

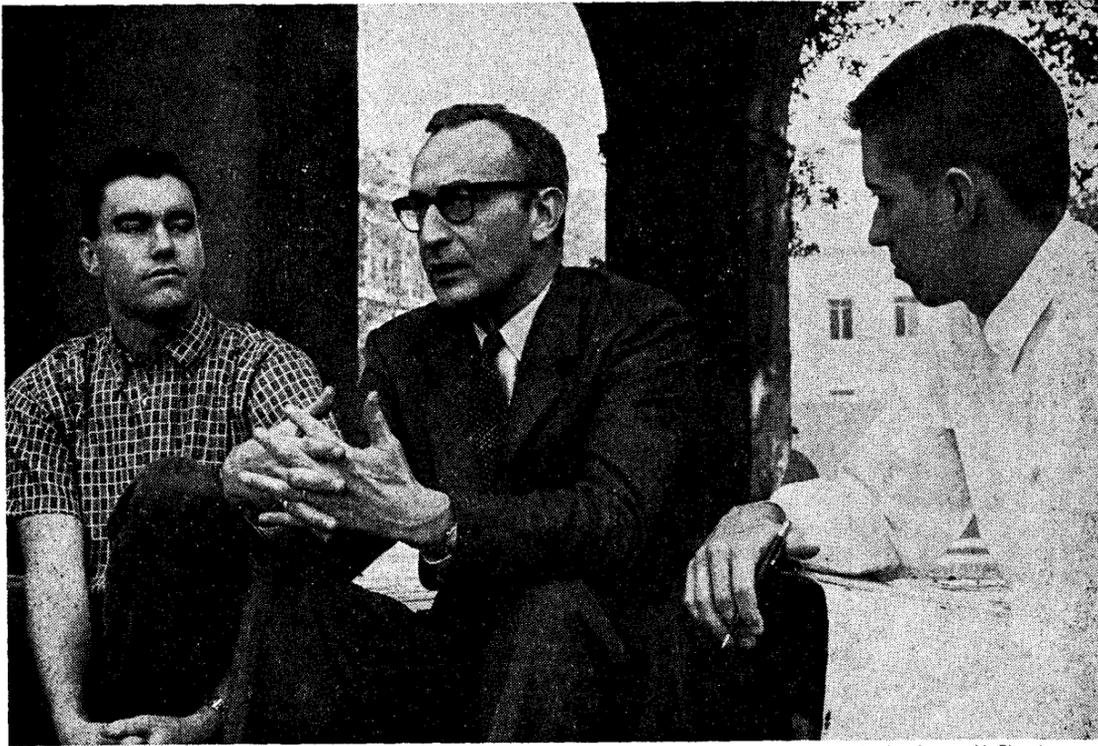
# California Tech

Associated Students of the California Institute of Technology

Volume LXIII.

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Number 13



Matt Couch, Bayne, and Jim Johnson discuss Italy and Iran. —photo by James McClanahan

## Bayne Says Reds Strong In Italy

BY MATT COUCH  
AND JIM JOHNSON

Italy and Iran were the principal topics of discussion in the International Affairs Staff's second interview with E. A. Bayne of the American University Field Staff. (Last week's interview was concerned with the development and current problems of Israel. Those interested should refer to the *California Tech*, Volume LXIII, Number 12.)

In this week's interview Bayne discussed the factors that have influenced the development of Italian politics since World War II, touching upon the growth of the Communist party, the importance of the post-war antifascist feeling, and the pervasive influence of the Catholic Church in all aspects of Italian life. When questioned about the present strength of the Communist Party in Italy Bayne estimated that there are about 400,000 "hard core" Communists in the country, over one million card carriers, and that the Communists get around eight million votes — over 23% of the electorate — in the quinquennial parliamentary elections. These figures are actually somewhat lower today than they were in the years right after the Second World War. Bayne pointed out that the Party had more than two million card carrying members in 1947-48, and indeed, had entertained plans for capturing control of the Italian parliament in the national election of 1948.

### Fascists Rejected

The post-war successes of the Communist Party are directly related to what Bayne considers an overwhelming rejection of the fascist movement by the lower classes. Bayne argued persu-

sively that the fascist movement in Italy was fundamentally different from the Nazi movement in Germany, not only on questions of creed, but in that the Nazi movement was accepted by essentially all elements of German society (with exception of certain groups such as Jews and college professors), while the fascist movement in Italy was basically bourgeois in nature and found little favor among the masses. The Communists took advantage of this proletarian rejection of Mussolini's fascism. They led the antifascist, anti-German underground during the War, and used the popularity they engendered to gain control of the country's only major labor union when the war ended. Although they still have control of this union, the Christian Democratic Party and the Social Democrats have started unions of their own which now rival the Communist-dominated union in size and influence.

