

For Those
Who Care
Enough

California Tech

Associated Students of the California Institute of Technology

To Read
The Very
Best

Volume LXV.

Pasadena, California, Thursday, November 7, 1963

No. 7

Unemployment Topic of Talk For Trustees

IBM Chairman of the Board, Thomas J. Watson, spoke Tuesday at the Athenaeum to a meeting of the California Institute Associates on the subject of unemployment. The speech presented Mr. Watson's views on the present unemployment problem.

No, Really

The first major point of his speech was that unemployment actually is a serious problem. He cited numerous statistics and presented facts which tended to show the extent of the problem. He then emphasized that the problem wasn't one of statistics but a human one. Watson then proceeded to the cause of unemployment, which he deemed to be advancing technology, and lagging education.

He felt that the steps that had been made to solve this persistent problem were good, but that they didn't go anywhere near enough. He felt that the government could do more to relieve the situation.

Steps for Progress

To solve the problem, and to get the American economy on the right track, he proposed three things. The first was a system of labor-management co-operation, which would help prevent strikes and other labor strife. Secondly, he proposed a study of a reduced work week, and finally, he felt that the U.S. should find other markets for their goods.

Watson ended on an optimistic note, and said that he felt the U.S. could handle unemployment. Watson, incidentally, has been on the Board of Trustees of Caltech since 1961.

Helstein Is Next YMCA Leader

Ralph Helstein, dynamic International President of the United Packinghouse Workers of America, AFL-CIO, will be on campus December 4-6 as the first YMCA Leader of America for 1963-1964.

Mr. Helstein is one of the foremost authorities on the subject of a automation and its impact on the labor force and the national economy. He has spoken on this subject at leading academic institutions, governmental and trade union conferences and conventions, and on national television documentaries.

Born in 1908, he has been prominent on the national labor scene since 1934. As early as 1947, one year after Helstein became UPWA President, his union was acknowledged leader in the integration movement. Technological Adjustment Pay, inaugurated in the meat industry in 1961, was a pioneering attempt to meet problems caused by automation.

Mr. Helstein is currently a member of the State of Illinois Governor's Commission on Unemployment, and a member of the Citizen's Board of the University of Chicago.



James Farmer, National Director of CORE.

Director Of CORE To Speak On Race Problems

James Farmer, the national director of the Congress of Racial Equality, will speak in Winnett Student Center at 3:00 tomorrow, Friday.

Mr. Farmer, along with James Baldwin, Martin Luther King, and Roy Wilkins, is one of the most prominent Negroes in the race movement. His position as the national director of CORE reflects his extensive experience with the American race problem.

Most recently, Mr. Farmer was arrested in Plaquemine, Louisiana, while leading peaceful demonstrations there. In 1961 he led the original freedom ride, testing whether interstate transportation facilities were integrated.

Mr. Farmer was one of the founders of CORE, which was established in 1942. He has played an important role in the development of the nonviolent, direct action philosophy of

CORE.

The breadth of Mr. Farmer's involvement with the race problem is reflected in the number of organizations in which he has served actively. He has been a program director of NAACP, and an organizer of the Upholsterers' International Union. During the war he served as Race Relations Secretary of the Fellowship Reconciliation.

Mr. Farmer will be in the Southern California area for several days, and was invited to speak at Caltech by the YMCA. The Friendship Baptist Church of Pasadena will host Mr. Farmer on Sunday, November 10, at 7:30. Tickets for this appearance are available at the YMCA office.

Climb Mishap Kills Freshman

Jim D. Smith, freshman member of Ricketts House, was killed last Saturday while rock climbing on the east side of Mt. Pacific, 15 miles south of Palmdale, when he fell 30 feet and a dislodged rock fell on top of him, according to the U. S. Forest Service. The Rangers said that Smith's climbing partner was Harry Townes, RA of Ricketts.

The body was recovered by two sheriff's deputies from Lancaster and four rangers from the Mill Creek Ranger Station.

Many Caltech students as well as friends of Smith attended the funeral. Among others, a wreath was sent by ASCIT.

Frosh, Sophs Vie In Mudeo

BY HANK SUZUKAWA

Attention freshmen and sophomores! Tuesday, November 19, is the date of Caltech's greatest sports event, the Mudeo. Any frosh who still seeks satisfaction for indignities received during initiation week is especially eligible, while sophomores who feel that said initiation practices were too limited in scope are given their one last chance at the frosh. Theoretically, even those not holding a grudge should enter the festivities to defend the honor of their respective class. However, to inspire genuine enthusiasm between the contestants, the loser of the Mudeo will pay the expenses of the annual frosh-soph hop.

Superiority Demonstrated

For the uninformed, the Mudeo is the annual evaluation of the athletic-strength constants of the freshman and sophomore classes. Events will include a tug-of-war, sack race, wheelbarrow race, horse-and-rider event, and a tire spree. A special playing field especially designed to facilitate the above sports will be prepared in a convenient location south of the football field. To fully evaluate the respective athletic-strength constants, those trolls participating in a frosh or varsity sport at the time of the Mudeo will not be eligible.

Impartial, infallible, and generally unreliable judges will be

provided by the junior class. A prevalent rumor about campus, insinuating that judges could be made less impartial through offerings of certain liquid refreshments, has yet to be denounced by the junior officers. It is assumed that the judges consider such base insinuations unworthy of any official denouncement.

Somebody's Mudder

Those interested in participation in the Mudeo should sign up as soon as possible; the frosh

should sign up in their sections while the sophomores may sign up in the houses. Complete team lists must reach Guy Jackson (Blacker #5) or Bob Scott (Dabney #12) before noon Friday, November 15. A physical, identical to that required for inter-house sports, is necessary for all sophomore contestants; frosh, because of their physical superiority (sic.), need no examination. All physicals must be taken before noon, November 15.

Draft Regulations Change; Affect Student Eligibility

President Kennedy's new draft regulations, exempting married men without children from the draft, are dropping the induction age rapidly enough so that Caltech student may soon be eligible immediately upon graduation. In an interview with the California Tech last week, Dr. C. W. McCormick, professor of civil engineering and a member of Local Board No. 92 in Alhambra, explained some new draft regulations as they affect Caltech students.

McCormick said that in one month the draft age has gone from 23 to 22, and should go still lower. He encourages all undergrads to be sure and get their student deferments in order, as this will avoid them the inconvenience of having to take the pre-induction physical.

Tech Cannon Fodder

There is still no real danger for any Tech undergrad, however, as deferments are easily obtainable by anyone in reasonably good standing in almost any college. Even if someone does get a notice, he can still get a deferment or postponement with little trouble. The main advantage of deferment is to avoid the inconvenience of the pre-induction physical, as most local boards aren't caught up with the new regulations and are sending out masses of the physical notices in an effort to catch up again.

Also, according to McCormick,

one of the reasons given most frequently in the past for not taking a deferment until absolutely necessary, that of extended eligibility to age 35, is no longer valid in a practical sense. No one is presently being drafted over age 26, and so the extended liability is no real danger.

On the other hand, since draft boards operate on the principle of taking the oldest man first, anyone under 26 without a deferment is practically a cinch to be inducted.

Go, Seniors, Go!

When the draft age was 23, this was not a serious problem for graduating seniors, as most had a year or two to consider serving their obligation, getting an occupational deferment, etc. Now, however, if the draft age comes down low enough, then these seniors may be eligible soon after graduation, and should therefore be considering prospects for deferment during their senior year. According to McCormick, the deferments most applicable to Techmen are those for grad school, occupation, hardship, joining a reserve unit, and of course, marriage.

Anyone desiring to obtain a student deferment can do so by going to the registrar and requesting that a form 109 (official notification) be sent to his draft board stating that he is presently a student in good standing.

