CaliforniaTech

Associated Students of the California Institute of Technology

Volume LXIII.

Pasadena, California, Thursday, January 25, 1962

Planning **Techniques** Analyzed

BY JAY LIPPMAN On Tuesday, January 16. Albert Waterston of the International Bank spoke to the Technical Cooperation Seminar on his experience in planning and development. Waterston has been with the bank since 1947 and just finished a report on Mexico.

He has noticed three main things that are characteristic of present economic planning: "No country makes use of the experience of other countries in its planning activities although there are typical problems and the same mistakes are often made. Among developing economies, only one country with a market economy and a private sector has succeeded in carrying out reasonably adequate targets." (The country is Yugoslavia.) "Some countries without any central planning (such as Israel and Mexico) have been growing faster than many countries with central planning." **Implementation Fails**

The reason for failure of planned economies in many countries with rich natural resources are a lack of leadership, (Continued on Page 2)

Notices

MOBILGAS WANTS OBSERVERS

All students interested in participating as USAC observers in the break-in runs for the 1962 Mobilgas Economy Run should register in the Industrial Associates Office, Room 113 Throop, beginning Monday, January 29.

FLU STILL BEING SHOT

Flu shots are still available to students, faculty, and employees at the Health Center. They are free to undergraduates. Nurses report that no Techman who has gotten the needle has gotten the flu. ASCIT ASPIRANTS TO MEET

Prospective candidates for ASCIT offices are invited to an information meeting next Monday, January 29, 8 p.m. in the ASCIT Board room, lower Flemina.

DINERS SET LINDVALL

Dr. Frederick Lindvall will speak at the January 29 meeting of the Y Diners' Club. Dinner will begin



Rt. Rev. James A. Pike. 1962's first Leader of America.

Fifty Girls To Be Featured At Y Conference

Escapists, idealists, and other Techmen take note: in less than one month, on February 23, 24, and 25, the Caltech-Scripps Conference will be held in the primitive and beautiful hills of Whittier. The Conference is designed to provide an opportunity for students and faculty to meet in an informal setting, to discuss mutual problems, to gain insight into the way other people think, and to spend an enjoyable weekend away from the monastic atmosphere of school.

The overall theme of the Conference is "Humanity's Flight From Fear." The program will include three panel discussions on the topics:"The Bomb and I". "Education for What", and "Barriers Between." After each of these, the Conference will divide into mixed groups of eight to ten people each to further discuss and explore these subjects. Also scheduled are square dancing, Friday night; fireside

Winter Formal **Coming Soon** The ASCIT Winter Formal will be held on Friday night,

February 9, from 9 to 1. Lex Golden will play for the dance, which will be held at the Beverly Hills Hotel.

Golden has performed a great deal previously in Southern California; he has an album entitled "The Horn and I". With his six-piece orchestra will be Jan Tober, a vocalist who has just finished a two-year engagement with Les Elgart.

The dress for the dance will be semi-formal, and it is suggested that flowers are in order.

Paperboy of the Month

YMCA Brings Pike As First Leader

The Rt. Rev. James A. Pike, Bishop of the Diocese of California of the Protestant Episcopal Church, will spend three days on the Caltech campus next month as this year's first guest on the YMCA Leaders of America Program. His three days of intensive discussions and addresses will run from Tuesday, February 13, to Thursday, February 15.

Pike was born in Oklahoma in 1913. His father died when he was two and he moved to California where his mother taught school for many years. He attended Roman Catholic parochial schools through junior high and then Hollywood High from which he graduated first in his class in 1930. He was awarded a scholarship to Harvard, but turned it down in favor of attending the University of Santa Clara, a strict Roman Catholic college. While there he took the pre-law curriculum and was a member of the debate team.

Became An Atheist

While at Santa Clara, Pike debated many points of religion with his instructors, becoming convinced that they were wrong on two major issues --- birth control and papal infallibility. As a result, he lost interest in all religion, became a confessed atheist, and transferred to UCLA. After a short time there, he transferred again, this time to USC. He graduated from there in 1934, after doing some important research into the laws of the State of California. Pike went to Law School at Yale, and received a doctorate in Science of Law in 1937. He worked for a time for both the Securities Exchange Commission and the Office of Price Administration. During this same period, he married a California girl. The marriage ended in divorce in less than two years. Teacher

While continuing work in Washington, Pike taught parttime at George Washington University. While there, he met and married his present wife, one of his law students.

During World War II he worked at the Naval Intelligence Office in Maryland, and while there, he and his wife began attending the local Episcopal Church. In 1944 he decided to become a clergyman. He studied theology in his off-duty hours at Virginia Theological Seminary, and was ordained late that same year.

He served briefly as a priest in Washington, then moved to Poughkeepsie, New York. He was rector of the parish there for two years. He left that post to become Chairman of the Department of Religion at Columbia University. His outstanding work there brought him to the attention of church leaders in New York and he was appointed Dean (priest in charge) of the Cathedral of St. John the Divine in 1952. While serving in New York, he became nationally known through his weekly telecast over ABC.

Elected Bishop in 1958

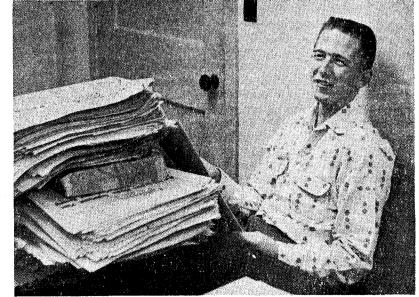
In 1958, Pike was elected to serve as Bishop of the Diocese of California, one of four in this state, with headquarters in San Francisco. He has been in that post ever since.

Pike is currently serving on several governmental commissions, including the California Advisory Committee to the U.S. Commission on Civil Rights and (Continued on Page 2)

Monell's Work Spotlighted

BY RICHARD KARP

"Feeling that the job of circulation manager is perhaps the most important job that exists on the California Tech, I have devoted my time unceasingly, to the exclusion of food, drink, and study, to carry out my duties in this important office. Also, my last statement was a lie." This sentiment was recently expressed by Howard Monell, this year's circulation manager of the Tech.



at 6:30 p.m. in Chandler Dining Hall.

DEMS PLAN DEBATE, FILM

The Caltech Young Democrats will meet in 206 Dabney at 7:30 p.m., Tuesday, January 30. They feature a discussion between Mr. J. C. Chambers of the L. A. City Board of Education and Professor Peter Fay on "Communism and Freedom in Our Schools." The alleged pro-Communist film "Face of Red China," which has been shown in L. A. schools, will be screened.

DANCERS TO TROT

ASCIT Dance Class will resume on Thursday, February 1, from 8:30 to 9:30 p.m. The classes will be held in Alhambra; plenty of girls are guaranteed. It will be assumed that those who come have had a little dancing instruction, but proficiency is not required. The cost of the ten-lesson series is six dollars. If you are interested, let Pete Metcalf know, or drop a note in the M box in Page.

singing and social dancing, Saturday night; and a free Saturday afternoon during which people may play softball, take hikes, talk, or even study.

The response from Scripps has been unexpectedly enthusiastic; (Continued on page 2)



Caltech's Drama Club will cast tonight for a reading of three one-act plays to be presented during the week after midterms. The dramas will be "The Bald Soprano," by Eugene Ionesco; "The Death of Bessie Smith," by Edward Albee: and a selection from "Thurber Carnival."

Casting will begin at 7:30 p.m. in 206 Dabney. All interested graduates, undergraduates, faculty members, employees, and hangers-on have been declared welcome.

Monell's duties as circulation manager include mailing of the California Tech to subscribers off campus. Of the approximately 100 copies of the **Tech** that are sent off campus, Monell reports that about 80% go out of the state.

Other duties that Monell has taken on include faculty distribution of the paper each Thursday. This job is new this year, as the faculty was not included in the distribution list of past years. Monell's job as circulation manager is unusual in that for the past two years newspapers were not distributed

Howard Monell, the California Tech's stalwart Circulation Manager, relaxes before addressing a week's outgoing issues.

to subscribers until the end of the term, making the news somewhat stale. This year, circulation copies of the paper are mailed by Thursday afternoon. Along with his circulation duties, Monell is also in charge of collecting money for subscrip-

tions and seeing that the Tech gets bound each year, something again which has not been done since 1958. Monell's opinions can best be summed up by his statement of his feelings given to me at the end of the interview: "Eight ball in corner pocket."

