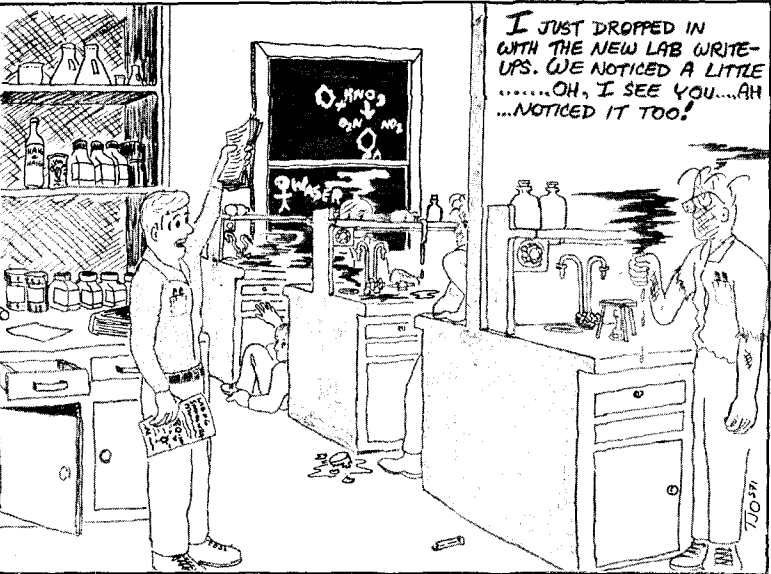
There was also unanimous agreement that the food stank.

There was varying opinion as to what, if any, should be the minimum number of girls in a house. Lows were at 6, and highs were between 10 and 15. The question of how well girls were fitting into their respective houses was also discussed. Some girls felt they would fit better into a house with a different personality than the one in which they were presently living.

It was mentioned that, while in many colleges around the country coeducational housing had resulted in principally brother-sister relationships, more romantic attachments have occurred at Tech than was expected.

In all, having only thirty girls this year, it was very difficult to draw any generalizations about housing.

The opinions expressed in all by-lined articles are solely those of the authors and do not necessarily represent the opinions of the editors or staff. Only the upper left corner of this page contains the opinions of the editors. (The first signer of each editorial is its author.) The Tech welcomes letters but reserves the right to cut those over three hundred words if such cuts will preserve the original meaning of the letter.



ASCIT of Seita

Excomm Proposes By-Laws Changes

by Alex Seita

This column reviews the weekly meeting of the ASCIT Board of Directors. The summary of issues confronted, legislation enacted, and positions taken by the Board is given together with a general commentary on student activities. This article differs from the Board's minutes which are the official records (available on request) of the ASCIT corporation.

Monies appropriations, By-Laws Changes, and bonuses for the Coffeehouse Managers provided substance for discussion and action at the Board's meeting on January 21. After the smoke had cleared and the B.O.D. aged two and a half hours, generosity, caution, and foresight apparently marked the attitudes of the ASCIT directors. Funds amounting to \$850 were dispensed to five organizations; of these several By-Laws changes recommended by the ASCIT Executive Committee, only one was slated for an election scheduled on February 5th; the coffeehouse managers (four) were given bonuses totaling \$400.

\$2250-\$850=\$\$\$

Out of an unallocated fund of \$2250, \$850 were distributed to five groups after their needs were stated to the Board. The groups, monies and needs are:

- (1) Debate team-\$50 to defray travel expenses in participating at distant tournaments.
- (2) Record library-\$100 to provide 40% of the initial investment in starting a popular music (rock, folk, etc.) record library; the library will be in the YMCA office with fees for membership and use of records hopefully leading to a tremendous collection in a year; this is the brainstorm of David MacQuigg (grad), 124 Steele, ext. 1848.
- (3) Experimental living-\$100 for converting three singles in Lloyd House into one sleeping room and another snaking room for three people with the remaining room becoming a lounge for the rooms' alley; this project has the approval and support of Mr. Gang and Dr. Smith and was initiated by Johnson, Mathews, and Schwall of Lloyd.
- (4) Radio club-\$200 toward the purchase of new equipment (first time in 10 years) costing \$800.
- (5) Art Show for Baxter Opening-\$400 for the art and technology show celebrating the opening of Baxter in third term; first proposed by John Bennett (grad), the show will include computer movies, flashing laser beams, the whole techno-

logical works; the festival will take place in the middle of May.

\$2250-\$850=\$\$\$ leaves some money left for other industrious groups who have worthy causes.

**Appointed officers**

Several changes in By-Laws and Resolutions were proposed by the ASCIT Executive Committee. While the work of the Excomm is not yet complete (that of reviewing the entire By-Laws and Resolutions), recommendations have already emerged from the group. Listed among the recommendations are:

(1) In election procedures—the retention of the no vote with a majority of votes required for election when one candidate is available and a plurality of 40% required when more than one person contests an office.

(2) Appointed officers—the appointment by the B.O.D. of the athletic managers, the social chairman, the activities chairman and the selection of the B.O.C. Secretary by the B.O.C.

(3) Vice-President—the separation of the offices of B.O.C. chairman and Vice-President.

(4) Board of Control—the removal of the B.O.C. from ASCIT thereupon necessitating a revision of the concepts governing the B.O.C.

(5) Election disqualifications—the only disqualification being a student on probation will have to obtain permission from the Deans in order to run.

(6) Impeachment—the impeachment of any elected ASCIT officer by a vote of two-thirds of the B.O.D. with the removal becoming effective by a two-thirds vote of the student body in a referendum.

After noting these suggestions and their chances of implementation, the Board accepted one proposal for the present time. On Friday, February 5th, ASCIT will hold an election to determine whether No.2 (above) will be incorporated into the By-Laws.

**Bonuses**

Because the coffeehouse has been successfully managed over the past two years and has a projected profit of \$1500 for this year, the Board acknowledged the performance of the coffeehouse managers (for the past two years) by awarding bonuses. These were distributed as follows: \$150 each to Stu Sando and Dave Turner (present managers) and \$50 each to Dave Green and Gary Ruby (who were managers with Sando and Turner during last year). The Board emphasized that

these bonuses were given in recognition of outstanding work and will not be given automatically to each team of managers.

**Miscellaneous**

Interhouse Sing 1971 will take place in Beckman on Friday, February 19th, with three categories of competition; house choruses, quartets, and random entertainment. ASCIT, the Glee Club, and the Institute are sharing costs with ASCIT contributing \$50.

With unanimity, the Board recommended to the Institute that sufficient financial aid to permit competition in tournaments be allocated to the Debate team, which currently rides upon a crest of successes.

Dan Sinema (Ru) was anointed Business Manager of the Big T.

This week, the Board of Directors will hold their meeting on Thursday, January 28th, at 7:30 p.m. in Winnett Clubroom II.

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**The CALIFORNIA Tech**

Thursday, January 28, 1971  
Volume LXXII Number 15

Published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Incorporated. The opinions expressed in all articles herein are strictly those of the author and do not necessarily reflect those of the editors or the newspaper staff.

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The California Tech Publication Offices: 115 Winnett Center, California Institute of Technology, 1201 East California Boulevard, Pasadena, California, 91109. Represented by National Educational Advertising Service, Inc. Printed by News-Type Service, 125 South Maryland Avenue, Glendale, California. Second class postage paid at Pasadena, California.

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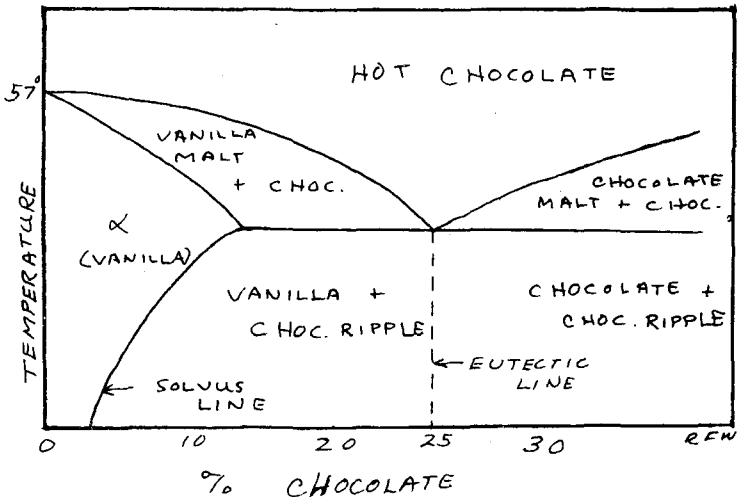
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NEXT WEEK:


CANDY


# First Exciting Results


## From EQL Research





## Festival of Classics


- 

**Jan. 31**  
"David Copperfield"  
**W. C. Fields**  
**Lionel Barrymore**
- 

**Feb. 7**  
"Madame Curie"  
**Greer Garson**  
**Walter Pidgeon**
- 

**Feb. 14**  
"Mutiny On The Bounty"  
**Clark Gable**  
**Charles Laughton**
- 

**Feb. 21**  
"Northwest Passage"  
**Spencer Tracy**  
**Robert Young**
- 

**Feb. 28**  
"Twelve O'Clock High"  
**Gregory Peck**  
**Dean Jagger**
- 

**Mar. 7**  
"Captains Courageous"  
**Spencer Tracy**  
**Lionel Barrymore**

KTTV **11** 4:30 pm  
Sundays  
METROMEDIA  
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## Hard to Get But...

