

## Lord Rosholme Urges Changes In Education

by Jeff Hecht

At the closing session of the 75th anniversary Conference, Lord James of Rusholme, vice-chancellor of the University of York, England, laid down his blueprint for the future of education. In his introduction President DuBridge thanked all those who made the Anniversary celebration possible.

Lord James spoke of the necessity of synthesis in order to make the bulk of knowledge manageable. Society must develop a system for recognizing individuals whose minds are capable of generalization, and a system for developing institutions capable of educating them. This must be done before society gets itself trapped in the "essential paradox of general education," in which the growth of knowledge in each field demands that students be taught fewer subjects while they really ought to be taught more.

### Social mission

Education must prepare average students to live in and understand a science-dominated world. Alteration in the education of scientist is needed in order to produce more alertness to social, political, and moral problems. With the great changes constantly occurring in our world, adult education, both professional and non-professional, must improve.

These necessities will force educators to face some truths they have long sought to evade. Most students will have to learn superficially in many fields other than their speciality, simply because there is not enough time to teach everything thoroughly. Yet scientists must learn the value of art, literature, and the humanities, while non-scientists must learn the place of science, all through contact between pupil and teacher.

The time has come, also, for a re-evaluation of the role of research. Too much energy is wasted on the pursuit of worth-

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ENRAGED GEOLOGISTS put up bitter resistance to advancing Turner Co. mercenaries whose armored bulldozers advance on scenic poplar grove.

## Sensuality Planned for Thanksgiving Weekend

by Hunk

Unknown to the greater part of the Caltech community, the YMCA has conducted a series of sensitivity conferences over the past year. These have involved a select few of the students, but now there is an opportunity for more to participate in this great experience. There will be a co-ed conference during the Thanksgiving weekend.

### Take a trip

The idea behind these conferences is to further interpersonal relations. As an abstraction, this sounds very cold, but in actuality the people who attend usually return with profound insights into themselves and into other people. These people, many for the first time, really communicate with each other, instead of playing silly social games or trying to hurt each other. For most participants in past conferences, it was one of the most meaningful experiences in their lives.

The conference will start at 7:30 p.m. Thanksgiving Day and will end with lunch on Sunday, November 27. The location will be in the mountains of the San Bernardino National Forest on the edge of Big Bear Lake.

## Grades Statistics Favor Humanities Over Sciences

Should Caltech become a university? How important are the humanities? How do humanities fit in with science? These and other questions are prevalent today. One aspect of the humanities at Caltech is how well Teckers do in humanities courses as opposed to those in sciences and engineering. After a long study, the secret is now out; so-called one-track, narrow-minded Teckers actually are performing better in humanities classes.

The source of information from which this conclusion was made is a collection of sheets showing the "Percentage Distribution of Grades" for the first term in each of the following academic years: 1961-1962, 1962-1963, 1964-1965, and 1965-1966 (1963-1964 was not available). To

give a more general idea of how grades in different subjects ranged, some subjects were omitted from the study. Since not enough people took it upon themselves to take Aerospace Studies (Air Force R.O.T.C.), Civil Engineering, Government, Hydraulics, Jet Propulsion, Materials Science, Music and Graphics (remember, freshmen, your P's and F's don't count), their efforts have gone to waste as far as we are concerned.

For the remaining courses we followed a simple but tedious method. The sheets give the total number of units for a sub-set of units of A, B, C, D, and E-F. It was necessary to find just the number of units of each grade. For example, 88 sophomores took 792 units of geology dur-

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## Frosh, Sophs To Wallow in Mud

The days have passed since November last, and the time is near for the Mudeo Smear. To be exact, the traditional rivalry between Frosh and Sophs will be renewed after midterms. As always, the class with the biggest collective billfold, and most generous hearts will be the winners of the messy debacle. The real winners, of course, will be the Junior class, which will be the recipient of much booty.

### Herculeum replugged

Ever since the gods convened on Mt. Olympus and possibly even time immemorial, the judge for the event has been the Junior Class President. As always, he will be torn apart after the fun by the rival classes, the winners trying to save his bod, the losers trying to vent their anger and filth upon him. The Mudeo itself consists of five filthy frolics, the most noted of which is the tug-of-war. This contest of brute, collective strength will find the losers entrenched in mud and humiliation. The next event is the sack race. This requires a taste for slime, and a never-say-die attitude, since all invariably eat the muck at least once.

### Wallow on, filthy underlings

The mudeo, after which the whole contest is named, is a very dirty form of piggy-back wrestling, at least for the losers. The winner of the event is the last team to hit the mire.

By far the greatest point of the afternoon is the wheelbarrow race. This is enormously filling for the wheelbarrows, as they usually eat upwards of a pound of ooze. Strong arms and a stronger stomach are absolute

necessities for this muck-racking, bog-biting race.

The last event is the most controversial. It's a no-holds-barred row to see which class can take possession of the most auto tires. The tires are placed in the center of the swamp at the start, and both teams pile in to drag them to their hoarding zones.

Beware underclassmen — the day of the mud approaches, and your good name depends on your kind generosity with that filthy green stuff. If any underclassmen think this is just an idle threat, keep it in mind that both the editors of this paper are juniors . . .

## Humanities Win Spot in the Sun

by Benson

Having spent large sums of money and many man-hours of effort in bringing the finest in cultural oratory to the campus, the administration unfortunately erred in neglecting to allow undergraduates the opportunity to attend the colloquia and speeches by dismissing classes for the week. However, the Tech fortunately had a large and comprehensive staff (two sleepy frosh and Meo) on hand Thursday morning for the three interesting speeches delivered before lunch, and the even more involved discussions after lunch.

Thursday morning's program concentrated upon the topic of "Science and Society," the Institute's concession to the Humanities Department. The fact that none of the Caltech faculty participated in the program testifies to the school's international reputation in the liberal arts, but the three speakers were excellent.