⁻photo by Dennis Lomax

Editorial

Uncle Sam Wants You!

We would like to take space to remind those students who anticipate being subject to the draft before the end of the academic year, 1962-1963, that taking the College Qualification Test this April may be very important in getting student deferments. This applies to both undergraduate and graduate students. Although certain people may get deferments on the basis of high academic ranking in their class, a great many Caltech students are prime draft targets unless they prove their ability by scoring high on the test, a reportedly easy thing for Techmen.

More information on deferments can be obtained by writing to your local draft board. Application forms for the tests will be available in the Registrar's Office after the announcement of the test date is made. Watch the California Tech for the date of the test.

-abell

Silvert: 'Alliance' Buys Time For Latin-American Growth bungling alone, but must be

BY MATT COUCH AND JIM JOHNSON

The greatest impediment to the Alliance for Progress in Latin America will not be resistance on the part of the entrenched power groups, states Dr. K. H. Silvert of the American Universities Field Staff, but, rather, a sort of all-pervading ignorance of political and social values throughout the area. The Alliance for Progress, (a broad foreign aid program for Latin America weakly begun under the Eisenhower administration which has been considerably expanded and named by the Kennedy administration), is, according to Silvert, a bold and extremely important plan to buy time . . . time in which we can hope to instigate a gradual social and economic revolution throughout the hemisphere before violent revolution overwhelms all of Latin America.

Filtration Unsuccessful

The chief reason for the virtual failure of U.S. aid programs in Latin America until now has been the implicit faith that injections of massive capital gifts into the top of a nation's economic structure would cause the benefits thereof to filter down throughout the economy. Of course, it is common knowledge that this faith has led to dismal reverses in underdeveloped countries all over the world.

The new plan involves not only capital injections at the top of the economic spectrum, but also injections at the bottom to institute social and educational reforms at peasant level. This sort of program will also fail, claims Silvert, unless these education advances include a "directed, substantive program" to dispell ignorance about those political and social values which are essential to the maintenance of a democracy. The present educational systems in Latin America teach only very basic skills - i.e., how to read, write, and make a living — but do not inculcate the background necessary for citizens in a modern democracy. (Fortunately for America, Caltech requires H5 of all its students and, as if this wasn't enough, the 'Y' throws in the Leaders of America program, giving us working models of good citizenship to emulate.)

munity and by the populace as a whole. There is, as yet, no good body of theoretical knowledge concerning the general development of underdeveloped countries, and one tends to conclude that the old Anglo-American policy of muddling through may not be adequate for the complex problems with which we are now faced. Silvert states that though large monied foundations have for years been searching for academic departments in which to finance such

shared by the academic com-

Fidelismo

port.

When questioned by the International Affairs Staff about the prospects for leftist (Fidelismo) revolution in Latin America in the foreseeable future, Silvert stated that the greatest dangers lie in Cuba-like nations with some degree of economic development, an incipient middle class, and some resentment of the United States. In this group of countries he would include Venezuela, Peru, and Colombia, and adds that Chile may actually choose such a system by electoral means.

Schedule

Silvert's schedule for the remainder of his stay here at Tech includes a speech at noon today to the International Relations Section of Town Hall at the Biltmore on "The Impact of Castro on Latin America." This evening he will deliver a lecture at the Athenaeum.

Friday, January 26, he will visit Professor Gilbert's 8 and

ALIFUKNIA TECH

the U.S. Food for Peace Council. It is interesting to note that

Pike was appointed to one of

these commissions by Eisen-

hower and to the other by Ken-

in the "Saturday Evening Post,"

Pike's philosophy and theology

are based on four major beliefs:

preaching should spring from

direct contact with the problems

of real people; no religious body

has a monopoly of truth; one

can be a Christian in good stand-

ing and still have doubts about

many religious questions; and

all baptized Christians belong

Pike is one of the leaders in

America today in the movement

to unite the various denomina-

tions of churches. He is work-

ing on a specific plan to unite

Methodist and United Church

of Christ denominations. His

hope for the future is that all

denominations, including the

Roman Catholics and Eastern

Orthodox Catholics, will unite

Pike has been quite active in

civil rights issues, both in and

out of the church. He has op-

posed the House Un-American

Activities Committee in many

addresses. He once refused an

honorary degree from the then

segregated Episcopal University

of the South at Sewanee, Ten-

nessee, saying that he could not

accept a degree in white the-

into one organization.

Presbyterian, Episcopal,

to one church.

the

To Unite Churches

According to a recent article

Pike Visit

nedy.

(Continued from page 1)

"ELIZABETH THE QUEEN" at the Huntington Hartford thru February 2

= AUDIENCE

My first encounter with Maxwell Anderson's "Elizabeth the Queen" came when I was about eleven, and it didn't interest me much. As I remember, the theater seats had an unusual folding mechanism, and I occupied myself by bouncing up and down, thoroughly irritating everyone nearby. Now that I have sat through it once again, I am proud to report that this time I did not bounce up and down - but my feeling for the play is pretty much the same.

Lacks Merit

"Elizabeth the Queen" is a great classic in all respects except merit. One would think all the ingredients were present: it is verse tragedy, the medium in which the greatest heights of theater have been achieved; the story of Elizabeth and Essex is surely one of generous proportions; it is classical in style and nothing topical or particularly characteristic of its time (1930) is present — it seems as though Mr. Anderson had his eye on posterity. To me it is precisely this presumption that is irritating, for by choosing the classic formula Mr. Anderson invites comparison with Sophocles and Shakespeare. That is very courageous of him, but I'd as soon listen to a "Ring of the Nibelung" by Richard Rodgers.

Love or Power?

As act one begins we find that Queen Elizabeth loves Lord Essex, sort of, and Essex loves Elizabeth, sort of. Power, however, they both love unequivocally, and as a result cannot really coexist; Essex wishes to be king, and Elizabeth is doggedly determined to remain supreme. This precarious affair is aggravated by the sly court politics of Sirs Robert Cecil and Walter Raleigh, who envy the Queen's favorite. Eventually they get him packed off to Ireland to quell the unquellable Irish Rebellion, then proceed to tamper with his letters until his relations with the Queen are brought to a boil. Returning at the head of an insurrection, Essex extracts a promise from the Queen that she will give him power as well as love. However, as soon as the rebellion is dissipated (this takes about ten seconds of stage time) the proud Queen reveals that her throne means more to her than love, and sends him off to the Tower, where, after considerable handwringing, he ceases to be a pro-

By Steve Schwarz

this is an adequate tragic plot; but Anderson's stagecraft is simply inadequate to the task. To the above skeletal plot is added Lady Penelope Gray, whose only function seems to

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be to pine for Essex; and also, for comic relief, a Fool, who scampers about the stage in a fashion less comic than annoying. The character of Elizabeth is fully delineated, but hers alone; Essex' more complicated feelings are not quite clear, but he must have been something of a sap to fall for a double-cross as obvious as this one. Melodrama continually threatens to take over: The first-act curtain is brought down by Elizabeth's standing stage center, facing the audience, and proclaiming,"Even ... to the death!" A concession has been made to those who dislike plays in verse, however: it sounds like prose most of the time.

It's All Elizabeth's

Having spoken at such length of what this play is not, let us have a few words for its one great virtue: It is a superb vehicle for the actress in the part of Elizabeth. From her first grand entrance to her last royal sniffle, the show is hers alone --- no prima donna could ask for better. In the present case we have Eva La Gallienne, prima donna indeed; after seeing her performance her pre-eminent position in American theater is easily understood. Faye Emerson is no mean actress either (don't let those TV panel shows fool you), although in Lady Gray's vapid role it's rather difficult to tell. Those who are fond of great acting per se may indeed feel well rewarded. However, this production is inescapably a sheep in wolf's clothing, and one could wish that all that eloquence had been spent on something better.

Conference

(Continued from page 1)

close to fifty girls have already signed up. Interested undergraduate and graduate students and faculty should contact the Y office or Gary Lorden of Page House. The cost to each student will be about ten dollars.