# How to Pursue C.O. Deferment

by Mark Peterson

An earlier article discussed whether you should apply for a conscientious objector classification and your chances of being classified a C.O. This article will discuss how to try to get a C.O. classification. The procedure in getting a C.O. is long, difficult and usually unsuccessful. It is essential that you get the help of an experienced draft counselor or attorney.

To be effective, your C.O. application should be filed as early as possible. If you are 18 and have not yet filled out the Classification Questionnaire (selective service form 100) you should sign series VII of that form. This will indicate that you wish to apply for a C.O. and is a request that the draft board send you the Conscientious Objector form (selective service form 150). If you did not sign series VIII on the Classification Questionnaire, you should apply for a C.O. classification well before you graduate or leave school. If you apply after or shortly before you leave school your draft board will most likely think that you are trying the C.O. as a last resort because you will soon be faced with induction. However, if you have not applied for a C.O. before you leave school, wait to apply until you are classified 1A. The board will doubt your sincerity anyway and you may be able to use the extra months' delay. Your letter applying for a C.O. should briefly summarize your beliefs and should indicate that you are opposed to war in any form.

### form 150

When they receive your letter applying for a C.O. the draft board will send you the C.O. form 150. This form must be carefully answered and returned to the board within 30 days of the date of mailing

stamped on the front of the form. You must answer all of the questions and can attach additional pages to the form for more space. Your answers should sound personal and sincere; they should not be answered abstractly or like a paper you write for school. Your board will not understand or by sympathetic to sophisticated arguments, so your answers should be simple enough for the typical draft board member to understand them. Do not write a lengthy justification of your beliefs describing how other great religious or philosophical thinkers held similar views. The board is interested only in your views.

In filling out your questionnaire, if you are willing to go into the military as a medic, office worker, etc. sign statement A of Series I. If you wish to entirely avoid military service, sign statement B of Series I. Remember, even if you can avoid military service you will still have to perform alternative service if called for induction.

### Personal Moral Code

Question 1 in Series II asks you to "describe the nature of your belief which is the basis of your claim and state why you consider it to be based on religious training and belief." Your answer must state that you are opposed to all war. You should oppose war because you are against killing other people and you must state why you are against killing other people. Your beliefs do not have to be religious, but can be ethical, philosophical or part of a "personal moral code". Your objection to war should not be political or economic.

Question 2 asks you to describe how your beliefs developed and suggests almost all the possible sources for your beliefs. Question 3 asks why you cannot perform

noncombat military services. Clearly if you are opposed to war you cannot join and in any way help an organization whose purpose is to wage war. Question 4 asks if you have publicly or privately stated your beliefs and asks for examples of such statements. If you have never expressed your beliefs, indicate that you are not the type of person who goes around talking about his beliefs.

### Letters of Reference

You should try to send at least five or six letters of reference to your board before you attend your personal appearance. Letters should be from ministers, teachers, doctors, lawyers, businessmen and other people who have high status to draft board members. Letters from current or former military men are especially good even if those men are your age. In general, try to have no more than one or two letters from relatives or friends your own age.

A good letter of reference should describe the relationship between you and the author and should mention the "credentials" of the author, e.g. he is a minister or an army private in Viet Nam. If possible, the letter should summarize your C.O. position to show that you have discussed that position with the author. These letters need not state that they are in sympathy with your views, only that you have discussed this with them and they believe that you are sincere. Be sure that all reference letters are sent to you before they are forwarded to the board in order that you may screen them.

### summarize

When you attend the personal appearance with the board to discuss your C.O. application, be

Continued on Page Four

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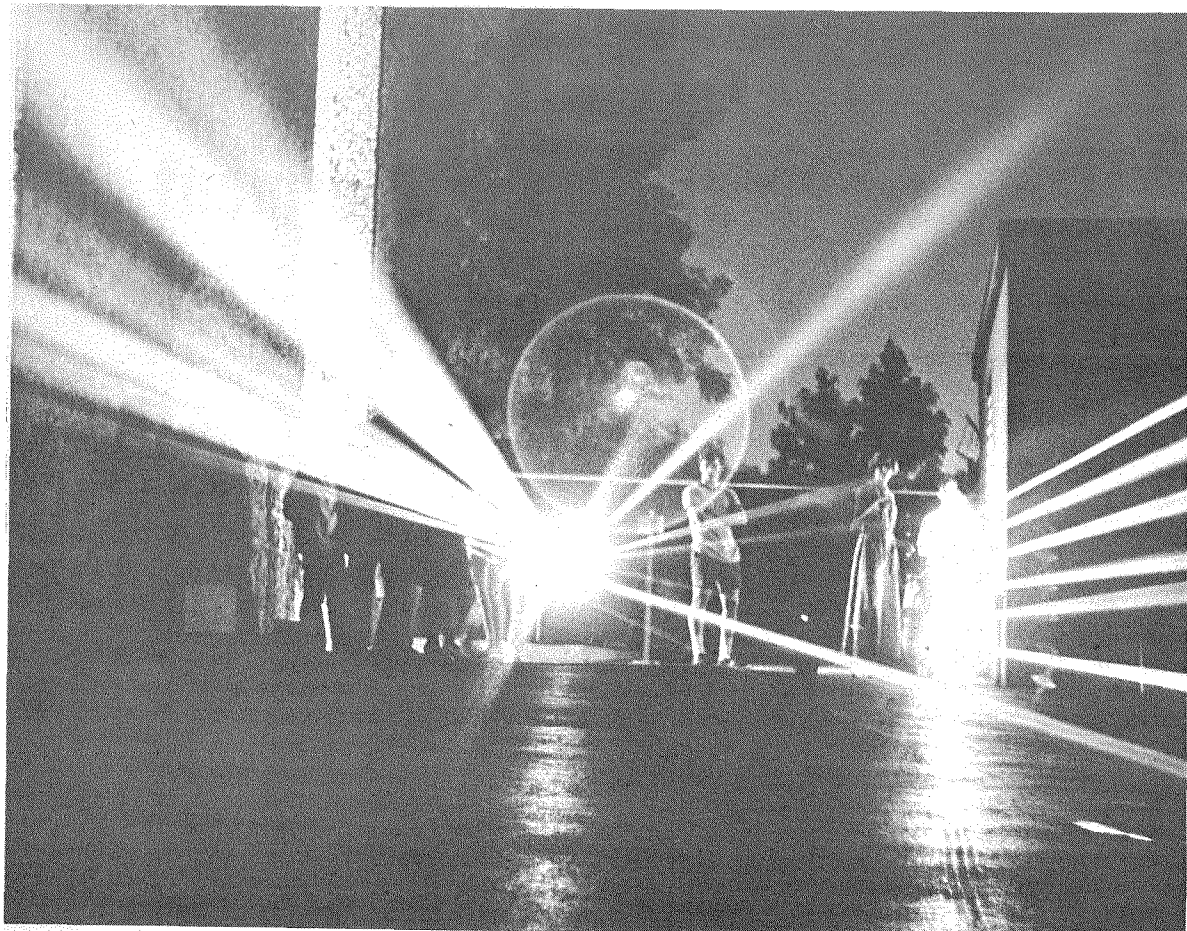
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—photo by Ichthyem

## Infant Art

# Overflow Crowd for Laser Lecture

by Peter Beckman

"If I do science I do it here; if I do art I do it here at night," said Dr. Elsa Garmire after her tremendously successful lecture Monday night. Entitled "Laser Art" her talk created such interest that 500 people had to be turned away from Beckman Auditorium.

The lecture began with some examples of laser art. One multimedia approach combines laser created images with electronic music. The viewer's mind connects the visual image with the music although they are actually a random combination.

This approach was found to be somewhat more successful than directly correlating the laser images

with the sound at the Pepsi-Cola Pavilion at Expo '70. The original images were just not interesting enough and a program that created more interesting laser images was written.

The most spectacular laser images are created through holograms which form three-dimensional virtual images. Using holograms light sculptures in forms that would be impossible to duplicate materially could be created. This is why Dr. Garmire says, "Ultimately it has got to be the most amazing and important use for lasers."

Lasers have other novel uses such as the architectural wall of laser beams that was created at Caltech for the Apollo 11 celebration.

## Pretty Pictures

Dr. Garmire, herself, has been primarily involved in creating laser images and recording them on photographic film. This medium allows a maximum of artistic control. Currently, Dr. Garmire is working on the possibility of making full length films of laser images.

Laser art is still in its infancy. It is more spectacular and less artistic than other art forms and its use is limited by many factors. But it should come up with some surprises in the future.

Next week Mr. Conway W. Snyder of JPL will speak on "The Moon and the Planets in the Solar Wind."