### The BEF invasion

Following a brief introduction by Dr. Hallett Smith, Chairman of the Division of Humanities, Professor Asa Briggs, Dean of the School of Social Studies at the University of Sussex, Sussex, England, emerged from the sidelines for the opening addresses. Discussing the difficul-

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## Brave New World Is Foreseen By Biologists

by Doberne

"We in science are growing up now, our little toys are becoming more potent and we must accept the consequences of their use," summed Dr. Robert Sinsheimer, professor of biophysics here at Caltech. Sinsheimer was the first speaker at Wednesday's Convocation conference on "Where is Biology Taking Us?" Also participating in the discussion were Drs. James Bonner, Neal Miller, and Robert Morison.

Sinsheimer foresees the use of our ever-increasing knowledge of genetics in all phases of human life. "We will be able to control allergy, arthritis, even the length of life," he stated. "We will come to the time when man will alter, specifically and consciously, his own genes. Perhaps we would like to alter the uneasy balance of our emotions. Maybe we would like to be less warlike, more intelligent, more secure, or more serene."

Miller, professor of behavioral sciences at Rockefeller University, spoke about the influences of biochemistry on human social behavior. "In the past it was considered that the best a drug could do would be to restore

functions to normal. Now investigators are beginning to think that this may not be an absolute limitation—that it may be possible to improve certain functions above their normal efficiency."

Speaking on conservation, Miller warned, "If our civilization

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## Governmental Agencies Needed To Control Budding Technology

The Thursday afternoon session of the grand Convocation featured what chairman Don Price called the minor prophets, inferior to the major prophets, who had preceded them on the stage, only in length of published works. Considering "What are the Urgent Problems?" were Drs. James Bonner, Murray Gell-Mann, Simon Ramo, and Karl Kayson.

Price, the narrator for the panel discussion, asked, "What basic questions underlie these problems?" He arrived at two queries: How has science been affected by becom-

ing part of government; and conversely, how has science affected government?

Ramo pursued the argument that because science and technology is the most powerful force changing society, the government will eventually control it. This control may be the end of personal creativity, replacing it with group-planned assignments.

Gell-Mann considered the fact that we have come to a new stage in controlling nature. No longer are changes mere perturbations of nature. Secondly,

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Editorial

# Some Words of Praise

Behind every major event occurring on this campus invariably stands a thin red line of dedicated souls who have devoted their time and physical and mental efforts to ensure the fruition of that event. The success of ASCIT's Twilight Buffet was certainly no accident.

For example, the Buffet was first conceived in the fertile mind of Dr. David C. Elliot, who, along with his 75th Anniversary working staff, was also responsible for the Institute's support for the event. He did an excellent job in spite of the fact that he was saddled with the onus of the chairmanship of the Faculty Committee on the 75th Anniversary.

Once the plan was approved the Buffet needed a plethora of publicity and coordination even to sell the tickets. Tim Hendrickson (chairman of the ASCIT Excomm, **Tech** editor of yesterday, and one accustomed to serve above and beyond the call of duty), in collaboration with Jerry Willis and the Beckman Ticket Office staff, pushed the sales into a near sellout of 800 diners.

But tickets are only a small part of the work which had to be done, the bulk of miscellanea was yet to come. For example, Eric Young (IHC potentate) spent a few dark nights groping around trying to set up the lighting arrangements; Jerry Willis and his staff hooked Tommy Holden's Strolling Strings for the evening's entertainment, while Dave Elliot's staff, Miss Betty Elliot and Miss Virginia Kotkin, made sure of many other details and particularly the importation of the floral decorations from the Huntington-Sheraton.

The dining cuisine was superb due to the diligence and good tastes of Mr. Dennis Kay of the Food Service and Mr. R. W. Gang of Residence and Dining Halls. Msrs. Ralph Randal and Kermit Jacobsen of the Procurement Office made the acquisitions so necessary to refined gourmet dining, such as tables, tablecloths, silverware, and other items.

By now, it should be abundantly clear why the Buffet was a stupendous success. Comments on the excellent cuisine, organization, entertainment, and atmosphere of the affair keep pouring in from all sources. The really outstanding aspect of the Buffet was the large Faculty turnout. Such social intercourse should be more common on this campus.

To conclude our comments on the Buffet, we think that it is a nice thing to have more often, possibly after graduation and other major events.

—John Middleditch  
Mike Meo

# A New Twist

At the Coffeehouse Committee meeting Monday, a mob of faculty members attended to help set the crusading but wayward students straight. Assistant Dean of Graduate Studies Lurie, Student Houses Committee Chairman Humphrev. and Master of Student Houses Huttenback were but a few of the magnates present to assist the somewhat idealistic undergraduates in reaching a decision.

Kermit Jacobson, Director of Procurement, envisioned the problem of the Coffeehouse in the lack of adequate and convincing planning for the substantial amount of money (about \$20,000) to be invested. Lurie claimed that "student interest in the Coffeehouse has not been convincingly demonstrated" (we ought to try a sitdown strike on the steps of Sproul Hall?), and various students presented their ideas of what type of Coffeehouse they wanted.

It was Huttenback that suggested the course of action finally agreed upon. The students should run this thing, said the Genial Abbot, and if they can't run a large-scale operation right away, they should start on a small-scale. An operational (as opposed to a planning) committee should be set up, and given a house north of San Psaqual to fix up. If the response to such a little operation justifies expansion, then enough pressure would surely be brought upon Lee Alvin to make permanent arrangements. If there isn't enough response, then the Coffeehouse idea can be justifiably dropped.

Monday night the Board of Directors of the Associated Stu-

dents of Caltech passed the following resolution unanimously:

"In view of great student interest the ASCIT Board feels that action should be taken immediately to initiate a coffeehouse. To this end the Board directs the President to set up an organization to develop, physically organize, and if possible, operate such a Coffeehouse."

President DuBridg is the only person who can definitely okay the use of a house north of San Pasqual as a provisional coffeehouse, but he's sick right now. The immediate prospects, then, do not include an establishment elaborate enough to rival Bob's, but unless somebody thinks of an objection, we shall soon have a place for coffee and bull sessions late at night.