The Catholic-dominated Christian Democratic Party, although the largest single party, has not been able to obtain majority control of the Italian parliament. This has inevitably led to coalition governments. Most of the coalition in recent years have been center-left coalitions, including the C.D.P. and some moderate leftist parties, but excluding the Communists and the parties on the far right. A recent attempt at a center-right coalition was a dismal failure, and fell after only three months. Although Italy remains solidly pro-Western in its basic international orientation, and, in Bayne's opinion, there is little

(Continued on page 2)

## Pakistan Development Speeded By Private Investment Policy

BY JAY LIPPMAN

On January 9 Professor Gus Papanek spoke on "Public or Private Investment" in underdeveloped countries. Professor Papanek, who is a member of the Pakistan-Iran Advisory Faculty of Harvard University, presented the arguments for both public and private investment and then gave his views as supported by his four years of experience in Pakistan.

### Government Control

He gave several of the arguments for government control. The main argument is the rate of growth and savings of a country under private enterprise is too slow. Opponents of private enterprise often say that private investment does not plan ahead for changes in the society,

but is only concerned with profits at the present time. Consequently, investment often goes in the wrong directions, social goals are ignored, and socially undesirable industries develop. Another argument is that people are unwilling to make the necessary voluntary changes for private enterprise; and if they do, the investors will squander their profits on luxurious living.

### Private Investment

The main argument for private investment is the government is subject to political pressure. Therefore, its goals are distorted and it cannot increase the rate of development because different political pressure groups in a country will have conflicting goals. In addition, the government itself does not know everything in order to make the correct decision; and since it does not feel the mistakes in its own pocket book and they were not trained for business, statesmen are poor economists and businessmen. If the central government controls everything the vicious circle of inefficiency, waste, and repression will inevitably lead to dictatorship.

### Incentives Work

His own view supported by his work in Pakistan is that given sufficiently high economic incentives it was possible — and is in other countries — to create a very able core of promoters who were committed to industry and industrial enterprise. Within ten years Pakistan made tremendous economic advances with the only government control being the manipulation of market incentives. This system minimizes administration and corruption and releases the civil service to attend to more urgent needs such as the regeneration of the stagnant agricultural system in Pakistan. The government can effect the direction of investment by using differential taxation and subsidies and will thus create a system that is flexible and efficient because of decentralized decision making.

## Y Tutor Pool Requests Aid

Working in connection with the Pasadena NAACP, the Caltech YMCA has been successfully operating a tutoring service for the past two months. The program, tailored for promising high school students who need encouragement to continue their studies, has been utilizing the services of eight Techmen.

The expansion of this program is limited only by the number of tutors available. Students who are interested in becoming tutors should contact Al Green at the Y office (extension 555). The tutor can then pick his student from a card file and make individual arrangements with him.

### Etaoin Shrdlu

## Tech Esperantists Talk Back

BY WALT DEAL

There is afoot in the world today a movement whose idealistic purpose is to further world peace by getting people to understand one another. This would be done by adopting an international language known as Esperanto. It is my suspicion, however, that such a move would cause more problems than it would solve, for if the world leaders could understand what each other were really saying, war would be inevitable. Despite the apparent dangers of such a project, the Esperantists press on, and Esperanto may soon be proposed as the official U.N. language.

### It's Universal

Tech has two avid members of the Universal Esperanto Association (sounds like it has branches on Mars), Don Harlow and Gene Fellner. In order to find out something about the Esperanto movement and its purpose, if any, your reporter went to see these two.

"Esperanto is neat," states Harlow. When questioned about the merits of English, he re-

plied, "English (deleted)."

Esperanto does have its good points. It is reputed to be very easy to learn. Since it is based almost entirely on Latin and the Germanic tongues, anyone who speaks English should be able to pick it up very easily. In addition, Harlow says, "It's the easiest of all modern languages, so even a person who knows only Chinese shouldn't have too much trouble."