Tech Coop Lecture (Continued from page 1)

a lack of commitment of the leaders to economic growth above other considerations, and a lack of political stability. Ac-

ology. studies, depressingly enough Pike is openly agnostic on they have been unable to find many points held as dogma by qualified recipients of their supmore conservative churchmen. He considers the virgin birth of Christ as a means of explaining a great religious truth, but not necessarily an historic fact. Further information on Bishop Pike can be found in the "Post" article of October 7, 1961, available at the YMCA. (The Hu-

manities Library does not keep the "Post".) Additional information about Pike's visit may be obtained at the Y office or from Dave Kauffman, Blacker House. Details of his visit will be published in subsequent issues of the California Tech.

Aerosol Size, **Mass Measured**

Forests, fields, oceans and deserts produce their own kind of "smog" that, unlike the manmade variety, may have beneficial effects.

Nature's "smog" are in the form of submicroscopic particles aerosols — given off from plant and marine life and the oceans. Plant aerosols apparently emanate from the leaves of

Everyone's Fault

Slivert points out that the blame for past failures in our foreign aid programs to underdeveloped nations cannot be attributed to State Department

11 a.m. Ec 100 classes. Friday evening he will dine at the home of Dr. Stewart W. Smith. Saturday, January 27, Silvert will dine at the home of Dr. and Mrs. F. C. Lindvall, winding up the weekend with an appearance at 7:30 that evening at the Inter-Nations Association discussion group.

Monday, January 29, he will visit a Westridge School current events class at 2:45 p.m. and attend a 4 p.m. Humanities Faculty Seminar in 208 Dabney, Monday evening he will be a guest at the home of Dr. and Mrs. James C. Davies.

Tuesday, January 30, Silvert will speak to the 11 a.m. H5 class on "U.S. Latin American Relations: the Strain of Change." At 7:30 p.m. he will speak to Dr. (Continued on page 3)

plants and are less than one 100th the size of pollens. Some aerosols may stay in the atmosphere for years. They can become visible as haze.

Caltech's Dr. Alexander Goetz has developed instruments with which he and his research group have been able for the first time to measure not only the size, but also the mass of these particles in the airborne state.

1 Million Billion per Ounce

Size of the particles ranges from one 15-thousandth to less than one 100-thousandth of an inch. While their masses are so minute that it would take about a million billion of them to weigh one ounce, they are so dense in the lower layers of the atmosphere that an estimated 100,000 tons of them are continually present over the United

(Continued on page 3)

Stagecraft Inadequate

blem.

Most of us would agree that

YMCA Tutor Pool Seeks **More Talent for Expansion**

The Caltech YMCA tutoring service is in need of more volunteer tutors. With the start of the spring high-school semester, an influx of new students needing tutoring is expected. The tutoring service, which the Y runs working with the Pasadena NAACP, has been using the services of only eight Techmen, but expansion is limited only by the number of available volunteers. Tutors in French and German are especially needed, and those interested should contact Al Green at the Y office (extension 555). It should be pointed out that tutors will receive payment in experience only.

cording to Waterston, one of the biggest failures of planned economies is the emphasis on massive economic planning without any reference to what is needed to implement the plan into functioning projects.

However, he emphasized that "There is nothing wrong with central planning for any country." As the economy of a country grows, there is a need for planning to determine the next move since all the obvious areas of development will eventually be taken. He felt personally that the United States could use a central plan to set targets for industry, agriculture and education. "Planning must be centralized," but execution can be decentralized if the government makes it profitable for individuals through the use of incentives.



-photo by Dennis Loma

Julie Newmar, sister of Lloyd House Vice-President John Newmeyer (second from left), was an honored dinner guest last week. Miss Newmar was recently seen in the films "Lil' Abner" and "The Marriage-Go-Round." well-attended Julie Newmar-led seminar in R. A. Clovis' room followed dinner.

EAST

S---7 4

H-Q 10 5 2

D-A 7 5 4

C-K J 10

a hand of **BRIDGE**

BY BILL TIVOL

NORTH	
SAK HÀK DQ 10 8 6 CA Q 6 5 4	

SOUTH

S—10 6 3	
H-J 9 8 6 3 2	
DK 3	
C-7 2	

Neither side vulnerable. West deals.

WEST	NORTH	EAST	SOUTH
1 Spade	Double	Pass	2 Hearts
Pass	3 Clubs	Pass	3 Hearts
Pass	3 Spades	Pass	4 Hearts
Pass	Pass	Pass	

Opening lead: Queen of Spades

WEST

H-7

D-J 9 2

C-983

S-Q J 9 8 5 2

In spite of an unusual psyche by West, North-South managed

Aerosols

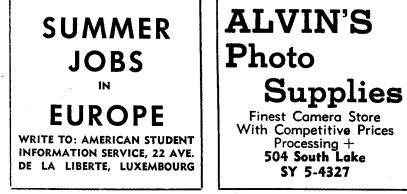
(Continued from page 2) States, exclusive of the dust particles that are too heavy to re-

main but a short time in the air. Although they are very small, aerosols often have large accumulative effects. Mists and hazes that cause colorful sunsets and sunrises, and smog are probably the best known phenomena caused by matter in the form of aerosols. Nature's aerosols are not irritating, and those of the forests may even have beneficial effects, according to some bioclimatologists.

In the past two years Dr. Goetz and his associates, whose work is supported by the U.S. Public Health Service and the California Health Department, sampled aerosols in California from forests, high mountains, farm areas, deserts and the Pacific Ocean. They took samples when winds were quiet to minimize their pollution with aerosols from elsewhere.

Geographical Distribution

In the forest the aerosol concentration was rich in the early morning. Presumably this was because the sunlight had not yet reached the area. In the photochemistry of sunlight the organic material in the aerosol is incinerated into carbon dioxide and water. The density of the particles was 200 million to 500 million per cubic yard of air. In the smog of cities the aerosol level easily can be 10 to 20 times higher. These ultra-small aerosol particles can serve as collecting points for irritating and perhaps harmful chemical compounds.





THE TRUE AND TRAGICAL TALE OF HAPPY JACK SIGAFOOS

Who would have thought that Happy Jack Sigafoos, the boy the sky never rained on, would teeter on the edge of a life of crime?

Certainly there was no sign of it in his boyhood. His home life was tranquil and uplifting. His mother was a nice fat lady who hummed a lot and gave baskets to the poor. His father was a respected citizen who could imitate more than 400 bird calls and once saved an elderly widow from drowning in his good suit. (That is, Mr. Sigafoos was in his good suit; the elderly widow was in swimming trunks.) Happy Jack's life was nothing short of idyllic-till he went off to college.

Here Happy Jack quickly became a typical freshmantweedy, seedy, and needy. He learned the joys of rounding out his personality, and he learned the cost. His allowance vanished like dew before the morning sun. There were times, it grieves me to report, when he didn't even have enough money for a pack of Marlboro Cigarettes-and you know how miserable that can be! To be deprived of Marlboro's matchless flavor, its easy-drawing filter, its subtly blended tastiness, its refreshing mildness, its ineffable excellence, its soft pack or flip-top boxwhy, it is a prospect to break the heart in twain!

Marlboro-less and miserable, Happy Jack tried to get more money from home. He wrote long, impassioned letters, pointing out that the modern, large-capacity girl simply could not be courted on his meager allowance. But all Jack got back from



She simply could not be coulded on his measure allowance.

home were tiresome homilies about thrift and prudence.

Then one dark day a sinister sophomore came up to Jack and said, "For one dollar I will sell you a list of fiendishly clever lies to tell your father when you need some extra money."

He gave Jack the list of fiendishly clever lies. Jack read: 1. A bunch of us fellows are getting together to buy a new house for the Dean of Men.

2. A bunch of us fellows are getting together to buy a head-

to arrive at the best contract. Most players prefer to psyche m their short suit; however, to be left in one heart doubled would hardly be profitable for East-West. North's three club bid is looking for diamonds for a three no trump contract. But South can do nothing more than rebid hearts, even after North's cue bid.

The crux of the play is to take the proper finesse first. As the hands lie, a club opening sets the contract, but with the spade opening, the club finesse can be avoided. Two rounds of trump are pulled. Then a small diamond is led. When the king holds, South is faced with a choice of two finesses. He must lose the diamond ace, so he should try to lose it as cheaply as possible. The small diamond is led from hand and the ten is finessed. The defense is now dead, for South can now sluff one club on the diamond Queen, then end play East if necessary by cashing a club, ruffing a club, and leading a spade. If the diamond finesse loses, South can still try the clubs. This line of play works even if East holds five hearts, for when the spade is led, he must end play himself.