—Michael Meo  
John Middleditch

## California Tech

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Letter

Editors:

The celebration of Caltech's 75th Anniversary is now past, but memories of it linger on. It is a shame that one of the dominant memories in the minds of many is the poor quality of the audio systems used at the event. The Caltech Glee Club, which last year went on a singing tour of New York, was accompanied by a sixteen-piece brass choir at the Convocation, but was forced to sing to only one microphone placed in an inferior position for sound pick-up and connected to an amplifier which produced a sound termed "garbage" by many members of the audience. Chad and Jeremy were forced to take their intermission early so that Jeremy's voice mike could be put in working order.

Little Progress

Maybe at this pinnacle of science and engineering there are too many stray experimental fields and too many loose subatomic particles to allow good sound reproduction. After all, the first event in Beckman Auditorium, the Bud and Travis concert, was also characterized by lack of volume on the audio mikes.

Let us take a closed look at the Monday Convocation. Mr. Olaf Frodsham, director of the Glee Club, received a letter this week concerning the sound system at the Convocation. The letter was from the president of Custom Fidelity Records which made last year's excellent Glee Club recording. The Glee Club had hoped to record its performance at the Convocation and had asked Custom Fidelity to do this.

The man in charge of the Beckman sound crew refused to let the professional recording be made on the pretext that trucks would be needed to accomplish the feat. "Our firm would have easily been able to have hidden all microphones and recording equipment at almost any place in or outside of the auditorium," states the president of the recording company.

The Beckman crew offered to make its tapes of the event available to use for this year's Glee Club record. The tapes now, due to the trouble in the system, are totally useless. In fact, no tape of the main speaker, Secretary Gardner, exists. Even if there had been no mishap, the Beckman tape, recorded in monaural at 3.75 feet per second, would have been worth-

less for a record.

On the other hand, the company could have made a "fully professional recording in stereo of the entire Convocation" for \$50 including the cost of the tape. If the Beckman staff lacked the proper microphones, these could have been rented from Audio Engineering Associates for \$15 including boom stands, and would have been willing to drive the speaker system with its own equipment, free of charge.

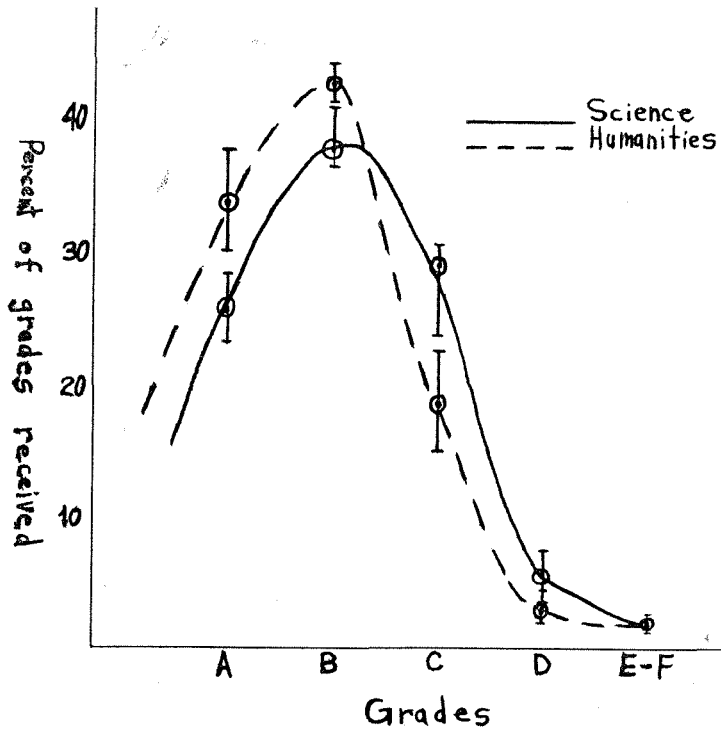
The Institute paid the Glee Club \$500 for its performance; it paid the brass choir \$300; it paid \$300 for the commissioning of a piece which had to be abandoned because of the lack of proper audio equipment. Yet it could not afford to rent or purchase the necessary microphones, amplifiers and recorders to insure the success of the program.

Perhaps the Beckman Auditorium staff is not competent enough to realize that something is wrong. (Chad and Jeremy noticed the lack of vocal amplification before the technicians did.) Perhaps they are too stubborn to admit that they lack the equipment or the know-how to do a proper job of audio engineering. Perhaps they do not have the funds the need to do the job correctly.

Whatever the cause, something should be done soon to correct the problem before other important events are besmudged by similar displays of unprofessionalism.

Dan Erickson, President  
Caltech Glee Club

# Science Is Tougher, Fans



(Continued from page 1)

ing first term 1965-1966. This breaks down to 189 units of A, 252 of B, 324 of C, 27 of D, and zero units of E-F. The units of each grade for all subjects was totaled separately for science and humanities. These totals were divided by the total number of units in either field to give a percentage breakdown. Grades for freshmen were considered only for years in which they were given. Finally, an average of all four years was taken.

The results of this seemingly useless operation are quite significant. In science courses the breakdown is as follows: A—25.2%, B—37.9%, C—29.0%, D—5.9%, and E-F—2.0%. For humanities we get something quite different: A—33.9%, B—42.2%, C—18.3%, D—3.5%, and E-F—2.1%. These results are plotted on the accompanying graph, where the solid curve connects grades in science and the broken line those in humanities and more C's, D's, and E-F's in science. The average GPA in science is 2.78, while the GPA for humanities is 3.02. The "error bars" drawn above and below each point include the variation from year to year.

It is obvious that science-bound Teckers seem to somehow do better in humanities. Is there something magical about the Dabney Hall of the Hu-

manities, or are the humanities an easier mark for the grade chasers? Our graph does not tell.

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# Kupperman Exposes Chemical Intimacies

by Cook

Dr. Aaron Kupperman presented an interesting lecture on "The Intimate Story of Chemical Reaction" this past Monday.

He made the point that chemical reactions are all around us, and that in fact we are merely complicated chemical factories. Although we have been able to describe the gross aspects of chemical reactions for a reasonably long time, it is only in the last few decades that we have understood the actual pathways of even the simplest of reactions. He managed to keep the material on a reasonably complex level without spreading too much snow among the

audience.