### Oculist Sees the Light

Esperanto was invented by a German oculist named Zamenhof in 1887. He first introduced it at a private party; but, unfortunately, nobody understood him, so he went back and worked for seven more years. Personally, I don't see that he accomplished entirely too much: I still don't understand it. But proving once again that big trees from little acorns grow, today there is the Esperanto Association, with membership in the hundred-thousands; it publishes a magazine and makes books in Esperanto available.

Esperanto's use has also been

proposed for technical journals, since it would save on the confusion inherent in technical translations done by non-technical men. In fact, one Japanese mathematical magazine in Esperanto was at the General Library; but unfortunately it was stolen and consequently not available any more, unless one knows the right person . . . All of which goes to show what sort of people read Esperanto, or some such.

### Words of Peace

Esperanto also seems to have been aiding the cause of peace, for it has been nominated several times for the Nobel Peace Prize. However, a Hammarskjöld or a Schweitzer always seems to win, so the full merits of Esperanto have not been made known to the world in general.

Aside from its practical value, Esperanto is also esthetically pleasing. To illustrate this point, both Harlow and Fellner agreed on one phrase of unimaginable beauty: "Dabney gin mangas." Need this be translated?

## Notices

### TV PANEL ANNOUNCED

The News Bureau announced last Monday that Ben Saltzer, John Golden, Barry Gordon, and Roger Noll have been chosen to represent Caltech on a TV panel show on February 18. Chosen from a group of about fifteen applicants, the four will discuss "Science and Religion" on the show produced by the University of Judaism. Bruce Abell was chosen as an alternate member.

### HAMS MEET TUESDAY

The Caltech Amateur Radio Club is meeting Tuesday at 7:30 p.m. in 210 Dabney. Topics include reactivation of both the radiogram service and the technical director.

### FLU BEING SHOT

Flu shots are again available to students, faculty, and employees at the Health Center. They cost a dollar.

### Y DINERS' CLUB MEETS

Frosh and Upperclass Diners' Club will combine next week to present Kal H. Silvert, AUFS specialist on Argentina and Chile. Dinner is at 6:30 p.m., the talk at 7.

### 1961 BIG T OUT SHORTLY

The last section of the 1961 Big T went to the publisher Tuesday, and the yearbook should be ready for distribution next month, according to usually reliable ASCIT sources.

Editorial

# Solution In Sight

The disposition of Culbertson Auditorium after completion of the much larger Beckman Auditorium has been a matter of great concern to the Drama Club. A major part of the Club's concern stemmed from a fear that Culbertson would largely be taken over by the Industrial Relations group who now occupy the basement rooms and that further use of the building for dramatic presentations would be impossible. However, this probably will not be the case. According to Dean Eaton, Industrial Relations is tentatively planning to move to a different location in the near future. "This will," he said, "leave Culbertson free for student musical and dramatic activities."

If this comes about, it would mean that some kind of semi-permanent arrangements for seating, lighting and stage settings could be developed over a period of time. More important, since major amounts of time have been spent on repetitious construction work in the past, the work load levied on a few people would be lessened and more time could be spent on the more important parts of the productions.

The question is, of course, the timing. There is no assurance that Culbertson will be available for expanded activities soon—only a tentative suggestion. In terms of the long-range development of the campus, such considerations are admittedly unimportant. From the standpoint of students who will be active in drama at Tech for only a few years, the problem of space and equipment is exaggerated. We hope that there will be a reasonably quick tying-up of loose ends.

—abell

*our man in the*

## Ivy Leagues



BY LARRY McCOMBS

Has the idea ever crossed your mind that you're not cut out to be a research scientist or an engineer? Do you like people and hate labs? Then why not consider becoming a high-school science teacher?

Yes, I know the usual Caltech reaction to that question. And I've heard all the arguments against it which you are now thinking of: low pay, dull and repetitive work, lack of free time, and pressure to conform. In eight months I will be beginning work as a high school teacher, and the closer I get to that goal the less validity I see in the preceding accusations. But let's consider them one at a time:

**Salaries**

Low pay? Well, perhaps compared to top research salaries, but teacher salaries are getting better every year. And with a degree from Caltech you'll have

your choice of a lot of good offers. Surprisingly enough, the best schools also pay the most money. With an M.A. degree, starting salaries in the New England area range from \$4000 to \$5600. The best offer I have heard was that of \$5600, with pay raises such that you would achieve a salary of \$10,000 in eight or ten years. And scales are being raised each year.