Notices

MUN APPLICATIONS

Applications for a seat on the Caltech MUN delegation close November 18. Notify either Tom Latham in Blacker or Don O'Hara in Dabney if you wish to apply.

MANAGER NEEDED

The soccer team needs a manager. PE credit is given. See Mike Wolf, Room 134 Ruddock.

CHEER-WRITING CONTEST

Authors of best cheers written each week will get to come down on field, wear yell leader's sweaters, and lead their cheers. Submit entries to Len Fisher in 132 Lloyd or put them in the F mailbox in Lloyd.

RIFLE TEAM FORMING

A meeting will be held Monday, November 11, 1963, in room 23 of the gym for all students interested in forming a Caltech rifle team.

JUNK ART OPENS

A new exhibit, "Sculpture Out of the Everyday", has opened in Dabney Lounge. It is an assembly of work by artists, both local and national, who create their art from junk.

COFFEE AND TALK

Don't forget the ASCIT Coffee Hour this afternoon at 3. Free goodies. Bring a faculty member along, he might prove to know something besides quantum mechanics.

CHEM E's

Are the salt of the earth.

DuBridge Speaker At Center Opening

"Dr. Von Karman became literally the father of the entire aerospace industry." Thus spoke Caltech President Lee DuBridge at the dedication of the Von Karman Center of the Aerojet General Corporation, Tuesday, October 30.

The Corporation, now located in Azusa, was established by Dr. Karman and his students during early World War II. At that time the "Aerojet Engineering Corporation" — probably known as "Von Karman's folly" according to DuBridge — pioneered the development "of a solid-propel-

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Editorials

Rates Riot

Techmen expect to pay higher tuition and fees to Caltech than would be asked of a student in a state-supported school or a private non-technical school. They might even be convinced that, for some reason, room and board should cost more at a private than at a public school. But there's certainly no reason to discriminate at all among private colleges with regard to room and board—physicists take up no more room than historians and EE's certainly consume no more than PE majors.

The US Department of Health, Education and Welfare's report for 1962-63 shows that Tech's room and board charges are at the top of the 90th percentile, and, in fact, are the highest of any technical school reporting.

These figures are even more interesting when broken down further. Caltech's room rate is \$370 compared to the private institution mean of \$224, and the private western mean of \$215. The West is, in fact, the cheapest region. The story is the same for board rates. Tech charges \$560; the private institution mean is \$417, and the private western school mean \$393. Finally, even considering technical schools as a special case, which they shouldn't be, the technical school means are \$319 for room and \$442 for board (not taking into account the fact that Caltech is in the cheapest region).

In other words, Caltech, considered in any category and with any excuse, is still well above the 90th percentile in both room and board rates. There is certainly no reason for this. In fact it becomes very hard to see how Saga can perennially claim they are losing money and ask for higher board rates.

In any case these figures would definitely indicate that neither room nor board rates should rise at Tech for a long, long, time, and should probably even be lowered.

—J. C. Simpson
Don Green

From Other Campuses
By Jace

Opening this week's column with our old standard, it'll be a welcome note of relief to all those whose memories pale at the thought of our 40-6 loss to Santa Clara to learn that RPI celebrated its 31st straight grid-iron loss with an appropriate 31-0 shutout by Worcester Polytechnic Institute.

And speaking of Worcester, it seems that by extensive research the campus newspaper has uncovered the present physics controversy at Caltech. As the **Tech News** notes: "Cal Tech (sic) students are finding their physics course a little difficult this year . . . freshmen and sophomores alike are complaining about the quality and value of the course . . . complaints fall mainly on the manner of presentation, the attitude of the physics department, and what seems to be the traditionally complacent or poor teaching assistants." Now that these problems have come to be common knowledge on a national level, it would seem even more important that the course be improved for future generations.

Non-Football Season

Switching to the midwest, we find football a raging controversy at the University of Chicago, where dear old George Beadle is undoubtedly applying the principles of biology to back-field strategy even as you read this column. Harken to the **Chicago Maroon**:

"With the administration stoutly claiming there is no such thing as a football game, and students planning a demonstration, the University of Chicago's non-football season got underway last week.

"The UC team, which does not exist, lost its first game to North Central College 29-7 and entertained some 600 spectators who dropped by to see what wasn't going on.

"The University claims that it is offering football classes and that the 'practice scrimmages' are just part of the curriculum." After dropping football in 1939,

the University of Chicago resumed "scrimmages" six years ago.

Harvard or Chicago?

The administration and athletic departments are on record against the return of "big-time" football, and many students ask "what would be the difference between Harvard and Chicago if they both had football teams?"

"So the University of Chicago football class met North Central in the first of four laboratory sessions planned for the first term.

"The many class auditors were lectured by eight co-eds: 'We've got the team, team, team,' they yelled.

"Class, class, class' corrected the auditors as North Central's quarterback returned the opening kickoff 80 yards for a touchdown."

Sticking to football and high class journalism at once, it is now appropriate to throw out a recent quote from the New York Times: "The president of one large state university, not long ago, when pleading in a closed session with a football-minded but otherwise tight-fisted legislative committee, said: 'Gentlemen, please let me build a campus of which our football team may be proud.'"

USF Goes to the Dogs

And now to the West Coast for the shattering blow of blows. After years of consideration the University of San Francisco has achieved the goal of every red-blooded, school-spirited, horny Techman—they have gone co-ed.

Now what is the reaction on this lucky campus — delirium, jubilation, shock, as would envelop Tech? Not at all. Listen to the voice of the **San Francisco Foghorn**. "Indications of the controversy that would result from the decision were first observed last Friday at 6 p.m. At that time, the formal announcement was greeted with boos, cat-calls, and a few isolated cheers..."

"Among the more rational
(Continued on page 4)

Letters

Leighton Gives Physics Department Stand; Answers Complaints About New Course

Editors:

A recent editorial in the **California Tech** complained of certain supposed "failures" of the recently revised Ph 1 and Ph 2 courses, and called for a study by the student EPC. Several of the statements made in that editorial seem to me to be misleading or unfair, even though they may have been made in good faith by Messrs. Simpson and Green.

Before discussing the editorial itself, I would like to offer a number of comments concerning the introductory physics courses. Nearly all the present sophomores and juniors know that, beginning in 1961, the Ph 1 and Ph 2 courses successively underwent a major revision, largely accomplished by means of a two-year series of lectures by Prof. Feynman. Without going into unnecessary detail, I can say that the revision was initiated in order to provide Caltech students with a first-rate foundation in physics, one that would adequately prepare them for careers in a wide variety of fields of science. Because the advances in physics made in the past two or three decades have so rapidly and radically affected all the physical sciences, a major objective in our program was to include as many modern ideas as possible, while maintaining adequate breadth and depth of subject matter. I feel safe in saying that, so far as content and level of treatment are con-

cerned, we have been quite successful in producing a course worthy of the intellectual abilities of our incoming students, yet not beyond their reach.

Problems in Revision

There have been, and there are, a number of problems involved in making such a major revision, and it would be Utopian to believe that such problems could be entirely avoided. Perhaps the principal problem was that of simultaneously revising the course and teaching it. (The junior class will recall the long delays between hearing a lecture and reading it!) Unfortunately such a procedure was necessary, for it would have been quite impossible to prepare the revised course in advance and present it in the new form, complete with textbook, exercises, and demonstration lectures — not impossible in principle, perhaps, but it just would not have happened had we tried to do it that way, because the project could not have been carried through with the same sense of urgency that exists when the lecturer knows that a new lecture **must** be ready in three days!

Other Problems

Other problems arose because of the experimental nature of the revision, and the fact that some rather radical departures from the more traditional subject matter were tried. Foremost among these, and still with us to some extent, is that of pro-

viding suitable exercises of varying difficulty to build the students' competence and experience. This problem is gradually disappearing.