AUFS Visitor Silvert

(Continued from page 2) Munger's H124 class on "The Role of Boundaries in Latin American Nationalism."

Wednesday, January 31, his last day on campus, Silvert will attend the 10 a.m. session of Dr. Oliver's Ec 120 class, and at noon will speak to the Geology

Club in 151 Arms. From 2 to 4 p.m. he will sit in on Dr. Oliver's Technical Cooperation seminar. Next week a special A.U.F.S. visitor, Frank Bonilla, an expert on Brazil, will be on campus for a few days. The I.A.S. hopes to interview him for publication in next week's paper.

"Since a person breathes about two cubic yards of air every 24 hours," Dr. Goetz observed, "it is easy to imagine how many billion aerosol particles be inhaled during that period.

Above timber line at an altitude of about 12,500 feet in the White Mountains, Dr. Goetz found fewer aerosols than in any of the other atmosphere he (Continued on Page 10)

stone for Rover, our late beloved dormitory watchdog.

3. A bunch of us fellows are getting together to endow a chair of Etruscan Art.

4. A bunch of us fellows are getting together to build our own particle accelerator.

For a moment poor Jack was tempted; surely his father could not but support all these laudable causes. Then Jack's good upbringing came to the fore. He turned to the sinister sophomore and said, "No, thank you. I could not deceive my aged parent so. And as for you, sir, I can only say-fie!"

Upon hearing this the sinister sophomore broke into a huge grin. He whipped off his black hat and pasty face-and who do you think it was? None other than Mr. Sigafoos, Happy Jack's father, that's who!

'Good lad!" cried Mr. Sigafoos. "You have passed your test brilliantly." With that he gave Happy Jack a half million dollars in small bills and a red convertible containing power steering and four nubile maidens.

Crime does not pay!

© 1962 Max Shulman

Money and girls haven't changed Happy Jack. Except for the minor bulge in his cashmere jacket caused by (1) a pack of Marlboros and (2) a box of Marlboros, he's the same old Sigafoos.

California Weather Confuses Easterner

BY J. C. SIMPSON

California is one of the few states in the Union whose weather comes packaged with a lifetime, money-back guarantee. Anyone on the East Coast who doesn't believe that the weather in Southern California is the most ideal east of the balmy South Pacific islands can readily realize the magnitude of this error by simply consulting the ever vigorous Chamber of Commerce.

Amply assured of golden sunshine and perpetually warm weather, the Easterner arrives in L. A. airport equipped with a multitude of Bermuda shorts and knit shirts. He also, however, retains a few heavy woolen articles in the bottom of his luggage, a small assurance made necessary by remembrances of barometric insecurity back home.

Blue Skies . . .

Like as not, the new Easterner finds ninety degree weather and clear blue skies, as he drives into Caltech for registration, marvelling at the majestic grandeur of the mountains. Not until he awakens the next

morning does he realize that the Winter Comes mountains have disappeared behind a thin morning mist, and not until he walks outside does he realize that this thin morning mist hangs around all day for most of the year, and is affectionately known to residents as smog.

Rain Rare

The next thing one realizes is that just any Southern Californian will admit that it surely does rain in their lovely paradise. After all, any Chamber of Commerce is prone to slight exaggeration. Of course, the inquirer quickly realizes that the rain is very rare, and occurs mostly at night anyway, almost solely during the winter.

After a short period of humidityless bliss in the predicted sunshine, and a few coveted glimpses of the mountains, the Easterner notices that winter has arrived. This of course, is done not by a sudden drop in temperature, for there is more, but by the ominous coming of the rain. It seems that the overall probability of rain is almost the only indication of any seasonal condition in California.

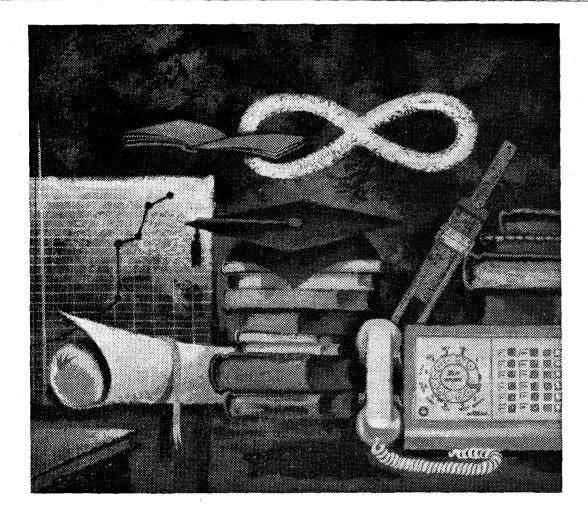
The rain, too, one finds, in those "rare" times when it does come, manages to pick the most inconvenient times, with a great preference for weekends. This makes it all the more obvious, and plants a faint shadow of doubt in the mind of our faithful Easterner.

Snow? You're Kidding

Then, awakening one morning, the Easterner sees a familiar white covering adorning the slopes of the nearby mountains (which are suddenly visible), and his faith is stricken to the core. As he is slowly realizing that even the rain is more than the infallible Chamber of Commerce would like to admit, he discovers that snow is predicted for his own fair city. This is surely the last blow.

The result of such obviously reactionary weather is usually a movement to crucify selected members of the beloved Chamber of Commerce, accompanied by an intensification of the ever present urge to get back across the great Muddy. Some Eastern John Birchers, who have come

(Continued on page 5)



Learning never stops for engineers at Western Electric

There's no place at Western Electric for engineers who feel that college diplomas signify the end of their education. However, if a man can meet our quality standards and feels that

to Western Electric at one of the best times in the company's history. In the management area alone, several thousand supervisory jobs are expected to open up to W.E. people within the next 10 years. And our work of building communications equipment and systems becomes increasingly challenging and important as the communications needs of our nation and the world continue to increase.



U. S. FIRMS OFFER CAREERS ABROAD -**ADVENTURE, HARD WORK, GOOD SALARIES**

U.S. International companies have beria (in Monrovia); one, a recent broadened their horizons as they graduate who, in three years, has search today for knowledgeable risen to the sales managership of a graduates (with varied majors), a young indonesian to enroll at the scientists, engineers, agriculturists, pharmacists, and others as well as ranged with the State Department graduates in business administration, accounting, economics, and market-trade executives to visit AIFT.

famed American Institute for For-There are many more of equal eign Trade in Phoenix, Arizona (and and lesser stature who are actively author of the current, best-selling combatting the Communist econom-Brazil, The Infinite Country), ob-serves that "the practice of foreign example with their AIFT - acquired trade is no longer a simple business transaction to be conducted on a 'main street' overseas with the good

of the global marketing areas in foreign nations. which U.S. companies are interested. The art of foreign trade also de-liberal arts, busi

sales manager) with some U.S. international firm. story": one graduate, now vice presi-dent for all operations of a prominent U.S. soft drink company in the Middle East (with his office in Beirut), started out by working for that company in the Philippines, Australia, and Latin America; another, now general manager of one of the world's best-known tire and rubber company's operations in Italy, emi-grated some years ago from Italy, was college-educated in the U.S. and postgraduate-trained at The American Institute for Foreign Trade, and began his career at the foot of the ladder; still another graduate, now general manager for Western Europe

broadened their horizons as they search today for knowledgeable abroad to manage their foreign bus-iness operations. Once they sought men trained in business. Today (al-though it may come as a pleasant shock to those who may have felt hesitant about breaking into the sought of international commerce), the companies are hiring liberal arts graduates (with varied majors). In the source of the sales managership of a big U.S. steel company subsidiary in Brazil (with offices in Sao Paulo); another "Thunderbird" (as they are widely known), now managing direc-tor of operations in Indonesia for a familiar U.S. firm (with executive offices in Djakarta), who (like many another AIFT alumnus, has spoken pridefully of the school) persuaded a young Indonesian to enroll at the scientist engineers, aericulturists. Institute this fall and has just ar-

ing for careers abroad. The appraising eyes of the re-cruiting representatives of most U.S. Who, after a few significant foreign international firms and government assignments, has become assistant agencies see a man as employable vice president for overseas person-if he has the proper attitude for an nel of one of the biggest U.S. interoverseas career, a general aptitude, national banks; another, who is pres-and, most important, an additional ident of all Peruvian operations of a year of practical training in foreign huge U.S. department store chain; trade techniques, in a spoken for two alumni who are overseas gen-eign language, and in the social, cultural, and business aspects of the world's marketing areas. One of the world's pre-eminent authorities in the culture, economics, the other in Bangkok, Thailand; a graduate who heads a U.S. internaand politics of Latin America, Dr. other, who is Latin American gen-William L. Schurz, director of the eral manager for a large U.S. cos-

> 'know - how" of the functioning of U.S. private enterprise abroad.