## Conscientious Objection

Continued from Page Three

sure to carefully review all material which you have sent to the board in support of the application. If your form 150 answers are long or complex, prepare a one-page summary of those answers in order that the board members can have at least some familiarity with your position. Usually only one member of your board will read the entire form. Be ready to summarize your position orally for the board and be prepared to answer challenges to your sincerity. The type of questions which you might encounter are listed and discussed in several publications: the CCCO si, Handbook for Conscientious Objectors,

and *Face to Face with your Draft Board* by Alan Blackman. Answer the questions as courteously as possible. Anger and discourtesy will convince the board that you are really a violent person who would make a good soldier. At the end of your personal appearance ask the board if there is anything you can add to support your claim.

After your personal appearance, prepare a written summary of the appearance and put a copy of that summary in your selective service file. You will get the results of the application on a new notice of classification card following the appearance, either 1A, 1AO or 1O.

If you do not get the classification that you want you can appeal to the state appeal board, although this will rarely bring favorable results. In fact, the state director of selective service can and does appeal C.O. classifications with which he disagrees to the state appeal board. That appeal board frequently takes away C.O.s, but seldom grants them.

If you have any questions you would like discussed in this paper by a draft lawyer, write:

Mark A. Peterson  
1627 West Washington Blvd.

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# Environment Lab

Continued from Page One

while the latter is being investigated by grad student John Trijonis.

Caltech is not a stranger to the study of problems of the physical environment. It is 20 years since Dr. Arie Haagen-Smit, professor of bio-organic chemistry, first isolated the chemical components of smog. He and many other faculty members have worked on environmental problems and have contributed their expertise to governmental agencies.

It has been nearly four years since Joseph Rhodes, then ASCIT president, created a student research project, which became the ASCIT Research Center. Over a period of three years it ran a program of smog research, including sponsoring the first transcontinental electric car race in 1968, in which Caltech was victorious over MIT, and last summer's Clean Air Car Race, designed to call the country's attention to the feasibility of low-pollution automobiles. During this period, the Institute gave moral and financial support.

Caltech itself began serious work in environmental preservation when it established the Environmental Engineering Sciences Program two years ago. This inter-disciplinary

field has already produced some important work in water quality, kelp bed restoration, ocean pollution, nitrogen oxide control, smog composition, and the computer simulation of the dynamics of smog formation.

The Environmental Engineering Sciences Program is preparing to admit about 10 applicants, subject to government sponsorship, in graduate and post-doctoral work. These are to be men who have been trained in aerospace jobs and need to be retrained for work on environment control. The deadline is February 15.

The EQL is a logical link between this academic program and the real world problems and solutions. It is supervised by a steering committee, consisting of Dr. Francis Clauser, chairman of the committee and of the Division of Engineering and Applied Science; Dr. William Corcoran, vice-president for Institute relations and professor of chemical engineering; Dr. George Hammond, chairman of the Division of Chemistry and Chemical Engineering; Dr. Haagen-Smit; Dr. Robert Huttenback, acting chairman of the Division of Humanities and Social Sciences; and Dr. William Pickering, director of JPL.

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JOB INTERVIEWS

Jack Stevens





## love story

*Love Story* is the simple tale of a bright young guy and a bright young girl who fall in love, marry, and persevere, but who are doomed to separate tragically from the first sentence spoken. The play on emotions is as obvious as it is successful.

Ali McGraw finds in Jennifer Cavaleri an almost perfect expression of whatever it is that makes for almost certain Oscar nomination. She does not seem to even need to act: the audience willingly accepts her as a beautiful, self-possessed 'Cliffie. "You fall in love with Ali McGraw for an hour and a half, until she dies," said one of Dick Cavett's guests.

Ryan O'Neil proves that even a Santa Monica native can be a Harvard Hockey star. After all, the East has no monopoly on cockiness. Most critics agree that he is not quite as natural in the role of Oliver Barrett IV as Ali McGraw is as Jenny, but his performance is creditably strong.

Ray Milland will probably garner a nomination for Best Supporting Actor for his portrayal of Oliver Barret III, illustrious progenitor of Oliver Barret IV (the Olie of Olie and Jenny). As the father too proud to bend, yet still full of paternal affection, Oliver Barret III has already won the praise of many.

The total impact of the film is heightened by the score, which evokes images of Bach and Mozart, Jenny's two great loves before Olie. Indeed, the theme is rather similar to Bach's Toccata, Adagio and Fugue in C. Like the rest of the elements of the film, the music is manipulated for deliberate emotional effect, with the audience fully aware of what is happening.

And yet, the audience does not mind being manipulated. Perhaps this results from the basic honesty of the film: no attempt is made to hide any of the film's tricks and weaknesses. Aware as audiences might be of what is happening, they are flocking to see *Love Story* in record breaking numbers.

Indeed, *Love Story* promises to be one of the greatest commercial successes in the history of film-making. Just in its first week, *Love Story* broke standing records in New York and Los Angeles, and grossed more than its entire cost. Something must account for this extraordinary success.

Some critics have credited *Love Story's* success to a relapse of romanticism in the public mood, fed by the torments of recession and unemployment. Others claim that *Love Story* won its audience by accurate portrayal of contem-

porary youth in a more optimistic vein than many current films.

Although both arguments have some truth, both have serious flaws. Olie and Jenny cannot be regarded as "typical" of any generation, and hardly as old-fashioned romantics. Their actions seem true to life, yet one somehow sees them as larger than life.

Rather, *Love Story's* acceptance can best be attributed to its basic forthrightness. Neither the film nor the novel rate as great literature, nor do they try to, but they satisfy well.

—Phil Neches

## zachariah

A western written by the Firesign Theatre?? Country Joe and the Fish as an outlaw band (in both senses)?? Alice of *Alice's Restaurant* as Belle Starr?? Elvin Jones as a gunslinger?? The New York Rock Ensemble playing in the nude?? (With carefully placed instruments, of course.) Yes, all of the above is true, brought to you in the form of the first electric western. An electric western is different from a normal western in that no effort is made to keep it historically accurate. In addition, allegories and facades are made obvious, and background musicians appear on camera from time to time. Electric westerns are very definitely worthwhile, given the current sample of one.

*Zachariah* is sort of the Firesign Theater's response to *Easy Rider*. It is the story of two friends searching for a life better than the one they left behind. Outside of that one coherent point, the movie is enjoyable madness.

For those few of you who have never heard of the Firesign Theatre, it is a group of free-form satirical humorists, much like San Francisco's The Committee. The members of the Firesign Theatre are masters of improvisational humor and the art of the non sequitur. These things all show in *Zachariah*, which often flashes from electric guitars to gunfights.

The acting in *Zachariah* is quite good, especially that of John Rubinstein in the title role. The music is impressive, being the efforts of Country Joe, Doug Kershaw, Elvin Jones, the James Gang, and the New York Rock Ensemble. The photography, especially in the opening scenes, is beautiful. The plot and dialogue are definitely Firesign Theatre. *Zachariah* is definitely worth seeing. As the ad men phrased it, he's a head of his time, and that's what it's about.

—Nick Smith

## brewster mccloud

Put together the same basic crew which hatched *M\*A\*S\*H*, a completely wild plot, and MGM's backing, and the result will approximate *Brewster McCloud*, a strange but funny film soon to be released in the L.A. area. This modern day version of the myth of Icarus has something to amuse and confuse almost any viewer.

The film opens with an overstuffed Texas socialite rehearsing the national anthem in the Astrodome (which becomes the center of the action of the rest of the film) with an all-black band. She fancies herself a songbird but has the voice of an ostrich (and the red-white-and-blue plumage of one as well). She has the band stop and start over in a higher key (Francis Scott?), and director Altman obliges by restarting the opening credits higher on the screen.

Such scenes typify the humor of Brewster McCloud. Some of the chase scenes rank with the Keystone Cops for sheer amusement. In one scene, Brewster is being driven by a Texas teenybopper in an orange super-hot Plymouth, being chased by a San Francisco detective in a Z-28, which is being followed by a Houston police car with siren whooping, which is being followed by a red Gremlin driven by Brewster's accomplice Louise, all of them crossing a railroad bridge on which a train is speeding from the other direction.

Somewhere within the slapstick can be found a thread of plot—just a thread, mind you. The hero, Brewster McCloud, seeks to perfect a set of wings with which man can fly unaided by engines or the like and thus achieve the freedom of birds. Louise, played fetchingly by Sally Kellerman (Hot Lips Houlihan of *M\*A\*S\*H*), is Brewster's protectress, mentor, accomplice, and fairy godmother.

In the course of the film various people meet strange deaths. The Houston Socialite is the first to go. Of course, the murders cannot be

ordinary; the victims have been strangled and covered with bird excrement. Brewster and Louise are somehow connected with these murders, although the audience never learns just exactly how.

However, the intrepid police department determines that Brewster is involved in the bizarre killings by calling in a special detective from San Francisco, Frank Shaft. Michael Murphy portrays Shaft in an obvious burlesque of the super-cool cop image Steve McQueen tried to set in *Bullitt*. The investigations are hampered by the presence of the eternal politician Haskell Weeks (William Windom in an obvious anti-typecast role—imagine a man who has just won an Emmy for playing a heavy).