In addition to these real, objective problems, there were many others, perhaps just as serious but unfortunately not as easily identified or remedied because of their subjective or psychological basis. Problems of philosophy, motivation, and attitude, on the part of the teachers as well as the students, were evident from the beginning, and many of these are still interfering with the orderly consolidation of the new course. Some of these are clearly attributable to the "newness" of the content and approach of the course. A teacher may unconsciously impart a feeling that certain things are "too advanced" for beginning students because he himself did not encounter them until a much later time in his own training. Such a notion, once planted in a student's mind, will easily become reinforced every time the student encounters difficulty in understanding something and will, in effect, become a self-fulfilling prophecy: the student becomes easily discouraged by the rumor that the material is thought to be too difficult; he applies himself less and less, and thereby encounters more difficulty; soon he becomes convinced that the situation is hopeless (as indeed it may then be) and ceases to try to understand anything. So! The rumors were right!

We Expected Too Little

The possibility that some of the new material might prove to be too difficult or too advanced for inclusion in the course had, naturally, occurred to some of us, and we may thereby have contributed our share to these psychological problems. In some instances we simply did not know how much to expect a student to grasp, and we were concerned lest we expect too much of him; some of our greatest difficulties came, I believe, from expecting too little.

These questions of motivation, and philosophy could be (and have been) posed and argued endlessly, as could the matters of personal opinion regarding the ideal means to accomplish our ends. However, let us ask where we now are, and where we are going. Fortunately, the most difficult times, when there was no textbook and there was

(Continued on page 3)



BY STEVE GORMAN

Sabicas, a flamenco guitarist of the caliber that usually spends his evenings in large concert halls, is now playing (and will be until November 12) at the Troubador in a relatively informal and more intimate atmosphere.

An absolute master of his art, this man is a fascinating creature to watch in action. He sits in his chair, looks up at the audience (glares at the waitresses when they make any noise) and then takes off. But, unlike the usual flamenco player, who is nine tenths arm waving and discordant noise, this man actually plays something. His selections are fairly melodious and demonstrate his skill and ability very well. And for you quasi-aficionados, he plays games with harmonics that have you drooling on the floor.

Not only that, he is not a typical arrogant artist but really a pleasant guy. Pretending we were something important, Lubensky and I went up to his dressing room to talk with him; he speaks only Spanish so I wasn't able to unleash my inimitable personality on him, but Tom moved in and spoke with him (mainly about how good he was), thereby proving that Techmen actually do know more than just psi-star-psi.

Also on the bill was a sort of an atypical typical folk-singer named David Bernard: typical in that he looks it, has a big Martin guitar, and sings songs about gypsies; atypical in that

he's a baritone with a pretty good range upward, and also in that he sounds best when he sings not-too-folksie-type songs, such as "Moscow Nights."

As an added attraction, for those of you who get bored with all the art, in the balcony to the left of the stage is a little smoke-filled booth with a Mephistophelian head in it that bobs around, and every now and then announces something. Great sport. All in all, it's a pretty good show and for those of you with sophisticated (guitar-loving) girl friends, it would be worth a date.

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Leighton Writes On

(Continued from page 2)

a long gap between lecture, problems, and tests — and when the instructors were all learning some of the new tricks along with the students — are now past, and we can proceed down a "paved road," with a guidebook at hand. We can look forward to a more orderly, if somewhat less breathtaking and exciting pace through the two courses.

Many Survived

But what kind of a course have we made? Of course we do not know for sure to what extent we have reached our goals, but there are already certain indications. First is the fact that, in spite of the difficulties of having no text, a significant number of students **did** grasp essentially everything that was presented. I expect this number to increase and the number of failures to decrease as the course develops, both because of the availability of a textbook, but also because the instructors and the upperclassmen in the houses will be able to offer more help to struggling freshmen or sophomores. (Perhaps some of the present juniors could improve their backgrounds by helping the frosh—they might find that the material wasn't so hard after all!)

There has also been an overwhelmingly favorable reaction to the Ph 1 text from all parts of the country. The physics department has had a steady stream of urgent requests for copies of the Feynman lectures, and comments have been universally favorable.

Worthwhile Goal

Those of us who have participated in this experiment have been willing to work hard — and for all concerned, the task has been hard — because we have the realization that our efforts are directed toward a worthwhile goal: a truly first-rate physics course that we would have loved to have had when we were students. Perhaps we teachers do not impart to the students the full extent of the intellectual stimulation we feel in the subject because we are preoccupied with the many everyday mechanical demands of the course, or are busy planning improvements. Yet surely the students these past two years should have caught some of the excitement of being part of the formative years of such an experiment.

Editorial Too Vague

I had intended to discuss the Simpson-Green editorial paragraph by paragraph, but on re-reading it I find it too vague to deal with nonemotionally. I confess that I simply do not know what they mean when they assert that students are complaining of the "manner of presentation" or "the attitude of the physics department." I would appreciate enlightenment on these points. I do not know of any claim originating in the physics department that "the students are learning more than ever." (Maybe Messrs. Simpson and Green are learning more and enjoying it less.)

As for the "changes in grading the course" which seem to be disturbing the editors, I may need enlightenment here, too. I suspect the reference is to the fact that the grading of Ph 2c last year was based upon what might be called a "modified absolute" scale rather than on one which assumes that Caltech stu-

dents are so smart that they deserve at least a C, whether they have done any work or not. The Ph 2 instructors believe, and I agree, that it is possible to set a meaningful lower limit of accomplishment below which a passing grade cannot be given without seriously impairing the morale and incentive of the students who are willing to apply themselves.

T. A.'s Are People Too

There is one reference which is familiar to us all: the complaint of the "traditionally complacent or poor teaching assistants." Granting that one encounters a variety of ability among teaching assistants, because they are real people like students, professors, etc., I do not believe that this complaint can be properly directed at the new physics course *per se*. True, the task has been more than ordinarily demanding on teacher as well as lecturer, and there may have been some unfortunate teaching assignments made. I think the teachers' abilities covered approximately the normal range, which is about the same range that will be covered by the present students, including those who are complaining about complacency, when they become teachers. People are human.

And On

Morale Important

As I have said before, many of our problems lie in the intangible sector defined as motivation or morale. This is true not only of the students in Ph 1 and Ph 2, but also of other students, and indeed of the teachers and of the entire school. As many of the staff were, I was a Caltech student once, and can remember quite clearly how strongly I felt about one teacher or another. Some were good, and some were not so good. I learned more from some and less from others. What I did not then appreciate, but think I do now, is that even the poorer teachers are human, and have feelings, ambitions, and usually, a desire to do a good job. Often the problem is one of communication, and understanding is needed on both sides. A teacher has a morale problem too. He needs interest and encouragement from his students to do his best. Needless to say, massive cutting of classes or lecture is hardly the way to improve either the learning or the teaching of the course. If there is a real problem, there are channels available for communication between students and staff, beginning with direct talks. These channels will function well only

if they are used.

No Intellectual Spirit

One final word on morale. One reason why a student comes to Caltech is, supposedly, to be in an intellectually challenging and stimulating atmosphere. He certainly does not come to the Institute expecting to be intellectually pampered and spoiled. Yet, when he arrives, he finds remarkably little intellectual school spirit to urge him on, as compared with the cheering offered athletic teams, for example. It seems to me that what Caltech is, and what it is supposed to be, is, first and foremost an intellectual community — a community of scholars. That is what students think they come here for.

And On

Of what value, either to a student or to the Institute, is the four (or more) year tour of duty of a student if he does not become a part of this community? Here, I think, is our most challenging problem. It, too, is a problem of motivation, morale, and psychology worthy of our closest attention.

Robert B. Leighton,
Chairman,

Physics Revision Committee

Editors note: The TECH will answer Dr. Leighton's letter in a special editorial next week. In addition, we will welcome letters upholding any viewpoint on this subject for publication in that same issue.