## Stomach acid

The first example that he used was the reaction between chlorine and hydrogen. The setup was quite straightforward, and consisted of a reaction chamber, a manometer, a light source, a light meter, a filter system, and a means for supplying hydrogen and chlorine. The experiment began with the introduction of a mixture of approximately equal quantities of chlorine and hydrogen into the chamber, causing a slight pressure rise. When blue light struck the chamber, the pressure rose and then fell gradually, indicating a

(Continued on page 4)

# The Critical Ear

by Beale

Though they were not greeted by a standing-room-only audience, the Los Angeles Artists Ensemble, presented an effective and satisfying concert in Dabney Lounge Sunday evening. Six fairly light works of short duration, covering a wide range of styles and moods, comprised the evenings menu.

## Mozart Ghosts

The program opened with a trio sonata for two violins and piano by Handel. An opus in fugal style, the Sonata shows the composer's great talent for economically creating a solid harmonic structure. This was followed by a duo for violin and viola ghost-written by Mozart for Michael Haydn, younger brother of "the" Haydn. It is a sunny and fast-moving work, very much in imitation of Haydn's style, and demands a great deal of the performer. The first half of the program ended with three piano pieces from film scores by Prokofiev, written in his typical burlesque style, and quite fun to listen to.

The Hindemith sonata for unaccompanied violin (Op. 31, No.

2) is a very demanding work, though it is light in mood. Paul Shure (the solo violinist) gave an impressive performance, showing a great deal of economy and realibility in his technique. Next was a set of twelve duos for two violins by Bartok, a group of very short pieces which instantly create a definite mood or impression and indicate that the composer's mastery of smaller forms was not limited to piano compositions. The final number was a Terzetto (trio) for two violins an viola by Dvorak, a pleasant work with a folk quality typical of his work, though not as bland as his chamber music often tends to be.

In addition to the soloist, Paul Shure, the violin section was further augmented by Bonnie Douglas. Miss Myra Kestenbaum played the viola, while Lincoln Mayorga handled the piano.

## Sunday kissoff

The next Dabney Concert will be on Sunday evening, November 20, at 8:15 p.m. when the Goldman Duo will perform music by Kohs, Stravinsky, Joio, and Bartok.

# Humanities Win On

(Continued from page 1)

ties of historical perspective and the relativity with respect to "historical vantage points" of scientific advancement, Briggs demonstrated at length his remarkable competence for his subject.

Using as an example A. R. Wallace's statement in 1898 that the area of major scientific neglect at that time was the science of phrenology, Briggs demonstrated the remarkable changes time can bring about in scientific thought. Another of Wallace's statements was that the sulphur match was one of the twenty major scientific advances of all history up to that time.

After a short intermission, Dr. Daniel Bell, professor of sociology at Columbia University, spoke on the topic of scientific trends in modern society. Commenting that the emergence of industrial society's leadership from laboratories and research institutions has placed the United States in the position of being the first nation in history where white-collar workers outnumber blue-collar workers, Bell went on to forecast that more than two and a half million workers will be employed in technology by 1975.

Concluding the morning's program was an address by Herbert Muller, Professor of English and Government at the University of Indiana. Muller discussed the problem of absolute values and their possible application to the humanities. Arguing that common "American values" are considered "well-adjusted," Muller decried the waste of human values and the tendency to regard values in science as scientifically unchaste.

With the comment that television is in ruinous decline with Batman at the nadir, Muller expressed confidence that technology may lead to the upgrading of a truly liberal education (sly cut), as society gropes for the "Great Society" (slyer cut).

# ASCIT Plans 1066 Invasion

"1066 and All That," an unusual ASCIT Assembly commemorating the 900th anniversary of the Norman Conquest of England and the fifth of the series of ASCIT Assemblies will enrage Caltech's pro-Celtic factions with its wit and humor, on Wednesday, November 16. Dr. John Benton, Associate professor of history, will present an interesting and informative talk on the Conquest itself, and then delve into some of the sidelights of the period and their effect on the people of today. There will also be a display on the Norman Conquest in Dabney Lounge throughout November.

## Yak Junglebunnies

Following the Thanksgiving break, two additional Assemblies are planned. The first of these, on November 30, will be the experimental film "Dementia," described by Downbeat Magazine as the "first foreign film made in Hollywood." On December 7, at 8 p.m., John M. Goddard's film "Andes to Amazon" will be shown in Beckman Auditorium. Goddard, selected by the U.S. Chamber of Commerce as one of California's five outstanding young men, will narrate his adventure film of his travels through Venezuela, Surinam, Brazil, and Peru.

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AUDIENCE

by Les Fishbone

Maureen O'Sullivan and Chester Morris headed the bill, but John Karlen stole the show at the opening night performance of "The Subject Was Roses," the current production at the Carousel Theatre. This award-winning drama is hardly the spectacular type, yet the characters portrayed by author Frank Gilroy would do credit to an Albee.

Bronx? no thonx

The action occurs entirely in the Bronx flat of the Clearys, John and Nettie, whose son Timmy has just arrived home from two years overseas during World War II. A dull atmosphere presents itself; it blends in well with the colorless nature of the characters as types, but hardly as individuals. Meanwhile, the theatre in the round enables the audience to view the principals from all angles (sic).

Timmy awakens on Saturday morning after a drunken revel with his father to find that the domestic affairs of the household have changed little. Slowly but surely he reacquaints himself with a mother who is sorely in need of being loved; he forgets to ask for the waffles he had always loved as a boy. His father persists in making the

point that the army would not let him volunteer years before; Timmy answers uninterestingly with stories about his bravery—he slept with his boots off.

Roses have thorns

Father and son go to see the Giants play and the latter thinks of buying roses for Mom; he does, but lets his father take the credit for the gift. Everything seems fine until, after a night on the town, Mrs. Cleary frantically fights the sexual advances of her husband and blurts out accusations of his fidelity; but he struck the painful blow when he disclaimed the roses. The next day Timmy argues with his mother and father; when she decamps for an entire day, the story of how true love was never mutual comes out. Finally, Timmy the man leaves the house. Was it ever a home for him? Does respect for either parent exist? Gilroy strikes poignantly in answering these questions.