Throughout all of this, Brewster seems to have a magnetic attraction for females. Besides Sally Kellerman (who wears only a trenchcoat throughout the film, and sometimes not even that), Hope McFarland keeps her larder stocked by stealing from the health food store where she works, and Suzanne Davis (played by newcomer Shelly Duvall), a teenybopper with a penchant for hot cars, has her own vision of flying. (Miss Duvall's make-up is about the most hideous I have ever seen on the screen—she is made to appear to have eyelashes growing both above and below her eyes).

Two other actors deserve special mention. Rene Auberjonois, as an ornithologist not unlike several I have known, provides a running commentary throughout the film. Many of his ornithological observations provide lead-ins for Altman's gags. He is the epitome of the museum curator, bow tie askew, stained shirt, eccentric mannerisms. His performance is probably the most bird-brained of all.

Also, Bert Remsen does quite well as the corrupt narcotics agent who beats his wife and abuses his child. Actually, Remsen was casting director for MGM. Since he could not find anyone suitable for the role, he was obliged to play it himself.

Except for Brewster and Louise, all of the characters in Brewster McCloud are either intentional stereotypes or plastic, one-dimensional figures who exist only for their roles in the plot. The two main characters remain complete mysteries throughout the film.

The plot appears to convey no  
Continued on Page Twelve

## Exhibit of Chinese Painting, Calligraphy Opens Today

Art fans wanting something unusual and mid-term weary students needing a refresher for the eyes should try the exhibit of some 100 works of modern Chinese paintings and calligraphy which will be held in Dabney Lounge, January 28 through February 17. The exhibit will be open from 10 a.m. to 5 p.m. weekdays, and 10 a.m. to 7 p.m. Saturday, February 13.

Poet, painter, and calligrapher, I-Chen Wu will demonstrate the brush techniques of Chinese art and explain the main differences between Chinese and Western painting. He will be lecturing January 28, 29, and February 12 and 13.

A frequent prizewinner at Midwest art exhibits, Mr. Wu, a native of Hupeh province in the Central Yangtze River Valley and a member of the Art Society of China in Taiwan, will augment the showing of his own works with part of his private collection of Chinese art dating from the 19th century.

### Arrival in 1966

Since his arrival in North America in 1966, Wu has been conducting a one-man cultural exchange program. His recent exhibits, demonstrations, and lectures were held throughout Canada. The daily newspapers there gave generous reviews.

Mr. Wu's demonstration lectures were at the Chinese Pavilions at Expo 67 and HemisFair 68. Wu has presented lectures at the Palos Verdes Peninsula Library in Los Angeles, the Houston Public Library and the Allen Military Academy at Bryan in Texas. Wu has also had shows from coast to coast, covering a great number of the U.S. states.

### Documentaries

Television documentaries of his work and demonstrations have been released by all three U.S. national networks and the CBC.

Wu studied art under Professor Chi Pei-shih, a great artist of this century, who was appointed as head of the art committee of Mainland China by Mao Tze-Tung.

The exhibition includes rice paper, writing brushes, ink and ink stone, red ink used to stamp name seals, and an explanation of calligraphy.

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THURSDAY —Adrienne in the Vibrating Bed Show  
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—New act—Sadie: the Complete Sex Symbol, a 402 lb. bottomless dancer  
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Bridge Club Advises:  
Match Points Are  
Golden - Go for 'em

by Charles Johnson

The Caltech bridge club is meeting Wednesday nights at 7:30 in Winnett Club Room 1. It will be the policy of the club to keep the games relatively short. All interested players are more than welcome, and I would like to hear from those for whom Wednesday is not convenient in case a better meeting time can be arranged. The games will be on a friendly basis with the format of competition chosen to suit the players, e.g. team of four, match points or individual. Novices should be able to learn as well as have a good time—so come on out and get your game in shape for interhouse bridge which will be later on in the year. Admission will be free as long as possible.

The hand shown below provides a good lesson in match point play.

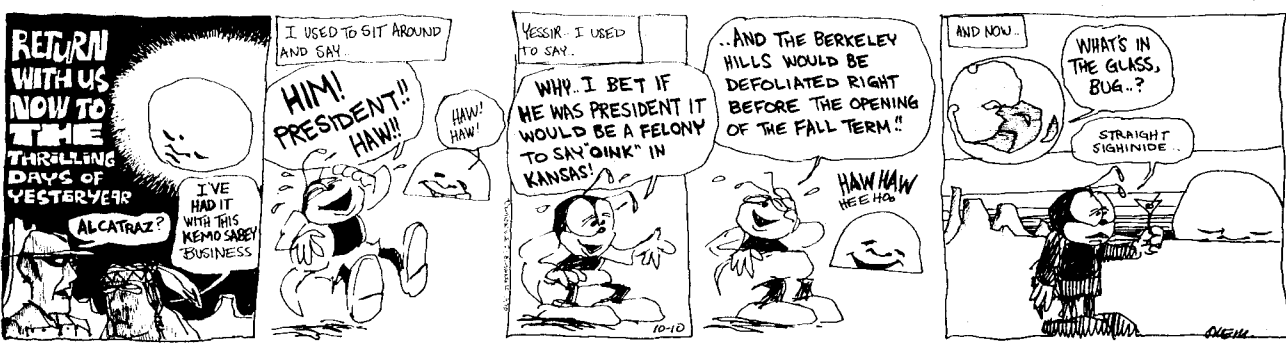
North	
S J x x x	
H A 10 9 8	
D x x	
C A 10 x	
West	East
S A K x x x	S Q x x x
H x x x	H x x
D x	D 10 9 x x x
C Q x x x	C J 9
South	
S void	
H K Q J x	
D A K Q J x	
C K x x x	

In a recent duplicate game North-South reached a good contract of 6H after vigorous interference in spades by East-West. With South as declarer, the natural opening lead of a spade was trumped in the South hand. If declarer now draws trumps in three rounds and relies on his diamonds to bring in the contract, he will be disappointed when the bad division of the suit appears and will have to go down one.

O  
D  
D  
  
By  
O  
Dan  
K  
I  
O'Neill  
S

However, with closer inspection South should notice that he can assure himself of the contract (barring a 5-0 trump split) and even have a chance for seven. At match points the extra trick will probably be golden. If South trumps the first spade with the jack of hearts and then is careful to enter dummy with a heart in order to trump another spade with the queen of hearts and then leads his last trump to dummy in order to play a third and fourth round of hearts, he will assure himself of six even against a 4-1 trump division.

In addition, if diamonds break, he makes seven, and even if they don't, he can literally squeeze seven out of the hand with the actual lay of the cards. The third and fourth hearts have already squeezed East; he must throw his last two spades or subject his partner to a club finesse. But this leaves West, who must discard in front of dummy, hopelessly forced to try to guard spades and clubs.



Multi-mode Performance

Pasadena Encounters I/O

by E. Gansner

To effectively review the premiere performance of Roger Reynolds' composition *I/O*, one would have to be well versed in drama as well as music. As one person mentioned, it is rather like an electronic opera, and the more I think about it, the more appropriate the analogy seems.

The work was an overlay of emotional miming, vocalized emotion, music from female vocalists and flutes and clarinets, and projections, with the aural part emphasized and controlled by electronic equipment. The piece is divided into seven sections. It opens with the females (being continuous) all grouped together wearing one large piece of black cloth.

The male mimes then began to tread, in random order, upon a single floor design which defined their paths. Being discontinuous, they could not touch each other, and, since the walkway was only one-person wide, two mimes would reverse their direction upon meeting. Other than this, they simply continued walking.

During the odd-numbered sections, the mimes, using signals such as a shrug or flick of the wrist, would request the instrumentalists to play in one of their given modes, which were basically multiphonic. Likewise, by mirroring light into the faces of the vocalists, a mime could ask for a vocal response. Each vocalist has but three notes, two of which she shares with the person on either side of her. The mime, by flashing the light only into one face, could get a single note or, by shining the light into three adjacent faces, he could get a chord.

I say "could" since neither the vocalist nor the musician has to respond to a given mime's request. Added to the randomness of the mime's walk is the randomness, to a point, of the music. The only definite and precise parts of the piece are the projections, a red circle and a blue rectangle, which change at set intervals.

During the three even sections, on a cue by Reynolds, both projectors show a black-and-white circular figure that more than vaguely reminds one of the new moon. During this time, all of the mimes are walking in a certain predetermined style (some had been seated) and all of the vocalists vocalize pain, anger or joy, depending on the section, for as long as they can sustain the emotion. When they die out, the rectangle and circle are projected again and the

mimes begin requesting again.

Much good can be said about the work. Theatricality it was immensely interesting. The juxtaposition of the mimes and vocalists was very powerful, as was the use of makeup and lighting. Both the mimes and the vocalists were well trained dramatically, expressing their roles excellently.