Senator Barry Goldwater, mem-ber of the Institute's board of divor is it a high-level operation to be master-minded here at home by theoreticians," says Dr. Schurz, a former Commerce Department economist, "but an art to be prac-ticed by professionals preoriented to the material to the same of th a former Commerce Department graduates of this young school in economist, "but an art to be prac-ticed by professionals preoriented the meteoric rise of U.S. foreign trade. Describing these alumni as and specifically trained in the U.S. "America's best-trained and most before being thrust into a career highly respected body of goodwill ambassadors," he called The Ameri-That means postgraduate satura-tion in the culture, psychology, ccojunior and senior executives in 78

Graduates in most branches of liberal arts, business administration, mands practical training in the modus operaudi of international commerce and a working knowledge of a foreign language. Recently, le at in g through the alumni file of the 16-year-old Amer-ican Institute for Foreign Trade, Dr. Schurz, the "dean of Latin Ameri-ists, and other technically-trained canists" (who has probably trained college graduates with AIFT's spemore young men for careers abroad cialized training for overseas oper-than any other living American) ations. singled out a group of typical AIFT Cited by U.S. and foreign indus-graduates who have already attained trialists, educators, and government executive status (president, vice pres-ident, director, general manager, tution for training college graduates for international commerce, AIFT offers a 3-part curriculum empha-sizing three general world areas: From these cards, he selected sev-eral examples of the AIFT "success modern foreign trade practices, spoken languages (Spanish, Portuguese, French), and living cultures of the peoples in Latin and Central America, the Far and Middle East, About 300 carefully screened men are graduated yearly. The postgraduate program lasts two semesters, a new class starting both in January and in September. Industry and government officials have been widely quoted as saying that there is no institution of comparable prestige for training in in-ternational commerce. Senator Goldwater predicts that most Americans who become business leaders in general manager for Western Europe who become business leaders in of a large American drug firm with extensive foreign outlets (with head-quarters in Lisbon), got his start by serving a long, fascinating appren-ticeship in the back country of Bra-drugs to village apothecaries out of a jeep; another, who is president of the International Trust Co. of Li-zona; telephone 938-0000.)

he is really just beginning to learn . . . and if he is ready to launch his career where learning is an important part of the job and where graduate-level training on and off the job is encouraged - we want and need him.

At Western Electric, in addition to the normal learning-while-doing, engineers are encouraged to move ahead in their fields by several types of educational programs. Western maintains its own full-time graduate engineering training program, seven formal management courses, and a tuition refund plan for out-of-hours college study.

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Challenging opportunities exist now at Western Electric for electrical, mechanical, industrial, and chemical engineers, as well as physical science, liberal arts, and business majors. All qualified applicants will receive careful consideration for employment without regard to race, creed, color or national origin. For more information about Western Electric, write College Relations, Western Electric Company, Room 6206, 222 Broadway, New York 38, New York, And be sure to arrange for a Western Electric interview when our college representatives visit your campus.



graduate

rattle

BY FLETCH MURPHY

Last Saturday saw the Braun Bombers fly on undefeated as the Mosher Mashers flunked their first test in basketball 48-26. Braun had discouraged the Keck Killers by a similar score the week before. Two of the MJ players wore out so fast that Mighty Coach Macki had their athletic scholarships suspended. **Parking Problems**

With the Physical Plant issuing stickers exponentially faster than they're painting stripes, the hunt for parking places is getting as bad as trying to find the front page of the L. A. Times on Sunday afternoon or a glass in the kitchen. But it's a good thing studywise. Fellows think twice before leaving the campus when they know they're going to get a parking ticket if they do. There's been a little grumbling about some students "storing" their cars in the lot and using them once every two weeks. The truth is that they're just afraid to leave. In Answer To a Letter

Yes, Virginia, there is a Great Pumpkin, but I'm not so sure a b o ut Sobolchevsky's b o o k. Smiley Chow never heard of it. "West Side" Wins

When they say you have tickets "on the side" for West Side Story, they mean it. I thought Frank Sinatra was playing Officer Krupke. Side Story is so filled with tension, you wonder where they get the nerve to sing so loud. But it is indeed a thing of beauty, whether you're a lover of fine dances, songs, or Rita Morenos.

Movie Proposed

People are always saying "the movie wasn't as good as the book," but I've heard of a prospective film which should be far more popular than the book. The story is to be based on E. L. Ince's "Ordinary Differential Equations," featuring Dean Martin as the D operator, Elizabeth Taylor as the Taylor expansion, and May Britt as the integrating factor. **Battle**

This column didn't receive its

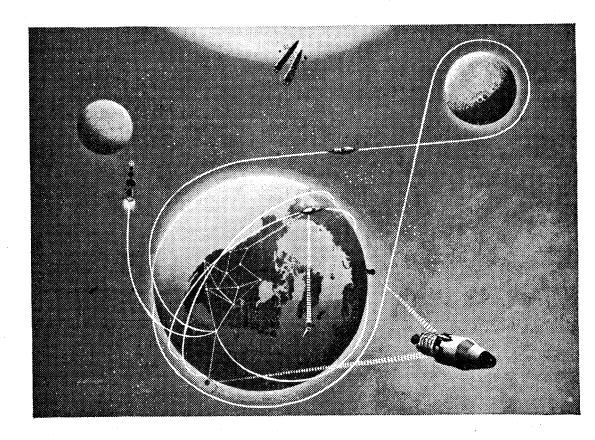
Weather

(Continued from page 4) west to be closer to the cradle of their faith, even suggest declaiming the weather as subversive.

Oh, Well

name because grad students have old cars so noisy they don't need horns, or because their heads are 99% empty, or because they're mostly married and constantly in earshot of the kids' toys, or because they swing their tails in anger when they study hard. This column derives its name from a slang expression which I heard in a hotel in London while playing football in the hallway at 2 a.m. A chap opened his door and demanded loudly, "Stop the bloomin' rattle out there!"





ENGINEERS... SCIENTISTS

You are cordially invited to attend a private interview with a Special Representative of Lockheed Missiles & Space Company. Objective: Pursue mutual interests by examining the almost limitless fields of endeavor being investigated at Lockheed.

Lockheed Missiles & Space Company in Sunnyvale and Palo Alto, California, on the very beautiful San Francisco Peninsula, is constantly probing all the sciences related to missiles and space projects. These cover the complete spectrum—from human engineering through celestial mechanicsparticipate in the initiation of advanced technological developments.

Further, Lockheed strongly encourages continuing education and advanced degree work, maintaining two programs in their support.

- Lockheed's Tuition Reimbursement Program remits seventy-five percent of the tuition for approved courses taken by professional and technical people who are working full time.
- The Graduate Study Program permits selected engineers and scientists of outstanding appletration and professional

Such obvious naivete soon wears off, however, and the new citizen settles back and grows accustomed to the weather. Soon he is writing home how wonderful indeed is the weather here in Pasadena Paradise Personified, and is no longer nursing any obscene thoughts toward the Chamber of Commerce. Afetr all, the weather is generally nice, even if one can't tell which season it is.

Shop Seeks Builders

The Caltech Student Shop, home of frustrated woodworkers, metalworkers, and generally confused builders-ofthings, has decided to admit new members to the clan. If you're interested in joining, see Bob Bump (Ricketts), Bill Reining (Dabney), or Bill Burke (Fleming) before the aforesaid Shop changes its mind. providing a fascinating challenge to those whose interests lay beyond the ordinary day-to-day job.