PIE 'N BURGER

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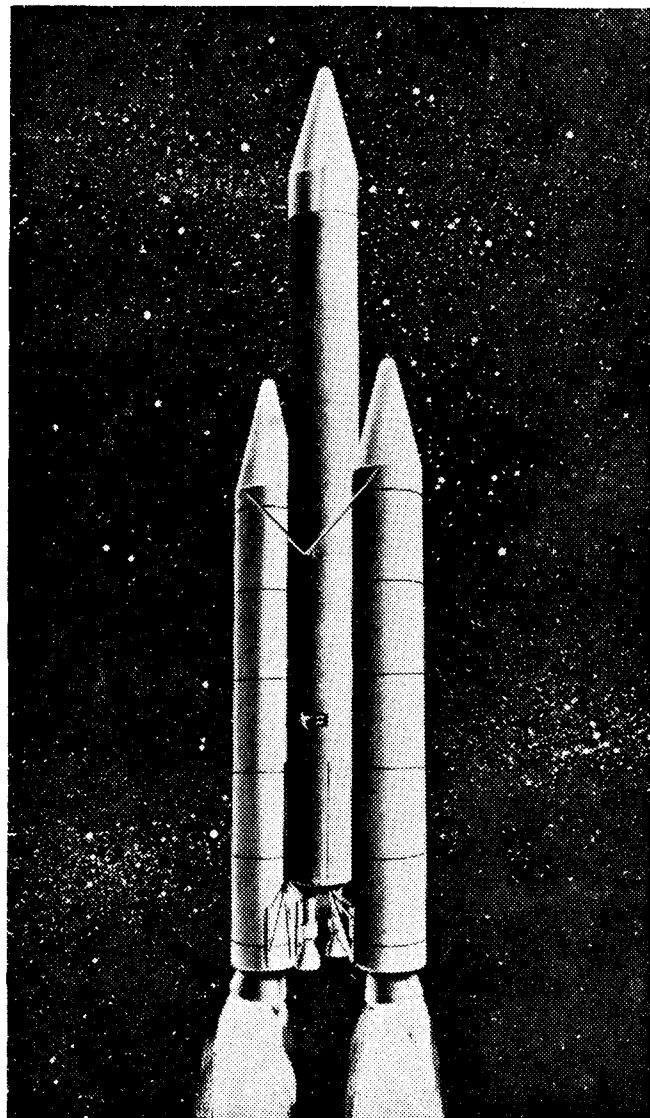
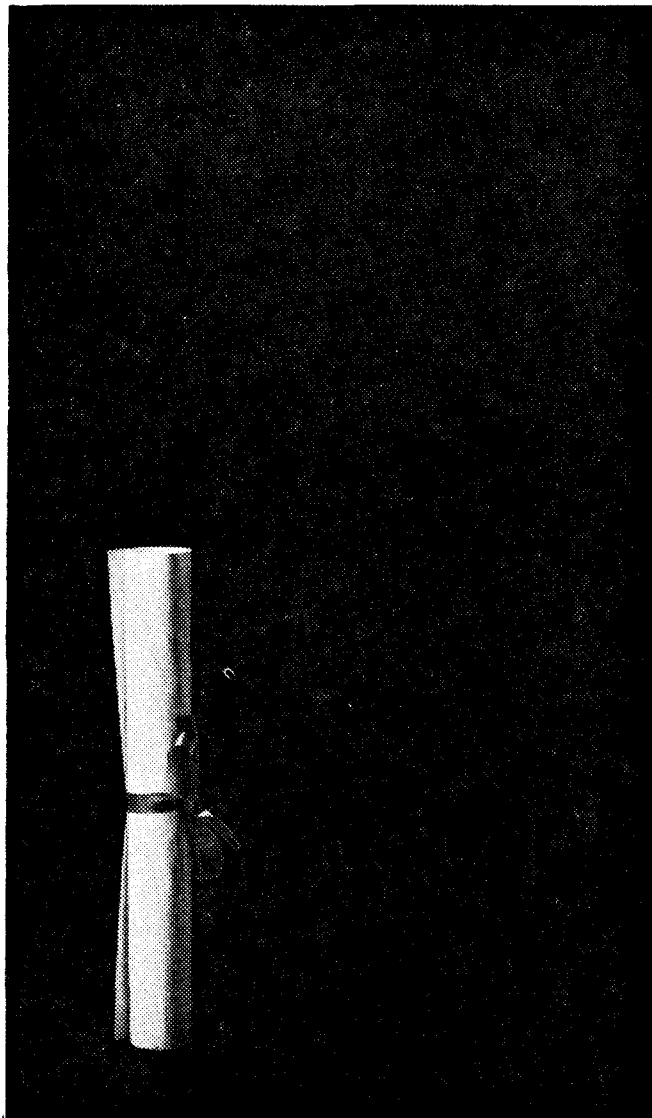
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CAMPUS AREA INTERVIEWS—
November 22, 1963

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Breakfast Lunch Dinner



By Steve Schwarz

8.5

One thing you can say about these Italian directors is that they seem to be very unhappy people. And they must be a remarkably self-centered lot; their preoccupation with themselves is only slightly less than Henry Miller's. Perhaps there is a connection between their personality problems and their self-centeredness; if you believe what Fellini says in *8½*, it's a rough go to love yourself and no one else.

Of course, this particular movie, which deals with the tribulations of a movie director, may not be autobiographical at all. But it certainly wouldn't surprise me if Fellini, Antonioni, & Co. were personally aware of the problem of self-love, as it seems to be one of the hallmarks of our time. Guido, the hero of *8½*, is, in fact, the direct descendant of Peer Gynt, who also wanted to "be himself," that is, to fulfill the promise that was in him — but strayed into living for himself, which is something else again.

But for the Grace of God . . .

Other writers gave Peer other names. He is the same person as Kafka's accused man Joseph K, and the same person as the heroes of Bergman's *Wild Strawberries* and *Winter Light*. I think I've met some of them myself. These men typically achieve material success, proceed in a ruthless and lonely fashion to achieve a position envied by those who fail to understand their inner weakness, and end (unless they are saved by divine intervention, like Ebenezer Scrooge) by committing suicide or by wanting to. As I've read these tales of Peer Gynt in his various forms, the question that has come to me over and over again is: is it true? Is a man who proceeds completely selfishly and ruthlessly fated always to a bad end? Or is that a psychological fairy tale?

Certainly literature does not afford many men of the opposite kind, who thumb their noses at their fellow men and prosper. Don Giovanni perhaps, but he's not a very distinct character, and of course that statue did get him in the end. Shaw declared that any true artist would wring dry his fellow men to serve his art; yet his supermen always seem to end up marrying superwomen and settling down to raise broods of little socialists. Another interesting point in this connection is that I can't think of any examples of the Peer Gynt syndrome in literature earlier than *Peer Gynt* itself. Can it be that people have really changed so much since God died in the last century? Did people really have no trouble loving until then? There's something to think about.

Bergman on the Cote d'Azur

But (as Max Shulman would

say) I digress. There's no reason to criticize *8½* just because the topic is familiar. I am willing to criticize it because it's derivative, confused, and uninspiring. First of all I think Signor Fellini has been seeing too many of Bergman's films. (So have we all, for that matter.) Besides the fact that Bergman used the same plot twice recently, Fellini has some seashore scenes which are almost copies of those that open *The Seventh Seal*, and I'd swear he's stolen Ingmar's cameraman; the lighting is pretty dim for sunny Italy. As for confusion, it's fashionable nowadays, but *8½* gives the impression that Fellini is trying to complicate a simple subject. Certainly confusion can contribute to a feeling the director is trying to create, and since *8½* is telling about a lost, confused man one might expect the trick to work out well. But here there is just too much rambling, too much trivia. By the time the film is well advanced the problem has lost its universality. We are bogged down in the detritus of one man's life, and it's not such an

interesting life as to keep one from saying who-the-hell-cares.