Musically it also proved immensely interesting. The chordal development was impressive, especially five minutes into the piece and towards the end. The interplay of live sound with amplified and altered sounds added a great deal of life to the piece. Nor were the vocalists untrained musically, consistently holding their pitches and doing the most with them.

Although a comparison of contrasts, to my mind the piece lacked some unity, perhaps more than Reynolds expected or would have liked. Sometimes certain aspects, instead of acting as contrasts, simply dominated the work, drawing away from the work. And the transitions between sections were too abrupt, giving the impression of seven totally separate pieces.

However, the work has too many good points, both musically and dramatically, to be dragged down by a lack of unity. And, despite about eight hours contact with Reynolds, I'm not totally certain that the lack of unity was not an effect Reynolds was after.

Leakey

Continued from Page One

Leakey also objects to the species names that are given to the fossils of early man. He says, "If man developed linearly, then separate species names can only be given in an arbitrary manner, and this defeats the purpose of the names." Instead Leakey would prefer using the Genus name and a number or letter identification. Leakey pointed out that two species, named *Australopithecus Robustus*, and *Africanus*, turned out to be the male and female of one species.

The treasure house of early human remains in East Africa has barely been touched. And as more fossils are found, more will be discovered about the origin of our species.

February 27, Beckman will host another Leakey Lecture. Dr. L. S. B. Leakey will personally narrate the film "Exploring in the Land of the Sonjo," which describes a 1964 expedition into the area around Lake Natron in Tanzania.

Elliot Tarabour

RECORDS

American Beauty, The Grateful Dead

By the time you read this article, most people will either know the album inside out or will never have heard it. Those who know it, well, anything I can write here would be superfluous. Instead I would like to direct this review to those who have not yet been tuned on to the Dead.

The Grateful Dead is clearly one of the most talented groups in rock music today. They've been around quite a while and for a long time were a complete financial failure

despite their fantastic ability. Guitarist Jerry Garcia is recognized as one of the great guitarists of our time. I could go on and on and on but for those who want to be right on top of what is happening in music today, listen to the Grateful Dead. That's where they are now right on top.

His Band and Street Chior, Van Morrison

After *Moondance* I was pretty well convinced that Van Morrison was a genius; now I am certain of it. His latest album *His Band and Street Chior* is one of the finest pieces of music I have heard in a long time. It is a logical extension of *Moondance* but in itself a complete work. The hit single "Domino" is one of the better cuts on the album but it is not really representative. Van Morrison is at his best, in my opinion, when he does the slower deeper numbers and there are plenty of those on this album. If you like Van Morrison don't miss this one.

A head of his time

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# Fearless Schroedlu Predicts '71 Baseball Results

by Schroedlu  
National League West

1. Los Angeles
2. Cincinnati
3. Houston
4. San Francisco
5. Atlanta
6. San Diego

**1. Los Angeles.** There's a certain amount of risk involved in picking anyone else after Cincinnati's year in 1970, but the Orioles and the medical reports have given heart to the rest of the league, and this is a highly talented, well-balanced group of players. The pitching is a little thin, especially after two of the team's 1970 ones were swapped to Cleveland, but Osteen, Singer, and Sutton are three ace starters. Jim Brewer is a solid ace reliever, and there are several other good prospects. The team needs some more pitching, but it has the right trade bait for it: extra catching. Tom Haller may go to the Mets for a pitcher. As for the hitting, it was long on average and short on power last year, but L.A. can score, and newcomers Richie Allen and Duke Sims figure to provide more power. The team has a semi-infinite supply of versatile parts to construct an eight-man lineup from, featuring Wes Parker and Billy Grabarkewitz; it's almost impossible for injuries to hurt this lineup much. The manager is the best, the hitting deep and consistent, the fielding O.K., and it's hard to imagine a Dodger team without good pitching.

#### So Who Cares?

**2. Cincinnati.** Put it on the line. Say that the Big Red Machine won't make it again. The hitting can't be as good as it was last year again, and the pitching staff is still super-talented but highly sore arm prone. (That's more or less what I said last year when I picked the Reds for fifth, but what the hell.) All the big hitting depends on just 5½ men: Bench, Perez, Rose, May, Tolan, and Carbo. The defense is good, but not great enough to turn games around. And, as usual, Cincinnati's pitching pitchers have the second-best arms of any group in the league. (The best arms belong to Cincinnati's sidelined pitchers.) There are some great young arms—Simpson, Gullett, Wilcox, Garrett (the ex-Angel)—but all of last year's starters had arm trouble during the year, and some of the kids had problems too. Any injury to one of the big hitters would not only remove a big bat, but strain a mediocre bench to the breaking-point. The big hitters are solid, and Wayne Granger and Clay Carroll are a fine bullpen, but the bench and the pitchers's arm troubles raise just enough questions to drop the Reds to second.

#### The Only Bats That

**3. Houston.** Last year the Astros' season was wrecked by a few sore arms and disappointing bats, but this year should be a little bit better. The key arms belong to Dierker, Wilson, Lemaster, Ray and Billingham, and a comeback by Criffin would be a big plus. The bullpen needs help. Power hitters Doug Rader, Jimmy Wynn, and Dennis Menke are fine core to the batting order. The infield provides a lot of hitting and the defense is good, at least if rookie Roger Metzger can move Menke off shortstop. Wynn is recuperating from a stabbing (it's been a rough few months for some sports people). The bench was a bit weak last

year, but looks better now. For one thing, there are several extra hitters: Larry Howard, Bob Watson, Jesus Alou, Norm Miller. Cesar Cedeno is a coming star, and John Mayberry may be one. This is still a young team, and an improving one.

#### I Care About Are

**4. San Francisco.** Until 1970, the Giants had finished second for n+1 consecutive years. It may be a while before they finish that high again. The fault is not that of the hitting: Willie McCovey, Bobby Bonds, Will Mays, Keb Henderson, Jim Hart, Dick Dietz, the list of heavy hitters is long. The bench is adequate, too, although the team's infielders run more to quantity than quality. This team's problem is pitching. The are only two proven big league winners on the staff, Juan Marichal and Gaylord Perry, plus ancient reliever Don McMahon, and Marichal was limited to 12-10 last year, by physical problems. The rest of the staff almost all ha E.R.A.'s above 4.50 and you don't win many that way without a lot more hitting than even the Giants have. The team needs a few infielders and a lot of pitchers to develop before it figes to be a contender.

#### Ones Like Igor.

**5. Atlanta.** The 1969 divisional winners looked lousy last year, and could well repeat last year's fifth-place finish unless they get some comebacks. It's a very iffy team. In 1969 the team got big years from pitchers Phil Niekro, Ron Reed, and Cecil Upshaw, and hitters Hank Aaron, Rico Carty, Orlando Cepeda, and Felix Millan, and medium sized years from George Stone, Pat Jarvis, Felipe Alou, Tony Gonzalez, Clete Boyer, and Bob Didier. Last year the three ace pitchers were all racked up, Gonzalez and Alou were gone, and Didier wound up back in the minors. Carty had a shoulder seperation last year, but still led the majors in batting with .366, highest since Ted Williams. The comeback king—he sat out all of 1968 with tuberculosis—has a new problem: a knee severely damaged in winter ball has put his career in jeopardy. If he's hout, only Aaron and Cepeda carry the bats, and that's not enough for Atlanta's pitching staff.

#### Nice Igor! Down Igor!

**6. San Diego.** Probably the biggest team surprise in the league last year was the Padre's development into one of the league's biggest power teams: when the team was assembled in 1969, it was as a young pitching team. Last year the pitching was disappointing, except for the A.L. castoff Pat Dobson (14-15) and ex-Giant reliever Ron Herbel, who led the N.L. in games pitched. Those two are gone now in trades, and San Diego needs more pitching. The starting crew—Coombs, Kirby, Santorini, Roberts and Phebus, picked up from Baltimore—is a risk. The three big

hitters, Brown, Gaston, and Colbert, averaged in the 30 HR and 85 RBI range, and several others provided back-up. If expert trader Buzzie Bavasi can put together a better infield and pick up some pitching, this team could move up soon, but it looks more like another cellar year.