**Work**

Dull work? I'm getting more and more excited over the possibilities. The content of present high school courses was solidified in the early years of this century. Yet science has completely changed since then. There is a great need for imaginative and well-trained men

(Continued on page 6)

## Big T Sets Photo-Taking Marathon

Pictures of underclassmen are now being taken for the 1962 Big T in the T office in the basement of Fleming House. Each of the seven Houses is being assigned one or two evenings for this purpose. Announcements will be made and sign-up lists posted in each House for a day or so prior to that House's scheduled time.

Coat and tie should be worn. A dark coat is recommended as the background is fairly light. A charge of \$2.50 is made for the sitting, which includes a print of your choice delivered to the Big T for the "Houses" section of the yearbook. Additional prints may be ordered for job application, etc.

If there is a good enough turnout this year, it is planned to concentrate on seniors and freshmen in future years, with sophomores and juniors using their frosh pictures unless they particularly want new pictures taken.

## YMCA Holds World Service Meeting

YMCA World Service will be featured at a meeting for Y members only, next Wednesday, January 24, at 6 p.m. Bill Kelly, YMCA Junior World Service Worker in Sweden from 1960 to 1961, will be at the meeting and will talk for about forty-five minutes on what Swedish girls are really like (illustrated), on Junior World Service in Sweden, and on his experience in the far, frigid (temperature) North.

After Kelly's talk, about twenty minutes will be spent in a report by Barry Gordon, Y president, on the U.S.S.R. exchange program in which he participated. Also, information will be given on Work Camp in Lima, Peru, and institutional jobs at the Porterville State Hospital.

The meeting will be held in Chandler Dining Hall, and it is worth repeating that all Y members **only** are invited.

# Bayne

(Continued from page 1)

real anti-Americanism in Italy, there is, he feels, a significant amount of "neutralist" feeling.

**Catholic Influence**

In discussing the influence of the Catholic Church in Italy Bayne contrasted countries like Spain and Italy — where Catholics are the vast majority of the population — with nations like the United States and Canada, where there are Catholics, but they are in the minority. He pointed out that, while it is hard to prove the existence of religious oppression in Italy, the subtle dominance of the Catholic hierarchy makes it almost impossible for other churches to get a toehold in Italy. The Catholic Church, as a result of the Lateran pacts of the late Twenties, also exerts a great influence in the Italian public school system. Bayne mentioned that one of the texts used by his ten-year-old daughter in the Florence school system begins with a chapter on "The Cult of Mary" followed by a psychologically-potent chapter entitled "Don't Fornicate!" (Perhaps the titles lose some of their euphony in translation.)

**Iran**

Bayne discussed his views and impressions of Iran at length in the Tuesday Public Affairs Lecture (receiving, incidentally,

29 seconds total applause . . . a new indoor record.) Bayne's assessment of the Iranian situation is summarized well in one of his recent A.U.F.S. reports: "Iran has moved satisfactorily in recent years toward the independence it desires, and in the doing has apparently established a momentum of development in social and economic areas that presages the continued progress toward modernity. It has managed to keep its closest threat, Russia, at bay without serious cost, trading with its satellites and with Russia itself. Iran appears to be committed to continued development along Western lines, adapting Western institutions and ideas to its own conditions. While foreign policy will remain a most delicate science in the nation for years to come, it would seem that the Iranian realm's successful development and progress will depend more upon the guidance it receives internally than upon external factors. The development process, is, in a way, total revolution of classes, concepts, economics, and national image; and danger lies in these early decades of social disintegration before the new, modern integration has taken firm hold."

**Silvert Next Visitor**

K. H. Silvert, this year's second AUFSS visitor, will arrive on campus next Monday afternoon to begin a round of talks and discussions on Latin America, chiefly Chile and Argentina.

Silvert, who holds a Ph.D. from the University of Pennsylvania and has been an associate professor at Tulane University, began his research in Latin America during 1947-48 as the recipient of a Penfield Traveling Scholarship. He is the author of a two-volume work entitled, "A Study in Government: Guatemala."

Silvert became an AUFSS Associate in 1955, and during 1956-58 reported on affairs in Argentina, Chile, and Uruguay. In 1960-61 he directed a major study of the role of education in social and economic development in Latin America which was made possible by a grant to the AUFSS from the Carnegie Corporation of New York.

**Schedule**

Silvert's tentative schedule for the first two days of his visit is as follows:

**Monday, January 22**, he will address the Upperclass Dining Club at 6:30 p.m. in Chandler Dining Hall.

**Tuesday, January 23**, at 11 a.m., Silvert will speak to the H 5 class on "Recent Political Events in Argentina," afterwards attending a luncheon with the H 5 staff. Tuesday afternoon he will be interviewed by the International Affairs Staff of the California Tech and will wind up a busy day with a discussion at Dr. Munger's H 124 Seminar at 7:20 p.m. in 208 Dabney.