Lockheed, Systems Manager for such projects as the Navy POLARIS FBM and the Air Force DISCOVERER and MIDAS Satellites, is also an important contributor to various NASA programs involving some of the nation's most interesting and sophisticated concepts. As one of the largest organizations of its kind, the Company provides the finest technical equipment available; for example, the Sunnyvale facility houses one of the most modern computing centers in the world. Every opportunity is given members of the technical staff to standing scholarship and professional potential to obtain advanced degrees at company expense while employed on research assignments.

SPECIAL CAMPUS INTERVIEWS

will be held Monday FEBRUARY 5

See your placement office for details

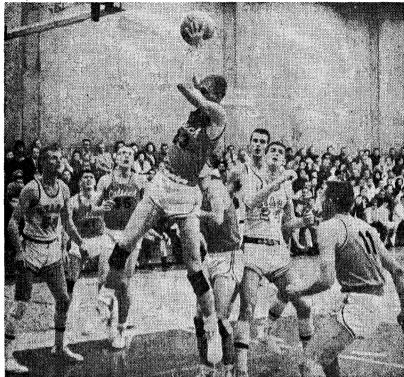
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SPORTS



-photo by Dennis Loma Tech basketballer adds two points to score at C-HM game.

Cagers Dropped By C-HM, **Catch Fire and Burn Azusa**

BY RICK WEINGARTEN

The varsity basketballers split two games this week, losing to Claremont at Claremont 83 to 56, and beating Azusa here Tuesday 78 to 62. The team displayed opposite extremes in play from Saturday to Tuesday.

Claremont

Saturday, the varsity, after staying even with the C-HM team for the entire first half, fell apart in the second half and was overwhelmed by the redhot shooting of the Claremont guards. In the first half, good shooting by Noll and good play kept up with some sharp outside shooting by the Stags, and the Beavers left the floor with only a three-point deficit. In the second half the Stags jumped to a ten-point lead quickly and coasted after that. The Beavers seemed to fall apart. Time after time they lost the ball against the strong press put on by Claremont. All semblance of teamwork disappeared, and the Stags increased their lead steadily to win by 27 points.

Azusa

A different team took the floor Tuesday. Fired up after an extra weekend practice Sunday, and facing a team which had previously beaten them, the Beavers came and played one of their best games. Noll led the attack with 23 points, many of them gained on the offensive boards where Tech finally showed strength in what was previously one of the weakest areas, offensive rebounds. Azusa's big gun, who last time scored 36 points, was missing from most of the first half. But those Techmen, including myself, who expected the complexion of the game to change when Nelson finally arrived were very much surprised. He only scored four points in the second half, also managing to foul out after only twenty minutes of playing time.

Caltech Wrestlers Scrimmage Rain Postpones **IH Football** Pomona; Experience Needed **Season Start** BY RICHARD KARP Scoring Explained

BY BOB LIEBERMANN

Relaxed tension and increased frustrations predominated the InterHouse touch football scene this week as rain and cold weather combined to postpone the opening of the 1962 season.

This season appears in prospectus to shape up as a tighter race with a much smaller spread from the top of the league to the bottom than was evident last year. No one team has the overall strength of last year's Page squad or the explosive quality of Ruddock's 1961 aggregation.

Predictions of the outcome are premature at this juncture, but here are some things to watch for as the season unfolds: Blacker — strong point is the defense, could be a late bloomer; Dab**ney** — strength lies with former varsity footballers, strong contender if individual efforts are coordinated; Fleming-strengthened by refugees from frosh football, could cause many anxious moments for opponents; Lloyd-looks strong in"amateur" division; hard blocking, tough (Continued on page 9)

In their first organized scrimmage last Saturday, January 20, at Pomona, the Caltech (unofficial) wrestling team completed the event with a score of 17-14 in their favor for all matches wrestled. However, counting one forfeit match, the final decision went to Pomona 19-17.

Of the seven matches wrestled, the Tech team scored two pins, one decision win, two ties, and suffered two pins. Individual match results were as follows: In the 123 pound weight class, Yoshida, who had never wrestled before, was pinned in the third period. McGhee, wrestling 130, tied at 0-0; while Wilson, wrestling 137, pinned his opponent in the third period with a three-quarter nelson. Falcouner, in the 147 pound class, won his match by a decision, with the point score being 7-0. Latham, wrestling 167, won his match by a pin in the second period with a cradle; Spier, at 177, tied at 2-2; and Evans, wrestling heavyweight, was pinned during the first period. The forfeited match was in the 157 pound weight class.

Each match in wrestling is decided when one wrestler pins the other, and five points are awarded to the team or the winner. If there is no pin during the match, the winner is the one who gets the most match points. Match points are awarded on the basis of takedown, 2 points; reversal, 2 points; escape, 1 point; near-pin, 2-3 points; predicament, 1 point ("almost a near pin"); illegal holds, minus 1 point; and stalling, -1 point after a warning. The team of the wrestler who wins on points is awarded three points. Finally, for ties in the point score, each team is gven two points. A forfeit counts the same as a pin in calculating team points.

Wrestlers needed

At the match, the acting team captain was Doc Speir, in Ruddock. All those interested in team wrestling can contact Dick McGhee in Ruddock or Tom Latham in Blacker. The team is planning future scrimmages with Pomona or other schools again. Experienced wrestlers are especially needed.

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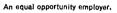
Communications Satellites Digital Computer Systems Hydrospace Electronics Infrared

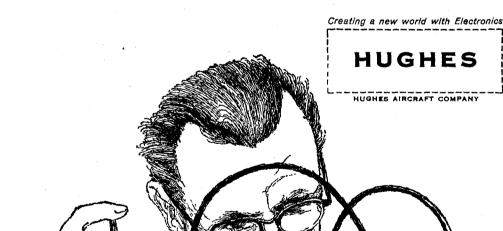
These are among the more than 500 outstanding programs now in progress at Hughes. These programs require the talents of E.E.'s and Physicists who desire to work with professional scientists in research, development and manufacture.

In addition, Hughes sponsors advanced degree programs for academic growth. These programs provide for advanced degree study at many leading universities.

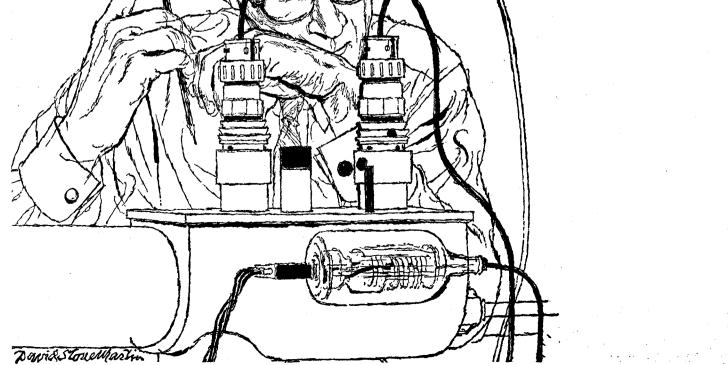
ELECTRICAL ENGINEERS and PHYSICISTS B.S., M.S. and Ph.D. Candidates Members of our staff will conduct CAMPUS INTERVIEWS January 30 & 31, 1962 Find out more about the wide range of

activities, educational programs, relocation allowances and progressive benefit plans offered by Hughes. For interview appointment or informational literature consult your College Placement Director. Or write: College Placement Office, Hughes, Culver City, California.





The win was more decisive than the score even showed, for the second and third string played much of the second half and still kept a commanding lead. The team played with confidence and quick thinking (Continued on page 9)





Artist Louise Bowen will visit Tech February 2 to 4.

Artists Plan Caltech Invasion; To Show How Other Half Lives

Art Institute and other art schools will arrive on campus the first Friday in February to spend the weekend of February 3 and 4 in the Student Houses discussing their art and its application to a scientific world. The art students, four men and three women, will each take their meals in a different House.

Louise

Some of the students have very strong feeling on the relationship of art and science. One of these students is Louise Bowen, 23, and a graduate student at Otis Art Institute. She is devoted to art (ceramics at the present) and imagines to remain so for life. Art holds her in what she describes as a "compulsive addiction" which "gives me kicks." Louise comes to Caltech for an evangelistic crusade: her brother, who went to Caltech, was entirely closed-minded outside of science; she wants to know whether or not this is an occupational disease.

Louise posed the following questions:

"What is a dilettante scientist supposed to get out of a superficial interest in art? Should an artist try to "understand" science and capture the feel of the physicist? What is the significance of art to a scientist? In other words, should life consist of all-or-nothing thrusts and attacks into areas, abandoning casual, amateur interests as trivial?