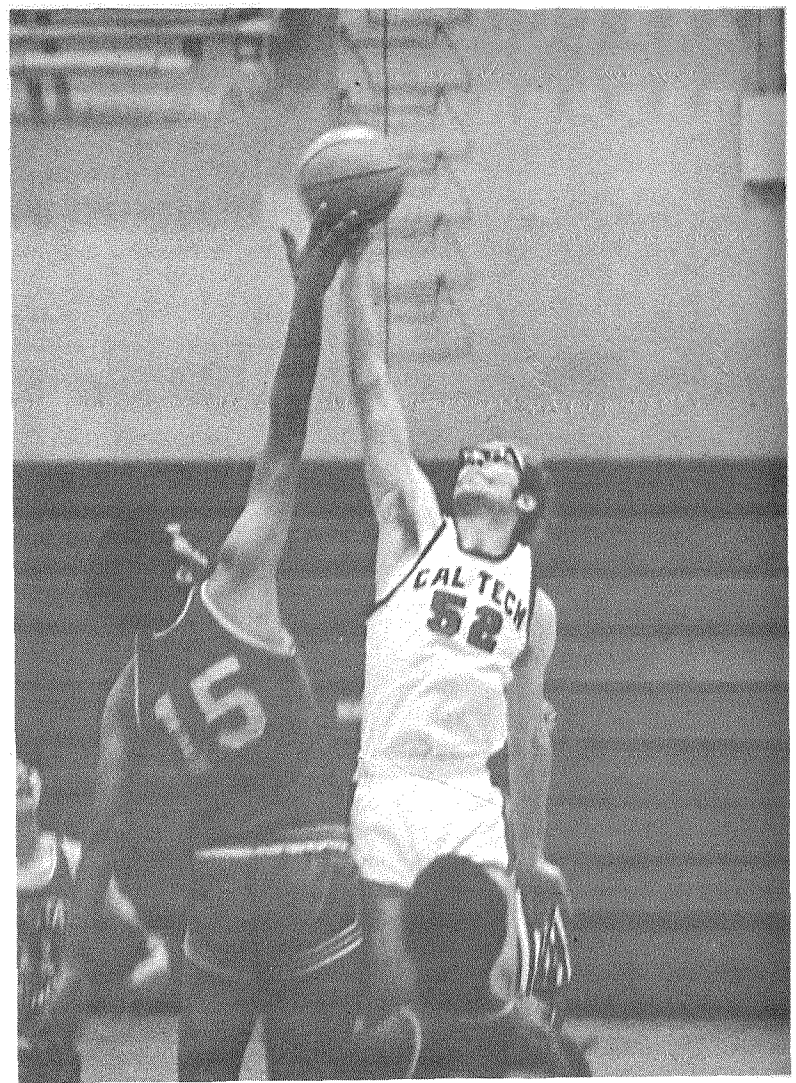
#### National League East Whoopie!

1. Chicago
2. Pittsburgh
3. St. Louis
4. New York
5. Montreal
6. Philadelphia

**1. Chicago.** The National East is not a strong division, mostly because it lacks pitching. It is an extremely well balanced division though. So it figures that Chicago should put an end to four years of not-quite frustration this year. The three starting pitchers, Jenkins, Hands, and Holtzman, lose a lot of games, but they win a lot too, and are reliable. Jenkins has won 20 for n years in a row. The resto of the staff is outstandingly undistinguished, unless Phil Regan comes back strong, and the bullpen is a bit "If," but three good starters go a very long way when you have the lineup the Cubs have. They have between six and eight people you wouldn't be ashamed of to put in an All-Star lineup, depending on a comeback by Ernie Banks (don't bet against it) and the play of Johnny Callison. The bench is adequate, maybe better. The manager is a dum-dum, but veteran teams can overcome that, and this one will if it gets a bit more pitching. The runs are there: three men had 100 RBI and an equal (but not identical) number scored as many runs. Billy Williams was the division's MVP last year. A team with so many stars can't lose again—can it?

#### More and more and more

**2. Pittsburgh.** If my skill of last year repeats, Atlanta and Montreal will win in '71. Pittsburgh fooled me most of the way down the line last year, although they did have hitting and Dave Guisti did so well. Otherwise, the team is very unlike Chicago. Thu Cubs have several super-stars and several holes behind them. Pittsburgh has no super-stars at all, unless Clemente or Stargell come back from injury-prone years (they probably will), but seems to have a full roster of regulars. This doesn't look like a winner: the pitchers are mostly .500ish and often injured, the hitting is good but not great, the defense is less than outstanding. But all this was true in 1970 and they won anyway, and the division may be tighter yet in 1971. They made a good trade, picking up future star Bob Johnson from K.C. for three useful but unnecessary players. Canny Danny Murtaugh may be able to juggle



Caltech Hoopster goes up for the ball in last Saturday's game against Cal State L.A. —Photo by Fish

enough in 1971, but I don't think he'll have enough luck a second time running.

#### Some Prefer the Subheads

**3. St. Louis.** The Cards have slipped badly the last two years, and at this point any relation between this team and the powerhouse of 1967-68 is purely coincidental. Still, this team has Bob Gibson, plus several other good arms, enough to make a respectable staff. Nellie Briles, Steve Carlton, ex-Giant Frank Linzy (a steal), and the young Jerry Reuss are liekly to do a fine job of pitching in '71. If the pitching flops, it'll be a long summer on the Mississippi, though; the hitting is weak. Versatile Joe Torre is a solid big man, strong Joe Hague is developing, and Lou Brock and ex-Dodger Ted Sizemore (who

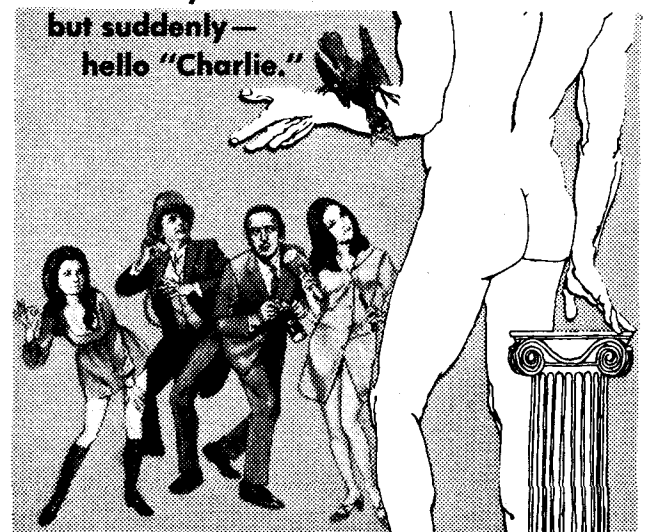
could help this team as much as Richie Allen did if he stays healthy) couldn't forget how to hit if they tried, but they're not power men, and this crew needs more help than can be reasonably expected from young catcher Ted Simmons, vet Julian Javier, and erratic outfielder Jose Cardenal. A comeback by clutch hitter Mike Shannon would be a blessing. A hard team to tab. **c10 More Pages???No!**

**4. New York.** If the Mets continue to follow the fate of the New York Jets, with appropriate half-year lag, then Tom Seaver (or maybe Tommie Agee) will be injured this year, and the Mets will fall apart. Don't bet too much against it. Seriously, last year I called this a very good team, but

Continued on Page Eleven

The face was his...  
the body was his...

but suddenly—  
hello "Charlie."



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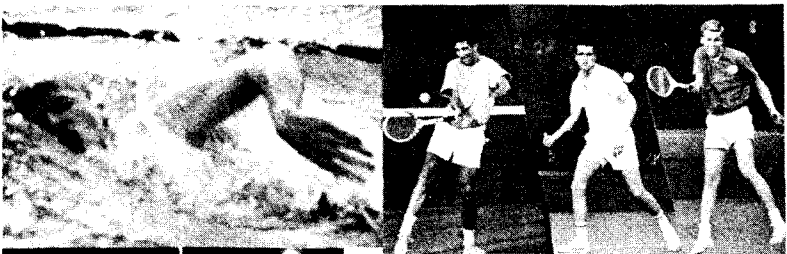
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# SPORTS!

## Rugby Team Loses Last Tune-up Game But Optimistic About Season

by Roger Gans

A crowd of perhaps 10 wives, children, and girlfriends travelled to far off Eagle Rock Sunday to see Caltech lose its last tuneup game before the start of the League season. They were treated to a long afternoon of rugby, as the Caltech game followed the defeat of Eagle Rock by Cisco's 1.

Caltech scored first and last, on successful penalty kicks by Jim Horst. In between the Cisco's were able to score three tries, one of which they converted. The game was a hard-fought, even contest pitting the size advantage of the Cisco's against the greater mobility of Caltech. The Cisco scrum seemed able to push the Caltech scrum about at will; Caltech could win the ball but but lose five yards in the

process. On the other hand, Caltech dominated the lineouts, aided in part by the seeming inability of the Cisco's to find a man who could throw the ball in straight. Possession of the ball was evenly divided between the two teams, and only ragged ball handling by the two back lines kept the score from being higher.

The team is optimistic about the coming of the league season, opening Saturday against UC Santa Barbara at Irvine. With the return of Tony Collings to action Sunday, only Glenn Sinclair remains unable to play. With a small squad of eighteen regulars injuries can play an important role in the coming season. New team members are still welcome.

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## Swimmers Find Rside Has Improved Team Lose 74-39

by Bob Kieckhafer

Last Friday the swimming team traveled to Riverside where it encountered conclusive evidence that UCR has the best team it's had in many years. (In simpler language, UCR beat Tech 74-39). Bob Coleman was the only Techer to win a race, as in the 133-yard individual medley he beat UCR's All-American by the length of his fingernails. Bob also received close seconds to the same super-swimmer in the 200-yard freestyle and the 200-yard butterfly.

Tim Hight picked up seconds in the 1000- and 500-yard freestyles and Bob Hall received Tech's only other second place in the 200-yard breaststroke. While winning ten swimming events, UCR swimmers set school records in the 66-yard freestyle and the 200-yard backstroke.