The mood throughout the play is tense though comic lines abound. For here is where the excellent acting was obvious; Karlan especially could manipulate the audience's moods. He is to be congratulated for standing out in a truly notable cast that did a truly fine re-creation.

Psychotic Reaction

(Continued from page 3)

reaction and subsequent absorption of the HCl by the water in the chamber. When orange light struck the chamber, no reaction was observed, but when violet light struck, there was a reaction of twice the intensity of that caused by blue light. Kuppermann concluded that the reaction rate was proportional to the amount of light absorbed by the chlorine. As an example of the same reaction occurring under different conditions, illuminating a mixture of chlorine and hydrogen resulted in a bright flash of light rather rapid reaction.

Workin' on the chain gang

Using this data as a rational basis, Kuppermann went on to discuss the pathway for this reaction. In a short movie, he showed how a photon could break a bond in a chlorine molecule and produce two chlorine atoms. One of these chlorine atoms could then hit a hydrogen

molecule, forming an HCl molecule and a hydrogen atom. This hydrogen atom could then react with a chlorine molecule, forming another HCl molecule and regenerating another chlorine atom. He then demonstrated how the reaction chain could be terminated by the recombination of two chlorine or hydrogen atoms to form a molecule.

In his conclusion, Kuppermann showed how atoms of a single energy could be produced and used to find the minimum energy for a reaction, and discussed the mechanical analysis of chemical reactions. Saying that the quantum equations have not yet been solved, "Kupe" made the point that classical mechanics offers meaningful first approximations, and added that computers were quite helpful in these analyses.

Closing his presentation with a short statement about the future of chemical research, Kuppermann almost disappeared in a puff of smoke.

*The brightest flashes in the world of thought are incomplete until they have been proved to have their counterparts in the world of fact.* --John Tyndall

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Brewins



by L. F. Beak

What is the world coming to when lowly, innocent, froshlings desert their books and go running off after women? Blockhouse frosh Darnab settled down to his snaking, as all frosh truly should. But, also, alack, and woe, for no sooner had he sat down than he felt the urge come upon him and was off! He must mend his ways, or his future shall be spent amidst green and rice paddies.

It is said by wise men and crackpots that given world enough and time dreams will come true. Could this be what happened to the Lone Ranger? All of Blockhouse knew what he never had a car, he had 137 problems and 69 breakdowns, but no car to have the problems and breakdowns. What else could one suppose but the fulfillment of dreams when the Lone Ranger is seen driving around?

Elixir fixtures

Prufrock House sent an expedition to the outside world

for the Holiday. Bold they proceeded proceeded in truly impressive manner, wearing necklaces made from parts of the containers bearing the elixer of life.

In the land of vitamin deficiency it was found that one named Rinkendorf of the red flag was making withdrawals without due authorization. Subsequently a referee was summoned and von Rinkendorf was penalized and ejected from the game. It is rumored that this is the same von Rinkendorf whom the members of the Gou-

lash revolution persued in last week's red crusade.

Lewd loners

Lewdhouse sought to slave labor for the great Project forthcoming. They tried to trap the trolls of Frockpru into doing all the filthy, obseccen things, like building; so that the Lewdies might sneak off into their rooms unobserved and lucubrate. But the Frocks, fearing loss of their purity of essence, were not to be lured in by the mercenary offers of Lewdhouse. Now all must lay down their pencils and work problems in their heads.

JEANNE MOREAU  
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**MADMOISELLE**  
plus  
JEAN-PAUL BELMONDO and URSULA ANDRESS  
**UP TO HIS EARS**

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## Five in the Afternoon

By Mammy

In a maroon "suit of lights" and complete with Beatle haircut, "El Cordobes" took on two bulls in Tijuana Sunday and won both ears from one of them. Appearing with the most popular bullfighter in the world were two other matadors, one a boyish **novillero** and other a polished master.

Tijuana itself is always an experience, not always pleasant. The American customs authorities at the border never fail to forget any vestiges of consideration or politeness they may have had when assigned to TJ, and exemplify the tyrannical civil servants that Gogol and Chekov pictured in their stories of imperial Russia. Their procedure is to grab selected suspicious characters as they pass the border, and somehow this reporter has always qualified as a suspicious character fit for harassment.

### Beware the TJ taxis

Once across the physical border, it takes a few minutes for the traveler to cross the psychological border between Mexico and the United States. If he takes a taxi into the center of town, the crossing of the frontier will probably occur as his taxi driver swoops through a stop sign and weaves a wobbly path in the traffic of motorcars and oxcarts. Five people are squeezed into each taxi, at 50 cents a head, at least ten per cent of which must go towards the repair of the taxi after the hard driving of a few weekends.

At the downtown bullring, great crowds of people push to one side and the other, with ugly Americans painfully evident in their cheap tourist sombreros and quiet Mexicans all in their Sunday best. Last-minute ticket hawkers are much less in evidence than at comparable events in the U.S., probably because El Cordobes is so famous.

to be continued next week.

## Notices

### CALTECH SKI CLUB

The Caltech Ski Club will hold its second meeting on Tuesday, November 8, at 7:30 p.m. in 168 Church. The Sport Chalet will present a demonstration of ski equipment. All Caltech personnel are invited.

### FOLK DANCING WITH LESSONS

Caltech students are invited to learn and do the latest Greek, Israeli, etc. traditional folkdances, this Saturday at the Pasadena Jewish Center, 8 p.m. See Dan Nemzer (30 Blacker) for details.

### SENIOR PICTURES

were taken this week. If you haven't had a sitting and are a senior, get over to the Big T office between 7 and 9 tonight or contact Geo. Sharman, 12 Fleming, Quick!

### HELP DEFEAT REAGAN

Would you be willing to spend three or four hours Tuesday afternoon, November 8, in getting out the vote for Governor Brown? Some critical precincts need you! Contact Jim Fishbein, Dabney House.