Fellini Flops

If as a narrative *8½* is somewhat unspellbinding, it does, nevertheless, have interesting scenes. Fellini is no small cinematic craftsman, and in some episodes — like the one of the awesomely fat maybe-prostitute dancing on the sea-sand — one can tell that a craftsman has been at work. No scene however is what you'd call really memorable. There are, in cinema, a few great scenes, directors' tours de force that once seen are scarcely ever forgotten. The *dies irae* scene in *The Seventh Seal* and the last supper in *Viridiana* are in that category. But in *8½* Fellini is trying too hard; there is one attempted spectacular scene after another, producing merely confusion and fatigue. He should have contented himself with just one attempt at a great scene. The effect of *8½* is somewhat like that thing called "Ballet School" that the Bolshoi does. They send on all their best dancers to high-kick and high-jump like sixty. It's not like art. It's like being in a gymnasium.

More Campuses

(Continued from page 2)

viewpoints was that offered by Joe Salgado . . . "There is a masculine quality about USF which most students desire as an important phase of their collegiate careers. With this gone, gone also will be the industrious, serious attitude that characterizes the University".

Other complaints were "the coeducational system is failing," or "where is our pride in a men's school?"

A Literate Frosh?

One rational voice, fortunately, shone through the plague of idiocy that seems to be running rampant in denouncing the equivalent of the Sutter's Mill gold discovery. It took a freshman to say it and it went like this "I believe the co-eds would provide a convenient social outlet for the male portion of the student body right here on campus, rather than dispersing it throughout several far-flung colleges." A statement like that amidst such confusion is almost enough to make you believe frosh are intelligent, but not quite.

Of course we can't leave USF without talking about football a little. At USF the controversy is in changing the team name

from the "Dons" to the "Grey Fog." Proponents of the change hold that "Grey Fog" will add a distinction to the school similar to that gained at Alabama and Georgia Tech by "Crimson Tide" and "Ramblin' Reck." Backers also point out the obvious advantages of football cheers such as "Roll, Fog, Roll!" and "Go get 'em, Fog!"

"Decadent Dons"

Also not to be overlooked is the inherent perfidity in the present name, "Dons." The Foghorn dutifully explains: "What we must militate against is a deeply entrenched chauvinism about the name 'Dons.' It is easy to associate any number of ennobling characteristics with the name, but, historically, the fact remains that the 'Mighty Dons' were nothing more than a decadent aristocracy, an ignoble group of simpering winos who happened to own some land."

Maybe Caltech should change "Beavers" to the "Putrid Smog."

Finally we'll shift home and see visions of things to come at Redlands, where the barbers' union is fighting to raise the price of haircuts to \$3.00. Wonder how long it's take that brilliant idea to reach the smog center of the universe?

THE BELL TELEPHONE COMPANIES SALUTE: DICK KUSSMAN

Dick Kussman (B.A., 1953; M.A., 1959), in the short span of three years, has advanced through Pacific Telephone's management achievement program to what the company terms "district level."

In his new job as divisional commercial supervisor, he assists in the administration of over 276,000 subscriber accounts in the Los Angeles area.

During his short telephone career, Dick has had responsible assignments in the marketing, traffic and plant departments. Prior to his latest promotion, he spent nearly a

year as commercial staff supervisor in charge of management and non-management training.

Dick has shown his capacity for increased responsibilities, and has opened up a bright future for himself with the Telephone Company. The proof is in his rapid advancement to a managerial position at the district level.

Dick Kussman, like other young men, is impatient to make things happen for his company and himself. There are few places where such restlessness is more welcomed or rewarded than in the fast-growing telephone business.



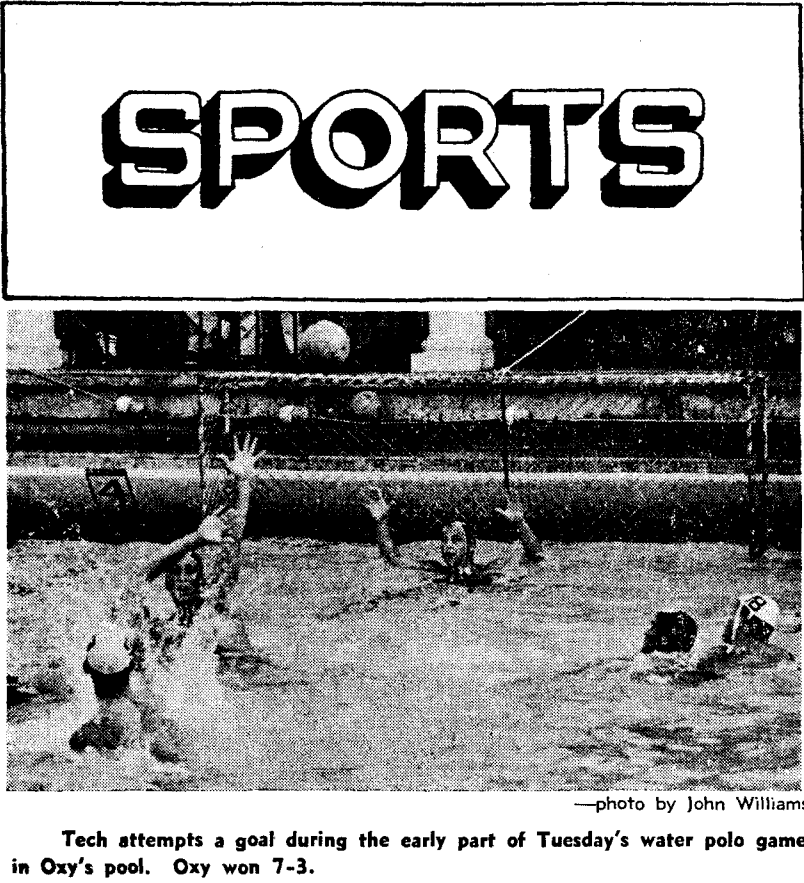
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Tech attempts a goal during the early part of Tuesday's water polo game in Oxy's pool. Oxy won 7-3.

Page Upsets Blacker, 7 - 6; Big Red Takes Softball Title

As the Interhouse softball season drew to a close, Blacker lost its chance to gain a tie for first place by losing to Page 7-6. That loss tumbled the Blacker team to third place behind Fleming and Lloyd.

Page capitalized early on Blacker infield bobbles to set up a commanding lead. Then it was a nip-and-tuck battle to hold the lead, as Del Levy contributed some clutch pitching to stem the Blacker challenge. Steve Teigland took the loss for Blacker.

Also, Dabney combined power with consistent pitching to defeat the Ricketts nine, 3-1. Dabney started fast on Yudelson's home run and coasted to the

victory although there were tight moments in the last inning. Swatek took the win and Eaton the loss.

Final Standings			
Fleming	4	1	1
Lloyd	4	2	0
Blacker	3	2	1
Dabney	3	3	0
Ricketts	2	4	0
Page	2	4	0
Ruddock	2	4	0

IH Trophy Points	
Fleming	21
Lloyd	18
Blacker	15
Dabney	12
Ricketts	6
Page	6
Ruddock	6

Cross-Country Men Lose; Frosh Win

The Caltech cross-country team showed significant improvement over the previous week, although nipped by Whittier 20-16. The improvement becomes more significant when it is realized that the Whittier course is one vast hill, yet the Tech runner rarely sees more than a five foot elevation change in training. The improvement was mostly due to the running of Jack Saunders, Louis Corl, and Dick Essenberg who finished fourth, fifth, and eighth respectively. Dependable Ed Lee finished third behind two hill-hardened Whittier runners.