Caltech's divers saved the team from an even worse defeat by amassing 14 points. Greg Beall took first in both diving events, while Alan Rice took a second off the 1-meter board and a third off the 3-meter board. In 3-meter diving Alan lost by only 2.55 points, showing Techers that some referees just may be prejudiced against long-haired hippie freaks.

Coach Lawlor Reck is now looking forward to the meet at Redlands on February 19. Against Occidental last Saturday, Redlands' times were within a few seconds of Tech's times at UCR. The February 19 meet probably won't be decided until the final relay.

Occidental invades the Caltech pool tomorrow at 4 p.m. Support your swimmers! Be there!

## Wrestlers Pinned by Redlands 14-21 And Pomona 18-24

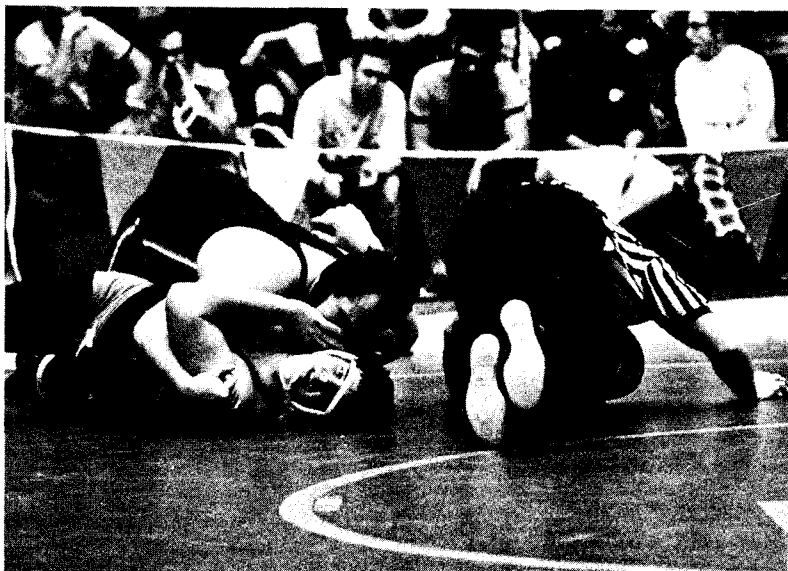
by John Fisher

The Caltech wrestling team went down twice last week, once to Redlands, 14-21, and then to Pomona, 18-24.

The Redlands meet was held here last Thursday at 7:30. Tech's grapplers started out by forfeiting the 118 spot (5 points down the drain), and Bob Murphree was downed by decision at 126 to hand over three more points. Randy Lewis (134) and Ken Bickford (142) both won their classes, and Ken Walker did the same at 158. Gary Zieve (150) and Russ Crinshaw (177) both lost by decision, but Jeff Blair was knocked up for a loss at 167. Rick Smoody returned to win at 190 lbs., and Heavyweight Bruce Johnson came up with a draw.

At Pomona on Friday, the team's luck went the same way. Manfred Chiu, facing his first flesh and blood opponent of the season, was pinned, although he grossed out his opponent (and the ref) by giving several loud yells. Bob Murphree at 126 met the same end, but without the added sound effects. Lewis and Bickford both picked up their classes, this time by forfeits, but Zeive and Walker traded loss for win, and vice versa. Jeff Blair went down under Sam Allen, one of Pomona's best, and Russ Crinshaw followed in his footsteps. Smoody lost to Pomona's Basey, a former Junior College Champ, while Johnson picked up a forfeit in the Heavyweight Class.

Tech's next home meet is against Pasadena and U.C. Riverside on February 6th.



**AAARG!** You need a mouthwash! Heavyweight Bruce Johnson really knows how to bring down his opponents on Caltech's third ranked wrestling mat. —Photo by Fish

## Behold ! Baseball 1971 Is Revealed Unto You

Continued from Page Ten

not a great one. Since their pitchers have started turning up lame, I've dropped them another notch or two. The two big men, Agee and Seaver, both did have problems in 1970, Seaver a tired arm and Agee a bad knee, which may have needed better medical attention than it got. The loss of even one of these aces would dim the hope of even the most cheerful Met fan. (The fans, by the way, are the strongest thing the Mets have going for them.) As for the pitching, which everyone knows has to be great for the Mets to be good just about everyone, except maybe Seaver, seems to have developed chronic arm trouble. Cincinnati will tell you that when your whole staff goes sore-armed, it tends not to clear up greatly all at once. The Reds are developing some new arms; the Mets don't seem to have any. Sorry 'bout that. As for the lineup, Clendennon, Agee, Shamsky and sometimes Jones can hit, and a few guys can field, but man for man, the group is far closer to the mediocre than the awe-inspiring. The Mets may well be

back—under .500.

**I Can't Type Anymore.**

**5. Montreal.** Last year the second-year Expos improved 21 games; an equal rise this year would probably bring the flag to Parc Jarry. That's not likely, but this is still a rising team. There are two solid starters, Rookie Pitcher of the Year Carl Morton, who won 18 games, and ex-Met prospect Steve Renko. Several other hurlers, notably Canadian Claude Raymound and southpaw Dan McGinn, should help. The lineup is fairly solid, with improving catcher John Bateman, Rusty Staub, Bob Bailey and Ron Fairly providing leadership. The Expos made a great move this winter by stealing scrappy Ron Hunt from the Giants to shore up the weak infield. Comeback hopes rest on Mack Jones, Adolfo Phillips and Coco Laboy—any of the three really can help a team. Keep an eye on the Expos.

**One More Page and I Quit.**

**6. Philadelphia.** Philly could be tough if it ever puts it together, but there are enough problems that 1971 could be a long year, even in

a new ball park. The starting pitchers are all either old (Bunning), sore armed (Wise) or both (Short and Fryman), although the bullpen duo of Dick Selma and Joe Hoerner was the best this side of Cincinnati. There is a fair amount of hitting from veterans McCarver, Johnson and Taylor, with hopes for more from Larry Hise, Joe Lis, and ex-Oriole prospect Roger Freed. Two youngsters, Don Money, and Larry Bowa, shored up the left side of the infield last year. When you don't have any super stars to build around, it's a long and hard fight to fill up all the holes at once. That's where Philly is, so, as usual, in 1971 Philly won't be where it's at.

**American League West**

1. California
2. Minnesota
3. Oakland
4. Kansas City
5. Milwaukee
6. Chicago

**1. California.** The Angels were a respectable team last year, and once again top-notch trading figures to have improved them. The hitting is good and the lineup solid, except for catching. A.L. Bat Champ Alex Johnson, former Bosoxer Tony Conigliaro (who had 116 RBI last year), and improving 1B Jim Spencer provide power. Jim Fregosi hits better when he has lots of help, so 1971 should be a super year for him. The team should also get some sock from super-glove Ken Berry, weak-fielding catcher Gerry Moses, and comeback-bent Ken McMullen.

Continued on Page Twelve

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# Schroedlu Picks the Dodgers to Clinch the World Series

**Continued from Page Eleven**

The starters are talented: 22-game winner Clyde Wright, coming star Andy Messersmith, respectable Rudy May and Tom Murphy, and two sore-armed ex-Redlegs, Mel Queen and Jim Maloney. Maloney says he's all right, and Queen had looked great in winter ball. The bullpen will miss Ken Tatum, sent to Boston for T.C., but bet Eddie Fisher figures to be a help. This team is for real.

**2. Minnesota.** The 1969 and 1970 divisional leaders don't look too solid this year. The bullpen, with Ren Perranoski and Stan Williams (10-1), is with it, but the only really reliable starter is vet Jim Perry, with 44 wins the last two years. Jim Katt and Luis Tiant had arm trouble last year, while Dave Boswell had a miserable year. Only rookies Bert Blyleven and Bill Zepp (yes, Virginia, baseball has freaky names) saved the Twins' last year. There are two big bats, Tony Oliva and Harmon Killebrew. Rod Carew, 1969 Bat Champ, was having a great year when he was hurt last year. Rich Reese slumped last year, Cesar Tovar hit .300. Catching is mediocre. The defense is less than great, and somehow I don't figure this team to be good enough to win three in a row, even in baseball's weakest division.

**3. Oakland.** Finley's Follies did almost as well last year as anyone could expect, and still weren't very close to winning. The only men likely to do a lot better in '71 are touchy outfielder Reg Jackson and sore-armed starter Blue Moon Odom. There are several bats: Bando, Mincher, Alou, Monday. There are also several good arms: Hunter, Dobson, Fingers, Lindblad, Sequi (the A.L. ERA leader in '70). But there are also lots of problems, and several of the key men are injury-prone. The catching is three-deep, but none of the three is an all-around man. (Of course, no one else in the division has one either.) Joe Rudi and Bobby Brooks are promising hitters, but the team needs a few infielders. It needs a few other things too.