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This is Russ Kennedy of Balboa Island, California, on an in-port field trip as a student aboard Chapman College's floating campus.

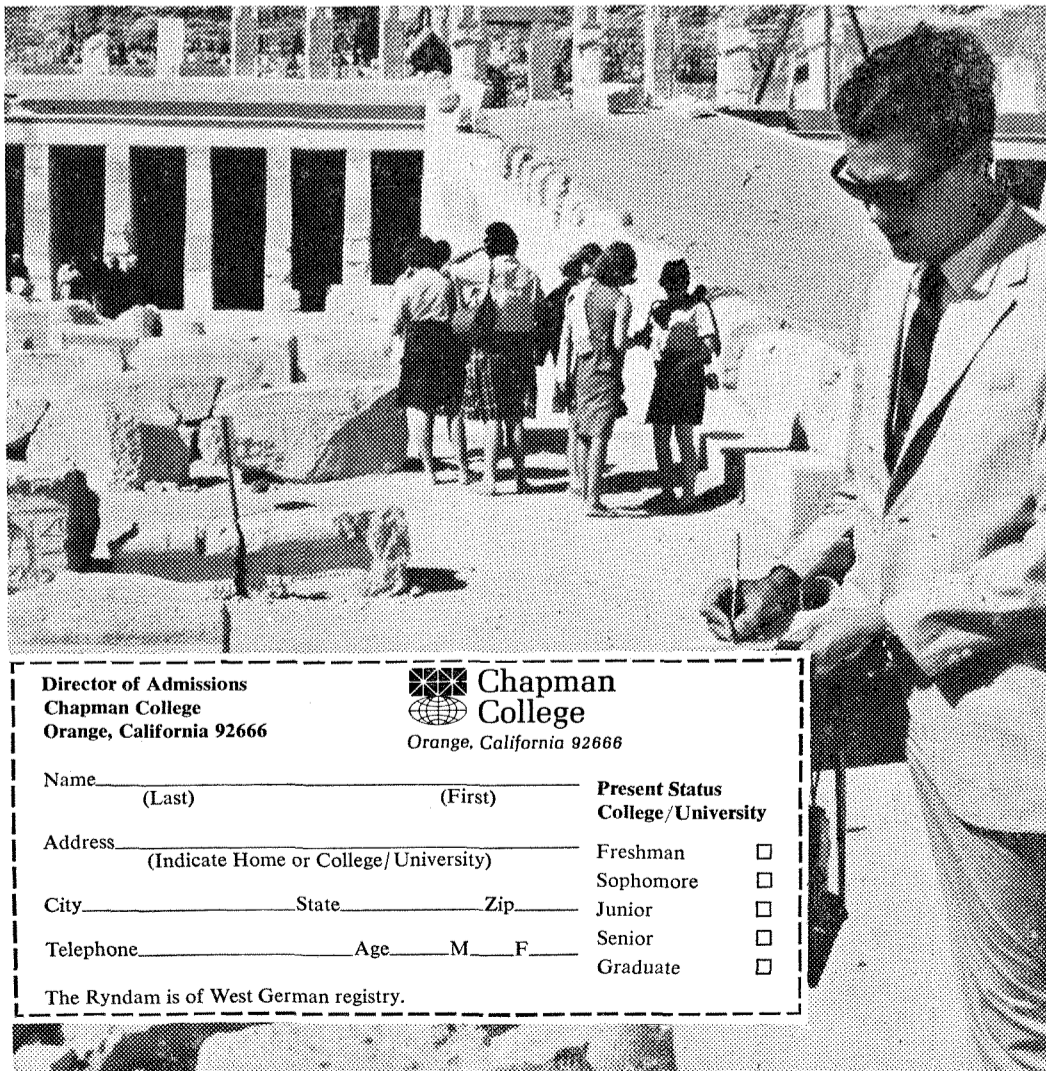
The note he paused to make as fellow students went ahead to inspect Hatshepsut's Tomb in the Valley of the Kings near Luxor, he used to complete an assignment for his Comparative World Cultures professor.

Russ transferred the 12 units earned during the study-travel semester at sea to his record at the University of California at Irvine where he continues studies toward a teaching career in life sciences.

As you read this, 450 other students have begun the fall semester voyage of discovery with Chapman aboard the s.s. RYNDAM, for which Holland-America Line acts as General Passenger Agents.

In February still another 450 will embark from Los Angeles for the spring 1967 semester, this time bound for the Panama Canal, Venezuela, Brazil, Argentina, Nigeria, Senegal, Morocco, Spain, Portugal, The Netherlands, Denmark, Great Britain and New York.

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Telephone _____ Age _____ M _____ F _____	Junior <input type="checkbox"/>
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The Ryndam is of West German registry.

## Lord James Delivers Coup de Grace

(Continued from page 1)

less truths buried deep in the mountain of a specialty. Scientists must establish criteria of importance because there are simply not enough people available to delve into even a fraction of the worthwhile options open to us. Further, not all minds should do research; some would be better used in reflection or teaching.

### Humane values

Science and education together help protect against the destruction of human values. Science, devoted to truth and rationality,

can combat propaganda and intolerance. Education can try to make men a little more rational and humane.

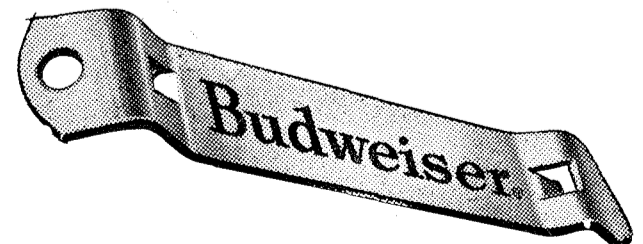
Unlimited research in education will not provide a series of simple answers for the problems of education in the future. The real need is more and better teachers who are willing to continue their own educations throughout their careers.

In evaluating Caltech, Lord James sees it as an institution devoted to producing men who are scientists of "a critical and responsible humanity."

**Merritt Willey**

loves good  
conversation.

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is an opener.