The frosh team succeeded in regaining the winning form of their first race by winning 26-29. Showing greatest improvement in this race were Bob Miller who finished second and Fred Lamb who finished seventh. They were backed with good running from Pete Cross (third), Jim Smith (fifth), and Larry Dillahay (ninth). With this victory the frosh record now stands even with two wins and two losses.

Webmen Defeat UR; Bow To Oxy

Caltech's varsity water polo team continued its winning ways in Conference competition by trouncing Redlands 14-5 last Friday in the Redland pool. The victory habit did not extend to two non-league games played last week; Tech bowed to Los Angeles State 11-1 and to the University of the Pacific 9-1.

Tech was never in trouble at Redlands, having complete control over the game from the onset. Forwards "Dirty Tom" Crocker, Dave Seib, and John Walter each scored 4 goals. Rich Nielson contributed the other 2 to complete the diversified scoring. "Filthy Huey" Maynard and "Moose" McCammon again led an inspired defensive effort, limiting Redlands to only two goals until the fourth quarter, when Coach Emery turned to his bench to complete the game.

Against L.A. State and UOP, Tech could not cope with strong swimming attacks and good shooting. Nielsen in the LA State game and McCammon in the UOP game scored last quarter goals to avert shutouts. Against LA State Seib set an all-time record for obvious dirty play by fouling out with four fouls in less than four minutes of the first quarter. But a bright spot

occured when "Dirty Tom" Crocker managed to get the UOP goalie thrown out of the game for committing a major foul.

The Caltech frosh recorded an even more spectacular loss than in previous weeks. Not content with losing by scores of 20-3, 21-0, etc., the frosh bowed to Redlands 40-3.

In the big game with Occidental last Tuesday, the Tech water poloists bowed by a 7-3 score. All of Tech's goals came in the

first quarter. Rich Nielsen got 2 and Tom Crocker 1. After that Tech's offensive efforts were completely frustrated and Oxy's swimming wore down the defense to obtain 7 late goals. The Tech frosh again succumbed easily, 36-2.

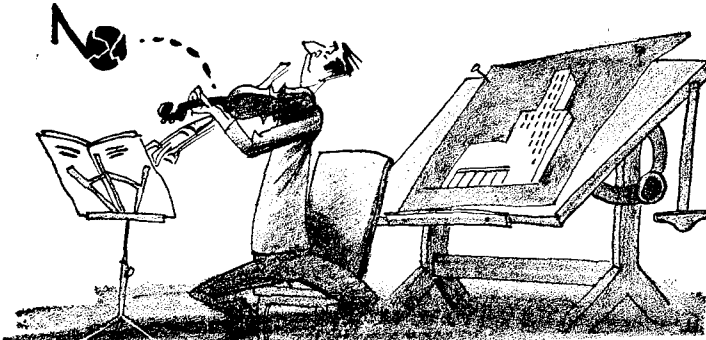
The two teams journey to Claremont-Harvey Mudd tomorrow for the second encounter with the Stags. They return next Tuesday to battle Pomona in Alumni Pool at 4:00 p.m.



I WAS A TEEN-AGE SLIDE RULE

In a recent learned journal (Playboy) the distinguished board chairman (Ralph "Hot Lips" Sigafos) of one of our most important American industrial corporations (the Arf Mechanical Dog Co.) wrote a trenchant article in which he pinpointed our single most serious national problem: the lack of culture among science graduates.

Let me hasten to state that Mr. Sigafos's article was in no sense derogatory. He said emphatically that the science graduate, what with his gruelling curriculum in physics, math, and chemistry, can hardly be expected to find time to study the arts too. What distresses Mr. Sigafos—and, indeed, all of us—is the lopsided result of today's science courses: graduates who can build a skyscraper but can't compose a concerto; who know Newton's Third Law but not Beethoven's Fourth Sym-



The lopsided result of Today's science

phony; who are familiar with Fraunhofer's lines but not with Shelley's.

Mr. Sigafos can find no solution to this lamentable imbalance. I, however, believe there is one—and a very simple one. It is this: if students of science don't have time to come to the arts, then the arts must come to students of science.

For example, it would be a very easy thing to teach poetry and music right along with physics. Students, instead of being called upon merely to recite, would instead be required to rhyme their answers and set them to familiar tunes—like, for instance, the stirring *Colonel Bogey March*. Thus recitations would not only be chock-a-block with important facts but would, at the same time, expose the students to the aesthetic delights of great poetry and music. Here, try it yourself. You all know *The Colonel Bogey March*. Come, sing along with me:

Physics
Is what we learn in class,
Einstein
Said energy is mass,
Newton
Is high-falutin'
And Pascal's a rascal. So's Boyle.

Do you see how much more broadening, how much more uplifting it is to learn physics this way? Of course you do. What? You want another chorus? By all means:

Leyden
He made the Leyden jar.
Trolley
He made the Trolley car.
Curie
Rode in a surrey
And Diesel's a weasel. So's Boyle.

Once the student has mastered *The Colonel Bogey March*, he can go on to more complicated melodies like *Death and Transfiguration*, *Sixteen Tons*, and *Boo-Hoo*.

And when the student, loaded not only with science but with culture, leaves his classroom and lights his Marlboro Cigarette, how much more he will enjoy that filter, that flavor, that pack or box! Because there will no longer be a little voice within him repeating that he is culturally a dolt. He will know—know joyously—that he is a complete man, a fulfilled man, and he will bask and revel in the pleasure of his Marlboro as a colt rolls in new grass—exultant and triumphant—a truly educated human person—a credit to his college, to himself, and to his tobaccoist!

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BY J. K. EVANS

Today we will discuss the career of one of the greatest football coaches of all time, a man whose name has become synonymous with football, Aloysius Trzxdynskwl. "Trzx", as he was affectionally called by his players, was one of the truly brilliant coaches who helped make the game what it is today. He began his career when the game was still in its infancy and it is only recently that he has been called from his position as head coach at Miss Meriweather's Latin Seminary, where he coached for 37 years, to that Great Locker Room In the Sky.

Intuitive Genius

Trzx was best known for his innovations; he was responsible for the introduction of the S-formation, the sextuple wing, the center sneak, the guard-around, and the double Martini. His lifetime coaching record of 3 wins, 18,647 losses, and 2 ties is not indicative of his ability as a coach; it is due to the fact that Miss Meriweather insisted on maintaining the decorum of the Seminary. The students were not allowed at any time to run, throw things, or speak above a whisper on penalty of instant expulsion. Consequently, Trzx's offense was a little limited. Early in his coaching career he discovered that his best play was the center sneak; this resulted in a loss of only a yard, whereas a line buck might go for —3 and an end walk for as much as —10.

Starch is the Answer

Trzx was fortunate in always having a good defense: the fine food served in Miss Meriweather's dining room (potatoes and spaghetti at every meal) produced a succession of 300-lb. linemen. It was just that he was never able to score. His three victories came in the year in which Vilt Smillertilt played quarterback. Vilt was eight feet seven inches tall and never failed to fall forward when tackled. He holds the all-time ground-gaining record at MMLS, with a lifetime total of —743 yards. Despite his prowess, Vilt was extremely modest and refused to take any of the credit for the three victories, saying, "Aw, I couldn't never have done it if it hadn't been for old Trzx teachin' me to fall forward. Besides, he was awful smart schedulin' them three games with Brown High School for the Blind."

Light Grows Dim

In his later years, Trzx's eyesight began to fail, but he continued to conduct practice personally, keeping track of his players by sound alone. He would walk about the field with his seeing-eye dog, crying, "Good pop there! I want to hear that leather smack!" His players were careful to keep a good supply of balloons and razor straps on hand for the sound effects, for no one had the heart to tell Trzx that MMLS had discontinued football after the 7790 defeat by Bide-a-Wee Nursery School; the grand old fellow continued right up to the end.