Seven art students from Otis ones whose answers are not known — early in school. As it is now, science is considered a closed book and attracts roteminded people.

> Most scientists should have a more sophisticated approach to their science; they think science is good just because it exists. Artists go through courses in art aesthetics and examine their personal goals in becoming artists, both of which build more competent artists with greater powers of observation of greater depth."

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with a Douglas representative

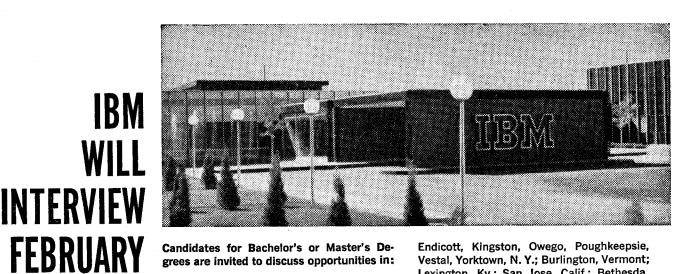
Thursday, Feb. 1 and Friday, Feb. 2

We urge you to make an appointment through Dr. Donald S. Clark, Director of Placement. If you cannot, please write to

S. A. Amestoy, Staff Assistant to VP Engineering

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Scientific Hacks

She continued, "In Oriental art, a student copies a master's work until he can duplicate it; then hopefully he can surpass his master. Western art has abandoned this; Western science has not. Art tends to attract creative people; science tends to attract unimaginative hacks who live and work by rote. Science should give original problems-

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R. A. Karlberg, Branch Manager **IBM** Corporation, Dept. 882 705 N. Brand Blvd. Glendale 3, Calif. Phone: Cl 6-1651

You naturally have a better chance to grow with a growth company.

frets and frails **Men Damned; Women Praised**

BY JOHN D. CROSSMAN

The song I have chosen for this week has always been one of my favorites. The song is, naturally, sung by a woman who is somewhat disillusioned with men. When asked the men's reaction to this song one lady from Kentucky said, "The men think we've given them the wrong kind of a deal and it's not justice and they have protested as far back as I can remember." Cogent words!

I have heard three recorded versions (although there are undoubtedly more): one by Pete Seeger on Folkways FA2003, one by Barbara Dane on World Pacific WP-1254, and the third by Joan Baez on Vanguard VRS-9087 (in a version called "Silver Dagger.")

COME ALL YOU FAIR AND TENDER LADIES



- 2. If I'd ha' known before I courted I never would have courted none. I'd have locked my heart in a box of golden And fastened it up with a silver pin.
- 3. I wish I were a little swallow, And I had wings and I could fly. I would fly away to my false-true lover And when he would speak I would deny.
- 4. But I am not a little swallow, I have no wings neither can I fly. So I'll sit down here to weep in sorrow And try to pass my troubles by.
- 5. Oh don't you remember our days of courting, When your head lay upon my breast? You could make me believe by the falling of your arm, That the sun rose in the west.
- 6. Come all you fair and tender ladies, Take warning how you court young men. They are like the stars of a summer's morning They will first appear and then they are gone.

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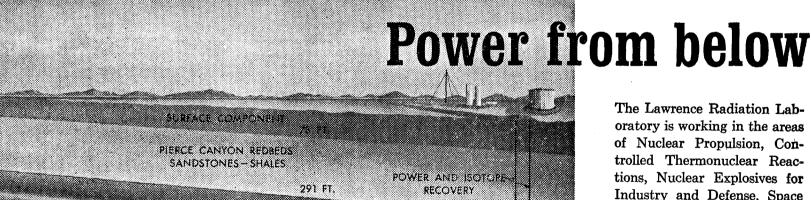
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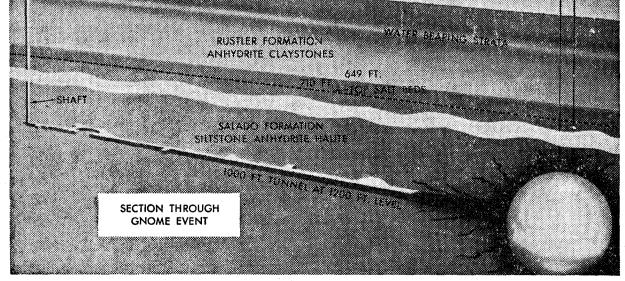
> Interviewer will be on campus January 31



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The Lawrence Radiation Laboratory is working in the areas of Nuclear Propulsion, Controlled Thermonuclear Reactions, Nuclear Explosives for Industry and Defense, Space Physics, and other advanced problems in Nuclear Physics and Engineering.



An artist's conception of Project Gnome, a step toward providing power and isotopes from underground thermonuclear detonations. This area of endeavor is part of Project Plowshare, initiated at the Lawrence Radiation Laboratory of the University of California, Other Plowshare projects under study include the excavation of an experimental harbor in Alaska, production of oil from tar sands, control of groundwaters, mining applications, and other novel ideas using the energy of nuclear explosives.

ON FEBRUARY 5 & 6

Laboratory staff members will be on Campus to interview outstanding students in the Physical Sciences and Engineering.

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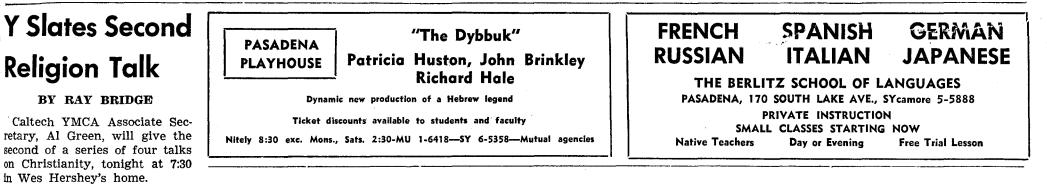
of the University of California

Berkeley and Livermore, California

Thursday, January 25, 1962

CALIFORNIA TECH

Page Nine



Last Thursday Al explored the nature of religious experience, and suggested some basic factors underlying such experiences in all of the world's religions.

He defined religious experiences, then went on to examine the nature of the faith of the individual who has had no religious experience himself but has rested his faith on the experiences of others.

Rationality Avoided . . .

Green avoids the pitfall of justifying religious experience as the necessary conclusion of a "rational" argument. He remarked that religious faith is irrational, and when it claims to be otherwise it only loses its profundity.

Tonight's lecture will be concerned with theology, the attempt to express religious experience in a rational context.

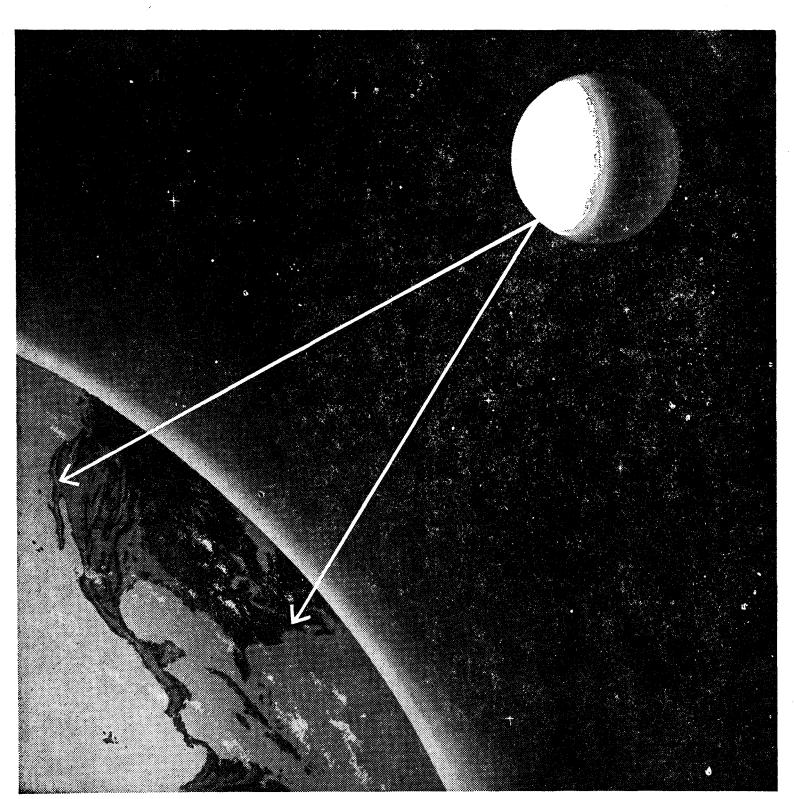
Hershey's home is at 391 S. Holliston, almost directly across the street from the graduate houses. Refreshments will be served, and the talk will break up about 9:30.