# TECH Sports

## Whittier Too Fast For CIT Legmen; Mason, Cross Come In Second, Third

Led by rooting Lou Jones, the Whittier cross-country team nipped the Teckers, 26-29, last Friday afternoon in Griffith Park. Two laps around an unmarked, mostly grass figure eight constituted the four-mile course.

At variance with his usual custom, Pete Cross of Caltech jumped into the lead right at the start, contesting the first position with Lou Jones and Bill Sucksdorf of Whittier. Jones, for the first mile or so, kept shouting, "Go Doug" and "Go Whit," and Mason of Caltech put in a few "Go Doug"'s himself. Mason also contrary to his usual custom of fighting for the lead, hung well back in the pack for more than half the race.

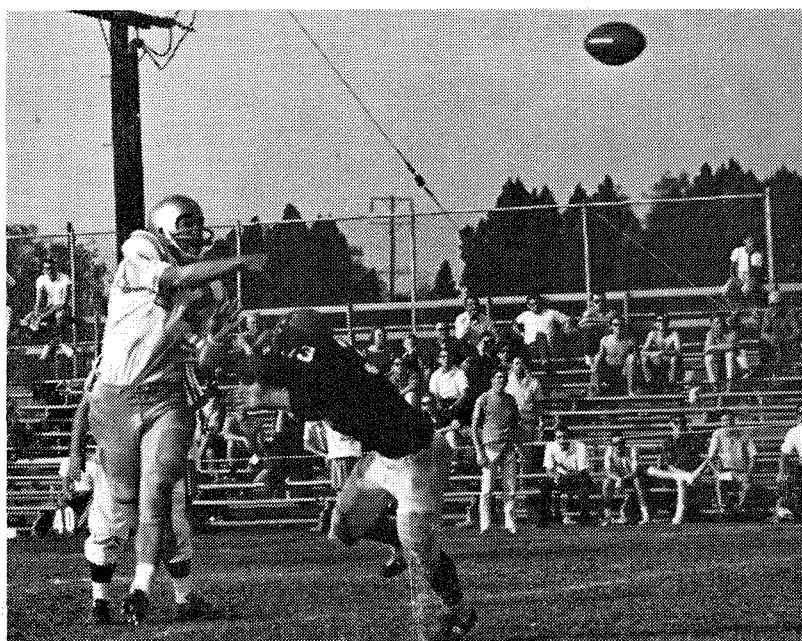
For the first mile and a half Cross, Jones, and Sucksdorf clumped together about fifty yards ahead of Mason, who ran with two Whittier men ("Doug"

and "Whit" presumably). After the first lap (at about two and a half miles) Mason moved up to Cross and Jones, and Sucksdorf dropped back. With half a mile to go, Mason passed Cross, but Jones won the race in 21:57. Mason was second and Cross third; Meo was sixth and Stoecker eighth.

Cross, who has been running an incredible number of miles per week, improved his time over the not-very-stimulating Griffith Park Course from the last time he ran there against Oxy. Mason ran the course


slower than his previous time, but at least beat Cross and now boasts of having worked out for eleven days in a row. Cross, on the other hand, did 26 miles on Saturday alone.

Next week the Smogaters meet Pomona, led by tall, friendly, undefeated Steve Roulac. The meet will take place on the Mount Sac course, which is always a pleasure to run. The dirt trail, which winds up and around a saddle-shaped hill, this year includes another hill with some wild hairpin turns on the way down.



QUARTERBACK TOM BURTON gets off a pass to end Lonnie Martin. Pass was complete for short yardage; the Caltech side of the score was even shorter.

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## Tech Stopped By La Verne

The football team lost a split decision last week to La Verne. La Verne scored 34 points in the first half and Caltech scored 8 in the second half. It wasn't enough.

The game started off poorly for the visitors when La Verne ran back the opening kick-off for 70 yards to put them on the twenty. They scored shortly thereafter. Then things were quiet until the second quarter.

La Verne picked up four more touchdowns in the second quarter. Most of their drives came on long runs. There was one 50 yard run that brought them up to the twenty and ended in a TD. La Verne passed very little.

### Caught with pants down.

The first touchdown was clearly an embarrassment for Caltech. The coaching staff had warned the team to watch for the pick on the kickoff. True to form, the receiver took the ball and broke to his right. The rest of the La Verne squad moved to the left. The visitors fell for it and went after the receiver who thereupon pulled a reverse and went for the seventy-yard run.

The only Tech touchdown came very late in the game and it was a quarterback sneak by Tom Burton. This was the first touchdown this year that hadn't been scored by Martin. However, Lonnie caught the pass for the two-point conversion.

### Special delivery

Fumbles hurt the squad from Pasadena. Charles Creasy, this year's candidate for super-frosh, fumbled on a kick-off return and the La Verne tackle grabbed the ball and went for a touchdown.

The team of Martin and Burton was also held quiet. Martin again was double and triple-teamed, but by now he expects it.

This week finds the squad traveling to Riverside for a Friday night game. In other action in the league over the weekend, Occidental beat Cal Lutheran 16-0.

# DEAR REB:

Even When She Answers, He Still Gets the Busy Signal.



**DEAR REB:**  
Lately, every time I call my girl, she's either "not in" or "not interested." Last week I called her 23 times and couldn't even make a coffee date. The trouble started when she started dating a guy who owns a Dodge Coronet. Now she goes to parties with him, dances, football games, etc. Do you think I should call her again, or should I forget her and break her heart?

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# Martin May Be Best End In League

"Martin is one of the best in league. I think he'll be one of the ends on the all-league team." Like in the old days, Caltech has a football star, maybe two, three or even four of them; however the one that Coach Tom Gutman was talking about is Lonnie (Linus) Martin who was recently chosen SCIAC player-of-the-week.

### Kiloyardage

Right now Lonnie has assimilated over 760 yards-gained passing this year and with three games left has a good shot for

1000. He is first in the league right now, just ahead of Dundez of Redlands.

Martin lettered three times in high school but never in football (he didn't even play). He was a two-year letterman in baseball and one-year in soccer. What does he contribute his success at football to?