One day one of his players, coming to his office to call him for practice, found him seated in his swivel chair with his legs crossed, holding a football in one hand, a whistle in the other. He reached in his pocket, pulled out a tiny nuclear device, said slowly and distinctly, "I'll show that old bat she can't make me lose ten yards on an end walk for 37 years and get away with it," and blew Miss Meriweather and her Seminary into ions.

Gridders Put Up Good Fight But Fall To Santa Clara, 40-6

BY J. K. EVANS

You can't argue with the statistics, no matter what anybody says — too bad nobody told whoever scheduled Santa Clara. Caltech's Beavers put up a good fight, but weight of numbers and weight of tackles (205 to 240) proved to be too much for the outclassed Techmen as they bowed to the Broncos 40-6 at Buck Shaw Stadium in Santa Clara Saturday night. SC's vaunted offense proved to be everything it was vaunted to be, as the Broncos' tough halfbacks swivel-hipped their way behind lane-sweeping blocking on long touchdown runs.

In complete contrast to former games, the long yardage came on the ground and the Bronco passing attack was ineffective. CIT's line was unable to contain the powerful SC line all the time, though it made valiant attempts and in fact did stop several drives. However, once a hole was made in the line, SC's downfield blocking cleared away the secondary; several long runs were stopped only by the hustling pursuit of linemen

— Palmer, Myers, Vinsonhaler, Kampe, and Christie were all over the field hauling down runners.

Offense Stalls

CIT's offense on the other hand, never really got off the ground until the closing minutes of the game. The Beavers were able to pick up only 21 yards in the first half and were forced to punt ten times during the game. Tech did mount a drive in the last quarter that carried for 77 yards and a touchdown as Liebermann rolled in from the three. As a rule, however, the outmanned Tech line could not penetrate the SC defense, because for three quarters Coach LaBrucherie used his horses on defense and the second unit played offense; finally he decided that it was time to score and played his first string on offense. Also, SC used their first unit only sparingly after the middle of the second quarter.

Out of Our League

The simplest thing to say about the game is that CIT was simply out-classed. The loss of Vinsonhaler and Scott with knee

injuries during the game did not help the situation anyway. There is no disgrace to be found in losing to a team that is just plain out of your league. The Techmen did not play a bad game; man for man they played as well as ever they have. But a good big man is always better than a good little man, and that was certainly true at Santa Clara: they had plenty of good big men. While the trip was certainly a novelty and a break in routine, still it seems a shame to travel four hundred miles to lose not only a game but two good ballplayers through injury simply because the opponents are too good for an even contest.

Statistics Lie

The statistics don't really show just how great the discrepancy really was. Though SC rolled up 339 yards to CIT's 136, this does not include two touchdowns on kickoff, and punt returns of 85 and 67 yards, or two TD's from scrimmage of 71 and 87 yards called back because of clipping penalties. (SC played a

(Continued on page 8)

Frosh Sparkle While Falling To CHM, 33-8

BY MARSHALL HALL

Though a loss, the Caltech, Claremont-Harvey Mudd frosh football game last Saturday came out well considering CHM was favored by anywhere from 50 to 100 points. The final score was 33-8 with the Beavers racking up their second T.D. of the season. This second touchdown represents the first time in six years that the Caltech frosh have scored twice in one season.

Caltech looked shaky the first half, losing the ball two times within the CHM 15 yard line. At the start of the second half, however, Caltech took the kickoff and marched for a touchdown in seven plays. Passes by quarterback Greg Guffery to ends Marshall Hall, Steve Card, and John Foster took the Beavers to the Claremont six yard line. Bill Bricken carried the ball on a fullback plunge over the line for six points. A quick pass from Greg Guffery to Marshall Hall added two more points for the conversion. The Beaver defence, sparked by Charles McQuillan, Lot Ensey, and the "Horsemen," held CHM to six points for the rest of the game.

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GENERAL DYNAMICS | FORT WORTH

Varsity Soccer Team Defeats Biola; JV Loses

Last Saturday afternoon, the varsity Caltech soccer team beat Biola by a score of 4-3. The game began with a quick goal which Biola pushed by a surprised Caltech defense. Before the defense settled down, Biola led 2-0. With the defense once more in control, Caltech's offense then began to take control of the game. By the end of the first half, the score was 3-2 in favor of Caltech.

The second half found both teams fairly disorganized. Both defenses and both offenses generally exhibited a lack of any concerted, effective tactics. The play was rough and Christian charity was not in evidence. During this period of time, Biola managed to tie the score 3-3. Towards the end of the game, both teams' playing improved. Caltech gradually managed to build up an advantage which they used to take the lead 4-3. The game ended with both teams about equal and with Caltech winning by the above score.

The next game will be this coming Saturday against Redlands. The game will be played here with Caltech attempting to continue their win streak.

The J.V. soccer team lost 2-1 to the Biola J.V., Saturday at T.P. Tech led 1-0 at the end of the first half, but several minutes after the beginning of the second half, the center half-back Ted Young was kicked in the ankle, and forced to leave the game. Biola scored on this play, and again a few minutes later, before the Tech defense could adjust to the loss of the center half. After the second goal, the team managed to hold the Biola attack, but was unable to score.



—photo by Phil Liapis
Dick Wade passes to Joel Kwok, who scored with a left-footed kick in the corner of the goal during Biola game. Tech went on to win 4-3.

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Santa Clara Rolls On

(Continued from page 6)

rough and slightly dirty game, demonstrated by the fact that they were penalized over a hundred yards for illegalities such as clipping and unnecessary roughness.) The Beavers tried hard but lost through no fault of their own.

The Play-by-Play:

SC took the opening kickoff and ran it back 85 yards for a touchdown. The kick was good. (7-0) Peterson took the kickoff and returned 15 to the 22. Green picked up 10 for the first down (the only one of the half). Hall punted. SC mounted a short drive and kicked. Tech kicked back to midfield. After a first down on the 39, and two incomplete passes, SC's fullback draw went right up the middle for 39 and the TD. The kick was good (14-0). Tech received and after three punts SC had the ball on CIT's 35. Another fullback draw went for 35 and the TD. Andy Kampe blocked the point (20-0).

Then the fun began. On the kickoff SC was penalized 15 yards for a personal foul. Tech punted. After a 15-yard clipping penalty put the ball on SC's 23, an 87-yard screen pass was nullified by a clipping penalty. This forced a punt; Peterson fumbled and SC recovered on Tech's 33. Another 15-yarder for holding, and then Christie intercepted an SC aerial on CIT's 47. After an exchange of punts, an SC halfback intercepted a Liebermann pass on his 24 and ran it back 32 yards before being dropped at the sideline by Myers in pur-

suit. Palmer threw the QB for a loss as the half ended.

Second Half

CIT received to start the second half but punted immediately. The punt was taken on the 33 and returned 67 yards for a TD. The kick was no good and SC led 26-0. Tech received and made their second first down of the evening, then punted. After a 71-yard gallop on a reverse was nullified by a clipping penalty, SC's Miranda broke around right end for 68 and the TD. The kick was good; SC led 33-0 and removed their first unit permanently. CIT received and punted; SC then mounted a drive that carried over into the fourth quarter, going 57 yards in 12 plays for the score. The kick was good (40-0). After an exchange of punts, Tech mounted a drive from their 23 which covered 77 yards in 14 plays and culminated in Liebermann's score from the 3 after Dinius set it up with a 15-yard drive. Liebermann's kick was no good (40-6). SC returned the kickoff 47 yards; only fine pursuit by Palmer saved another TD. SC promptly fumbled, Rosbash recovering for Tech. Liebermann passed to Dinius for 15 as the half ended.