**4. Kansas City.** Despite its being termed "disappointing" by the team brass, 1970 was a good year for the Royals in many ways. The hitting developed nicely, with Bob Oliver and Lou Piniella have become adequate power-slot hitters. Joe Keough and Ed Kirkpatrick have shown lots of promise. The Royals stole Amos Otis and Bob Johnson from the Mets last winter and both developed into solid big leaguers. This winter Johnson was sent to Pittsburgh, a high price, but the Royals hope the three men they got, including a catcher, will blossom in the A.L. The Royals' arms faltered last year, but there are enough of them—Drago, Rooker, Butler, Bunker, Fitzmorris, Dal Canton, plus veteran reliever Ted Abernathy—to beat out the Lake Michigan teams.

**5. Milwaukee.** The Brewers did their thing last year, and it was a David-vs.-Goliath rerun. Manager Dave Bristol got almost everything there was to find out of this team last year, and it wasn't much. This year things look a trifle better, but it's still a long hard fight. What hitting there is comes from batter Tommy Harper, young slugger Dan Walton, and ex-National Leaguer Carl Taylor. Southpaw swinger Dave May may develop. The team needs a hitter at first base—they'd trade for somebody like Rich Reese or Dan NMincher except that they don't seem to have any talent to spare, a grim sign. Marty Pattin, Lew Krausse and Ken Sanders pitched some good ball last year, and Gene Brabender will help if his arm is right, but the rest of the staff would be doing very well if they were mediocre. A long year.

**6. Chicago.** The White Sox had some good signs in 1970. Bill Melton had another good year with the bat, Carlos May came back from his thumb injury, the catchers both hit far better than could reasonably be expected, Ken Berry had his best year at bat, and 15-year vet Luis Aparicio was better than ever. It's worth noting that none of those good signs had to do with pitching. The Sox had the world's worst hurling last year, and it doesn't figure to improve in '71. The only reliable hurler, Wilber Wood, is being moved to starter, where he'll only be of help every fourth day instead of every other one. Bobby Knoop was a disappointment again at second. The Sox traded Aparicio and Berry in the off-season, and the former trade, at least, looks good. Mike Andrews is not an Aparicio, but he's an excellent, underrated infielder, who can hit. Luis Alvarado has lots of talent. Those two will be big men, if the White Sox are to be believed. The addition of Pat Kelly from K.C., for two men nobody needs, could help too. There's hope for the future, as soon as some pitching shows up.

American League East

- 1. Baltimore.
  - 2. New York,
  - 3. Boston.
  - 4. Detroit.
  - 5. Cleveland.
  - 6. Washington.
1. Baltimore. How come three O's should win again: Because they keep developing good young pro-

spects. This winter, for instance, they wanted to get a fourth starter to go with their three 20-game winners, since all they had was Tom Phoebus (43 wins in '67-9) and Jim Hardin (18 wins a few years back), so they sent Phoebus and a lot of people they didn't need to San Diego for Pat Dobson, a 14-game winner in '69. And they still have plenty of kids left. The rest of the team is either highly talented or very deep or, in the case of the outfield, both. Frank Robinson, Brooks Robinson, Powell, Blair, forget it, A.L. East, until injuries or age or something wears this team down. Don't expect it in '71.

**2. New York.** The Yanks fooled a lot of people last year, posting the fourth best record in the majors. Detroit and Boston are improved for '71, but the Yanks, a young team, figure to stay in second because very few of them really played as well as they can in '70. In particular Stottlemyre, Bleafary, Aker, Burbach, and the infielders had disappointing years, while Peterson, White and Munson had excellent years but could be even better in '71. There are several good prospects: power-hitting Samoan Tolia Solaita, smooth outfielder Bobby Mitchell, who's tearing up winter ball, lefty swinger Ron Blumberg, No. 1 draft choice in '66, shortstop Frank Baker. For the first time since 1961 The Yanks figure to have more than enough regulars, so Hank can juggle things. This is an improving, young team, which may be back to the top in a year or two.

**3. Boston.** The Red Sox have been trading for a pennant lately. Sorry 'bout that. They still don't have enough to beat the orioles, even if everyone gets it together. They'll miss Mike Andrews, one of the men they swapped for veteran SS Luis Aparicio. If rookie Doug Griffin, obtained in the Conigliaro trade fails to make the grade, at second, Boston will have a big hole to fill. Power hitter Rico Petrocelli moves to third, if his arm can take it, and first if not, with George Scott handling the other one. The catching is poor, but the outfield, Yastrzemski, Smith and Billy Conigliaro, provides a lot of hitting, speed and defense. Boston's pitching for once should be respectable—veterans such as Ray Culp, Gary Peters, and Sonny Siebert meld nicely with young stars Ken Brett, Vicente Romo and Mike Nagy to form an adequate starting group, while ex-Angel Ken Tatum, the key man in the Conigliaro deal, will work with Sparky Lyle and Bill Lee to form a competent bullpen. The lineup's a little thin on depth now, but the hitting is still strong, and

improved pitching should enable the team to hold its own in a tough division.

**4. Detroit.** The Tigers made a mind-boggling trade during the winter, and several key men in the past had physical problems last year which might be expected to clear up, but I still don't see Detroit improving all that much (a distinctly minority opinion). The reason is the pitching. Two promising arms were obtained in the blockbuster trade with Washington, Coleman and Hannan, but neither has yet cleared the .500-pitcher barrier, and only the unexpectedly good performance of young Les Cain (12-7) enabled Detroit's four best pitchers last year (Michez Lolich, Joe Niekro, reliever Tom Timmerman, and Cain) to finish around .500. Detroit's lineup will clearly be better in '71, but that pitching staff doesn't impress me—with a staff of .500 men you need someone like the '68-9 McLain, who not only won an incredible number of games (55) but lost very few (only 15). The lineup itself is solid with former Senators Rodriguez and Brinkman plugging up the infield holes. Of course, Cash and Kaline, in particular, will feel the extra year of age, and several men are retiring from injuries. Freehan, in particular, had a serious back operation. And Detroit has produced very little new blood lately. Still, the lineup isn't a big worry, but the pitching is aimless enough to sink this team.

**5. Cleveland.** The Indians have front-office problems, but they're slowly putting the pieces back together. Last year saw the hitting come along very well, with unexpected excellence from unsung rookie Roy Foster (24 HR) and gold-gloved, All-Star Catcher Ray Fosse (.307 and 18 HR in ¾ year after a punchless rookie '69). Newcomer Vada Pinson had a big year in '70 and Eddie Leon hit at second base. The pitching broke down early, and the format became to call up kids and let them do their thing. Vets Sam McDowell, Steve Hargan, and Dennis Higgins will provide seasoning. Power hitting backup-man Duke Sims was swapped to L.A. for Alan Foster (10-13) and Ray Lamb (6-1), both of whom will be key men for the '71 Indians. Some of the other kids will come through, and the return of '70-injured Ken Harrelson adds another bat. This is a respectable team; in the West it could finish second, but the East is tough.

**6. Washington.** The Senators have made one horrendous move and one brilliant move to date since the close of the '70 season. The former was swapped four regulars to Detroit for Denny McLain, two

question-marks, and a prospect. It says here that McLain will win, if he gets on the field, and will get help from Dick Bosman, Casey Cox, Jim Shellenback, and reliever Darold Knowles, whose 2-13 record of last year was the least indicative statistic I've seen in 12 years of following baseball. The great move was getting Curt Flood back into baseball. The addition of Flood gives Washington more than enough outfielders and firstbasemen; either Mike Epstein or Frank Howard may well be traded if the right price comes up, presumably relief for the gutted infield. The Senators have several top prospects, and may well put them in the lineup at short or catcher, long a trouble spot. There are still problems here, enough to keep the team down, but there are some ballplayers too.

Hot Tips

All-Star Lineups	
A.L.	N.L.
C Fosse	C Bench
1B Killebrew	1B McCovey
2B Carew	2B Millan
SS Fregosi	SS Kessinger
3B Bando	3B Perez
OF Oliva	OF Aaron
Smith	Bondo
Yastrzemski	Williams
RHP McLain	RHP Gibson
LHP McDowell	LHP Osteen
MVP: Jim Fregosi—AL	
Billy Williams—NL	

Some A.L. team will move to Dallas by 1972. It won't draw well, ... Earl Weaver will finally be Manager of the Year. So will Walt Alston. ... The Dodgers over the Orioles in the Series. ... Commissioner Bowie Kuhn will get into trouble with the owners.

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

## Brewster McCloud...

**Continued from Page Eight**

message of great importance, except to warn those who would seek to fly unaided not to try, at least not in the Astrodome while being chased by the entire Houston police department. In the end, none of the mysteries have been resolved, and the audience feels somewhat disappointed.

Like *M\*A\*S\*H*, *Brewster McCloud* provides zany entertainment, and creditable slapstick farce. But unlike *M\*A\*S\*H*, *Brewster McCloud* will probably not leave a lasting impression with the viewer.

—Phil Neches

## IHC...

**Continued from Page One**

acts and musical selections must be respectively screened (auditioned) and approved by the Manager of the Glee Club and a committee appointed by ASCIT. ... The screening committee is not a censorship board, rather it is a length-of-program control device."

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