"Burton is probably the best quarterback in the league. Obviously, he's the best passer . . . Coaching has put a lot of inspiration into the team this year. It's really been something."

As it happens what he says is true. Lonnie is fortunate to have Burton throwing to him as Coach Gutman agrees. This may become evident this weekend against Riverside if Burton's mysteriously swollen thigh keeps him out of action. However, Burton is not the whole answer.



According to Gutman, Lonnie "doesn't hear footsteps." Where some ends worry more about getting tackled after the catch, Lonnie just jumps. In addition, Martin probably has the best moves in the league. When Redlands double and triple teamed him it barely had an affect.

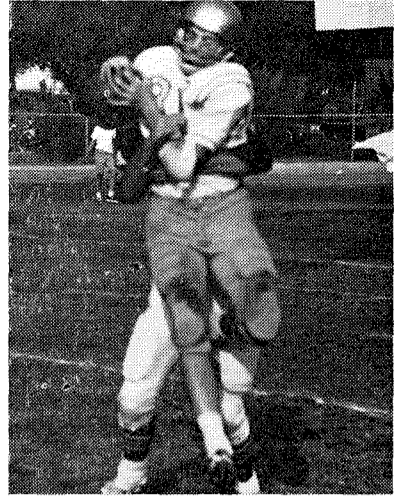
### Two left feet

The only thing Martin lacks is speed, in fact, the coaches think he may be the slowest end in the league. Earlier it was reported in the **Tech** that Martin had outran two defenders for a touchdown. This turned out to be untrue. A couple of Linus's teammates reported that the defenders had tripped each other.

Until last weekend, Martin had scored every touchdown this year. However, against La Verne Burton went over on a quarterback sneak and then threw to Martin for two more points.

With two more years to go Martin stands a good chance to become one of the best ends the league has seen. He has a good quarterback and he has a team that is starting to get some real athletic spirit. Said Gutman, "The team will improve and Martin will improve with them."

In addition to football, Martin plays both basketball and baseball. Last year, as a freshman, he was awarded the Alumni Trophy for his outstanding play as shortstop.



## Page Uses New Secret Weapon

Page House may have started a new tradition in Discobolous challenges Saturday, that of sportsmanship. Ruddock got its eligibility list in late for the scheduled soccer game, a circumstance that normally would amount to a forfeit. Not only did Page vote to play the game, they played it for the full points.

For once the good guys finished first (ed note: Bob Firestone wrote this article). Page won the game Sunday afternoon 1-0. The only goal came on a kick by frosh Steve Patt. Simon Levinson was the Page goalie that kept the Ruddock squad from booting the game.

It was reported erroneously in the **Tech** last week that Dabney had challenged Lloyd too late and forfeited at the beginning of the year. Actually Dabney had been attempting to capitalize on early-in-the-year confusion and was challenging out of turn. Their turn has now come and they have challenged Page in swimming, water polo, and billiards.

### DISCOBOLOUS STANDINGS

Fleming	4
Page	6
Lloyd	1
Ruddock	1
Ricketts	1
Ricketts	0
Dabney	0
Blacker	0

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### CAMPUS INTERVIEWS

Friday, November 18, 1966

**AC ELECTRONICS**  
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### Brave New World (Continued from page 1)

should continue its reckless increase in population, exhausting the easily accessible sources of minerals and fuels, and then collapse, it might be vastly harder, or even impossible for future generations to recover from their 'dark ages'."

He continued, "The human mind has a natural tendency to avoid unpleasant thoughts such as these. Thus, the population explosion and the H-bomb do not receive a fraction of the attention that they deserve . . . The next 25 years, from today to this Institute's 100th anniversary, may be the most crucial ones in the history of man."

#### End of the family

Dr. Robert Morison, director of Cornell University's Division of Biological Sciences, concluded the session by discussing some of the dilemmas produced by our rapid advance in biology and sociology. He first asserted that the family will decline because "1.) The family is relatively poor at assimilating and transmitting new knowledge essential to survival in a rapidly moving world. 2.) Growing awareness of the population problem, and of human genetics weakens the prestige of the family as the basic unit of human reproduction. 3.) Increasing knowledge of the plasticity of the human nervous system in early life will encourage further invasion of the home in the name of ensuring equality of opportunity."

"It is idle to talk of a society of equal opportunity as long as the society abandons its newcomers solely to their families for their most impressionable years." He was quick to add that "I am not advocating that the family be abolished," but merely pointing out the trends.

#### Stary-eyed idealist

Due to these dramatic changes in store for us, men will be forced to find new reasons for living. Without family ties, "Somehow people must be made to expand their sense of loyalty and responsibility to include a larger share of the human race."

And finally, Morison deplored the artistic and literary community's motions to "stand aside like a Greek chorus chanting over and over again, 'see the unhappy man who can do nothing other than endure the existential suffering forced on him by a hostile and malformed society.'"

The session ended with a short question and answer period that covered topics from spontaneous generation to child raising. The discussion was well attended and well received.

### Fleissnerfung

(Continued from page 1)

the United States may soon free its entire population from manual drudgery. We could then increase foreign aid, commence projects to control nature, abandon the policy of using practical merits and consider aesthetic values, and pursue satisfying but useless projects, such as astronomy, the space program, and high energy physics.

Bonner expressed the need to create agencies in society to consider matters of concern and recommend action in more pressing problem areas. He classified molecular biology and planned birth in the former category and the population problem in the latter.

Kayson felt that the institutions of society were not equal to the progress made by science, a relationship most evident in military industries. Some one must decide which of the many things we have the ability to develop should be developed.

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After these opening remarks, a discussion followed. The basic issue was who will make the decisions. Ramo commented that he didn't want to turn the problem over to anyone he knew. After suggesting that we solve the population problem by shrinking people, he stated that many problems, for example urban transportation in L.A., were not technical or economic, but social.

After Gell-Mann pointed out that aesthetic qualities were hard to quantify, Kason suggested that society transfer the burden of proof from the conservatives to the radicals.

Price concluded that government by university may develop at the federal government's request just as Parliament at the King's request.

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