It's a 'snap' with -ARROW-

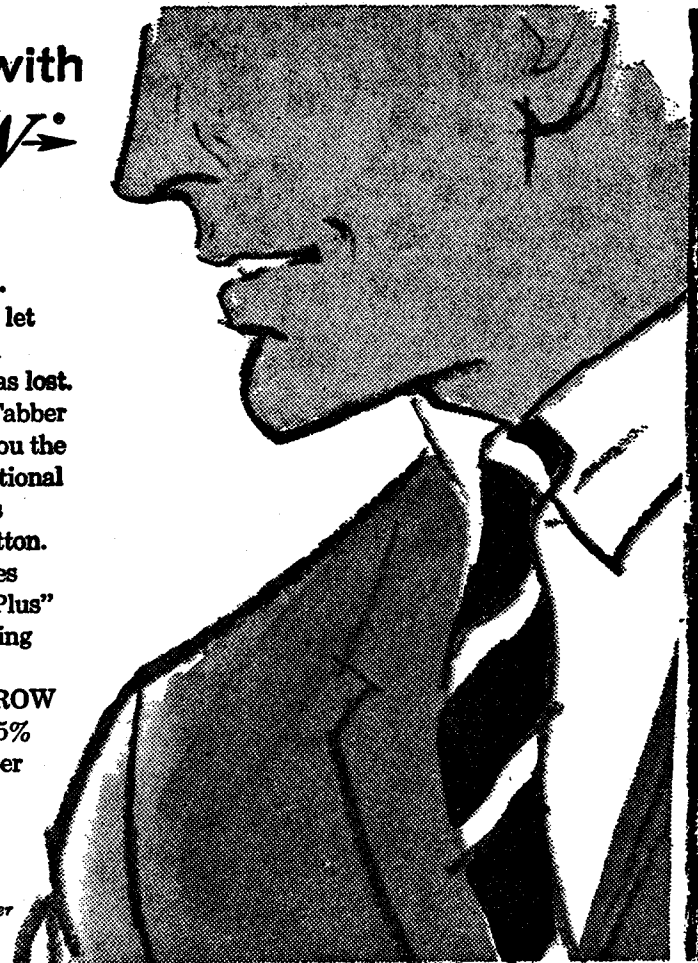
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DuBridge Speaks

(Continued from page 1)

lant rocket to assist aircraft in taking off from short runways."

Since the first crucial \$10,000 contract for the first JATO units in 1942, the growth of Von Karman's Aerojet Corporation was incredible. "The little Green Street garage in Pasadena became a far-flung industrial empire with a dozen plants all over the United States, as well as in Canada and England."

Later, Von Karman founded the Caltech Jet Propulsion Laboratory, whose growth has been no less spectacular.

"Not many industrial centers ever get named for a professor," concluded DuBridge, "but not many professors were ever like Theodore Von Karman."

WHAT'S NEW IN THE NOVEMBER ATLANTIC?

"The Eisenhower Administration: A Self Portrait": An assessment by historian Oscar Handlin, based in part on Ike's new book, *Mandate for Change*.

"Book Censorship in Paris": Peter Lennon reports on the rigid censorship of books and magazines in France.

"The Moment": A poem by Peter Davison, this year's winner, Yale Series of Younger Poets.

"The Nobel Prize Winners": A satire on American industrial research companies and their status-mongering, by W. J. J. Gordon.

PLUS AN ATLANTIC EXTRA

"Blame Me on History": South African Negro journalist, Bloke Modisane, tells of his bitter struggle to maintain integrity and self-respect.

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Did you know that Jet Propulsion Laboratory is operated by Caltech and is responsible for America's unmanned exploration of space? Are you aware of the fact that JPL conceived the Mariner that went to Venus last year? Do you know that JPL has 150-acres of the finest space facilities with 1300 scientists and engineers and almost three support people for every one of them? Did I tell you that I've signed up for an interview with the man from JPL?

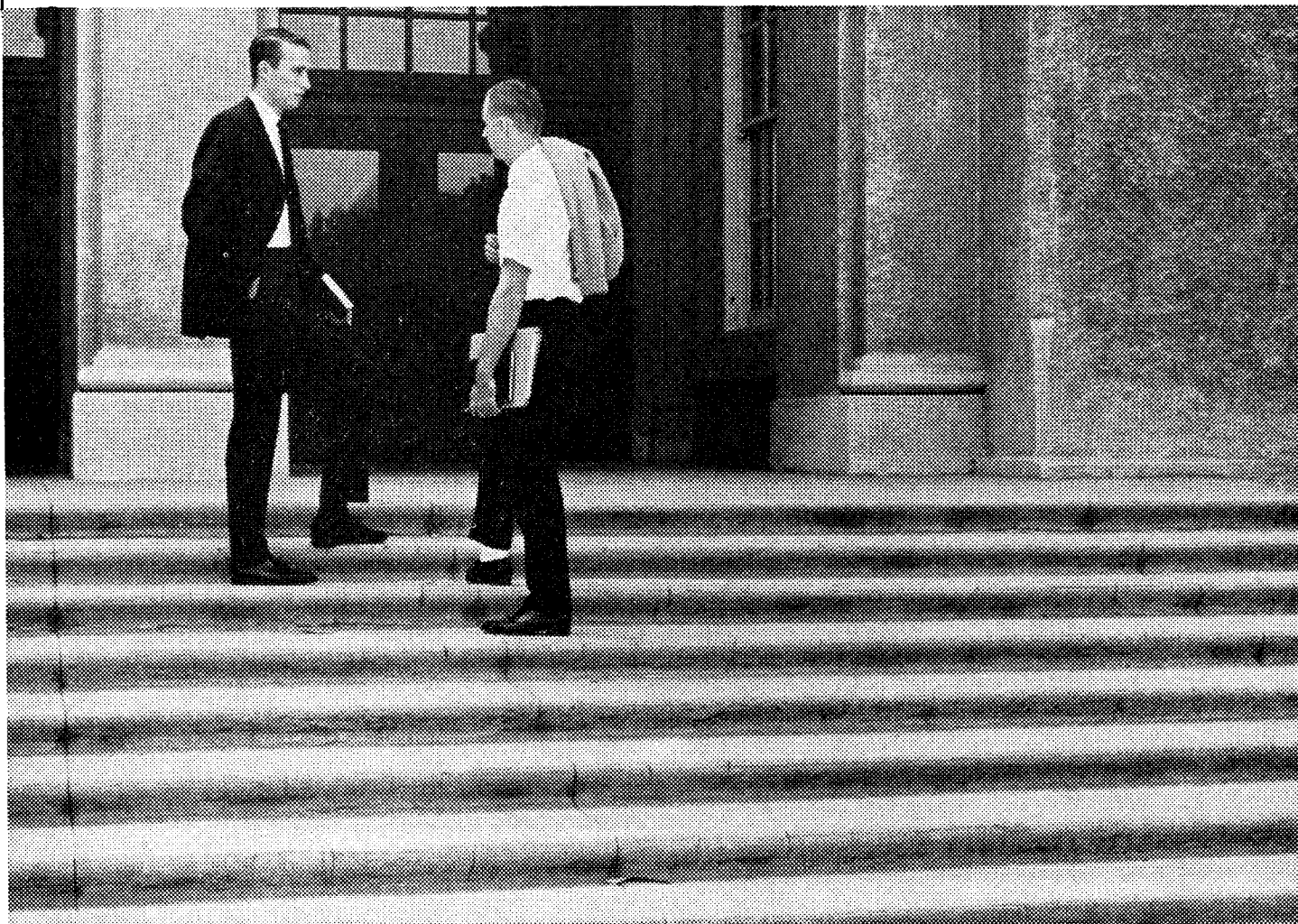
Yes.



JET PROPULSION LABORATORY

4800 Oak Grove Drive
Pasadena, California

"An equal opportunity employer."
Jet Propulsion Laboratory is operated by the California Institute of Technology for the National Aeronautics and Space Administration.



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