(Continued from page 6)

defense, and balanced attack characterize this contender; **Page** — lacks depth, passer's ability crucial now without the height at end; **Ricketts** — experience and ability finally coordinated into a formidable defense and potent offense; **Ruddock** — last year's veterans strengthened by fine frosh crop, has potential to go all the way if offense jells. Overall, an exciting season is predicted: one which will have great moments for all teams and which will provide much enjoyment for the spectators.

Standings to date:

HOUSE	TROPHY POINTS
Lloyd	51
Ricketts	48
Ruddock	42
Fleming	33
Page	33
Debrer	20



Bell System Scientists, working with the National Aeronautic and Space Administration, bounced the first phone call off a manmade satellite, Echo I, in August 1960. The call traveled cross country between Goldstone, California and Holmdel, New Jersey.

The team that bounced phone calls off ECHO needs good technical and management talent

> CALIFORNIA INSTITUTE OF TECHNOLOGY Interviewing for:

Dabney	30
Blacker	15

Basketball

(Continued from page 6)

against the Azusa zone defense; and, in fact, showed it was effective against the zone.

Upcoming Games

Next week Tech plays Redlands here on Saturday; then comes the big game here Tuesday evening against the Oxy tigers. This is virtually the same team which last year beat Oxy on its own floor, the first time that had been accomplished by Tech in many ages. It could be a close game. Perhaps the Beavers can change their losing ways to gain a respectable though certainly not first-place—league record. Come in and find out how far you can go with the Bell System

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Determined Duo Finally Foiled

Phlegming phrosh Shady and Clerk have found to their dismay that snow is best left in the classroom, Recent trip to land of white water proved to be rather costly.

Heading for Bald Mountain in borrowed velocipede, they soon discovered that boys in blue refuse to let them pass sans chains. Not dismayed, our heroes head back to nearest point of civilization to look for above mentioned utensils. Much time is lost in search, but luck is with them. At N + 1 Auto Supply a pair of chains is finally found. Through oversize, they are gleefully accepted — upon payment of \$10 deposit. Owner of devices informs them that in event store is closed, service station attendant next door will cheerfully refund money upon receipt of original merchandise. Trunk is opened for purpose of storing merchandise, only to disclose another set of chains, which had quietly resided there all along.

Chains

Mumbling softly to themselves, the stalwart two again head up the hill. Before they again meet with roadblock, they pull off road onto a slope to put on the chains. Due to fact that good money has been paid to rent oversize chains, they decide to use them instead of pair that fit. Unfortunately, they are unable to apply chains in this manner. Using one of their remaining brilliant ideas, they move to a level spot, block wheels with snowballs, and raise back end of car. This time, chains are successfully secured with coat hanger wire and string. Nearing top of mountain, road is found to be paved with ice, so, while Clerk sat on bumper to weight back wheels, Shady inched ahead slowly at estimated 1/10 m.p.h.

Smog

(Continued from page 3) tested. The particles were small in size, short-lived, and may have moved with the air mass across Owens Valley from the Sierra Nevada.

To avoid aerosols originating from land sources, samples were taken at sea as far as 100 miles off the California coast. These aerosols were mostly salt particles from ocean water. It also was discovered that organic materials, probably the end products of the life cycles in the ocean, produce aerosols in enormous quantities. These particles eem to have a relatively short life (hours or days), disappearing gradually when exposed to sunlight. In many respects they seem to be similar to those produced by forests and plants.

Snap!

With ski tow in sight, they edge off road, to tune of snapping chain. Time out is taken for brief respite in below-freezing snow, to enable them to alternately remove gloves for five seconds for purpose of removing axle-wrapped metal. After 35 glorious minutes of "rest" under the car, passerby suggests that removing wheel might be easier. Five minutes later, twosome have chain removed and head up hill to ski lift.

Our heroes, disregarding notice of chilly weather mounted on lift, ride to top-and procure skis for grand sport. Blizzard conditions as they were, about 20 minutes were lost in finding the next lift. Sight of shivering people descending on lift does not dismay them in the least. When super skiers reach top, they buckle on boards and schuss down slope - about 10 feet. Deciding that zero visibility is slightly less than ideal, they spend the next 20 minutes looking for lift that brought them up. Descent is rapid, but chilly. Warmth

of lift, they remove skis and knock on door, only to have sign — Employees Only — keep them out. Skis are again put on and freezing friends set out for hut. Not finding same, they are about to shout for help, when one runs into wall of previously mentioned building. Disappointed duo return planks and head for mode of transportation, only to flood engine, necessitating one hour of useless work. Trek back to hut reveals that glorious smashup has occurred on lower road, rendering access impossible. Not wishing to spend the cool night, journey to car is again made and - wonder of wonders — it starts.

Though difficulty is encountered in removing vehicle from snow, Shady and Clerk manage to return chains to aforementioned gas station in early evening. Unfortunate incident occurs when attendant explains that he has not heard of arrangement with Auto Supply owner. Much haggling ensues. Attend-

button for

Buffalo?

which

ant finally decides to trust froshlings and return money. Exit is hurried, so that they may be out of sight before attendant finds broken chain.

All goes smoothly, for about two hours. Without warning, unexplainable ping develops in engine. Travelers begin to think something is wrong when machine slows from 55 to 5 m.p.h. with throttle floorboarded. Smoke cloud soon catches up with them. Alas, panel lights not working deny knowledge of water temperature. Leaving car on edge of freeway, sadder but wiser frosh make way to Tech with help of thumbs.

Toad Snowed

Toad hears plinking and soft voice emanating from Fretman room. Further inquiry reveals that wench is conducting banjo picking with geo-pick. Snow increases when wench demonstrates picking prowess while wearing gloves. Curiouser and curiouser.

Blush Blushed

It appears that Floydman Blush

is one of few P.E. lovers on campus. Beak observed him coming out for IH football practice at 3 in the afternoon. Blush last seen beating hasty retreat for hourlong shower.

Greetings . . .

Large numbers of Techmen now know why many are considered in poor physical condition by our fighting forces. Requests to appear for physical at 5:30 a.m. brought cries of anguish from chosen people. Fingernail covered floors now attest to worst fears of same Techmen. Beak hears that no registered letters are being signed for lately.

Grundlers Help Guard

Plumbing House midnight skulkers are always happy to do good deeds. Case at point concerns campus cop who found it impossible to open door to office with key. Sixty-nine masked men suddenly appeared to demonstrate secret entry panel through student shop. Guard amazed at skill of random Techmen. Beak amazed at nerve of same.

Automatic cars with button and lever controls may seem far out right now. But Ford Motor Company scientists and engineers are busy prying out and buttoning down some fantastic computercontrolled guidance systems for future Ford-built cars.

Among the controls now under study at Ford is a radar system that warns a driver when he gets too close to the vehicle ahead. Another is a short-range radio frequency device that extends the limits of drivers' senses by giving advance information on road surface and weather conditions, evaluating and appraising obstacles in the driving path ahead. When developed, control systems like these will enable drivers to enjoy safer, faster driving without fatigue.

Advanced studies of this nature are but a part of a continuous and wide-ranging program that has gained Ford its place of leadership through scientific research and engineering.



MOTOR COMPANY The American Road, Dearborn, Michigan PRODUCTS FOR THE AMERICAN ROAD . THE FARM INDUSTRY - AND THE AGE OF SPACE

As would be expected, agricultural areas are rich in plant life aerosols; deserts, for the most part, are not.

Cosmic Dust Source Possible

It may be that fine, cosmic dust particles from space are an additional source of aerosols. Dr. Goetz said that various federal agencies are doing work in determining the aerosol density at altitudes between about 40,000 feet and 130,000 feet, the present limit for unmanned balloons. These methods already have been used in arctic regions, close to North Pole, which seem to be extremely low in aerosol density, probably due to the scarcity of life in that area.