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Interviewer will be on campus  
January 31



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By Steve Schwarz

**WEST SIDE STORY**  
at Grauman's Chinese Theater

To attend the movie version of a favorite book or play is to risk disappointment. In part this is because one has already formed his impressions as to how it should be done; in part it is because motion pictures are a medium fundamentally different from page or stage, and what is suited to one may not be suited to the others. Further, American movies, like Oxydol and the Saturday Evening Post, are for the masses; in rendering them fit for the masses, art is generally sacrificed for salability. All these factors are at work in United Artists' "West Side Story"; that it comes off so well nonetheless is tribute to its inherent greatness.

**Folk Opera**

On the stage, "West Side Story" is perhaps the finest product of American musical theater; it ranks with "Porgy and Bess" as American folk opera. One reason is that unlike most operas and musicals, it has a plot — the timeless plot of "Romeo and Juliet." The scene is the slums of New York; the Capulets and Montagues are now the Sharks and the Jets, two rival warring gangs. We see Romeo and Juliet, now Tony and Maria, perform their ineluctable dance of death, and all about them there is dance — the frantic, stricken tarantella which is the essence of New York. Weaving it all together is the music of Leonard Bernstein, who has utterly captured the mood of his city, and perhaps given it a permanent place in musical history. This sum of drama, music, and dance is the liveliest possible synthesis of the lively arts.

**Faithful Reproduction**

In the screen version most of the above has been preserved. Director Jerome Robbins also directed the original stage production, and clearly he has tried to reproduce it as faithfully as possible. Bernstein's music comes through unscathed — improved, in fact, because the stereophonic sound at Grauman's is higher-fi than live sound in any theater. The lyrics of Stephen Sondheim are rehashed and expurgated; this is not such a crime, since they were often silly in the first place ("... but here you are/and what was once a world is a star..." Ouch!); although one may object on principle, since bowdlerizing has never been known to improve anything. As to the dancing, it is perfect, incredibly precise — each sequence must have been taken and retaken until perfection was attained. The casting is for the most part satisfactory; the temptation to make everyone as cute as a Coke ad seems to have been resisted, and these slum-dwellers, though not ugly, are believable. Richard Beymer, as Tony, bears an unfortunate resemblance to Elvis Presley and is not particularly expressive, but Natalie Wood as Maria is pretty and ingenuous, never upstaging herself, as would be so easy in this part. There is only one loud complaint to be complained against the film version, and that is the comic song "Gee, Officer Krupke" has been moved from just before the final scene back to before the rumble. It is needed in its former place as relief and to intensify the falling

action; moving it seems heavy-handed and unjustifiable.

**Almost Ideal**

Yet with all this technical excellence one might expect the filmed "West Side Story" to be ideal. Almost ideal it is, but not quite; and the reason lies in the subtle differences between stage and screen. The stage leaves much to the audience, says "play make-believe with me"; and as the audience plays make-believe it is drawn in and captured. Distractions and improbabilities are easily overlooked, for the participating audience is trying to overlook them. On the other hand, motion pictures of any but the "experimental" type are relentlessly realistic; the camera, in its documentary fashion, catches every detail, and this is

taken by the audience as a promise of realism. As soon as one is set for realism, small departures plunge one out of empathy and into indignation. Yet "West Side Story" is a sort of fairy tale, and thus not entirely realistic; the resulting conflict again and again gives one the feeling that one is watching a movie. It is a subtle point, yet in my opinion it is just this which makes the stage version the better the two.

Yet however it may appear by comparison with the original, the film is nonetheless outstanding. The credits are shown at the end, and the audience sat still all through them, as though stunned; scarcely a person moved until the house lights went up. "West Side Story" is worthy of this respect.

# graduate rattle

**BY FLETCH MURPHY**

Last week Professor Cole walked into his AM 125 class carrying a Persian rug, rolled it out over the floor in front of the blackboard, said something about always wanting a rug, and began his lecture. Some of his students thought that he might have been suffering from fallen arches or varicose veins, but it turned out that the rug was actually for his new office in Firestone, the bare walls there having awakened a new interest in interior decorating.

**Too Bad It Wasn't TB Seals**

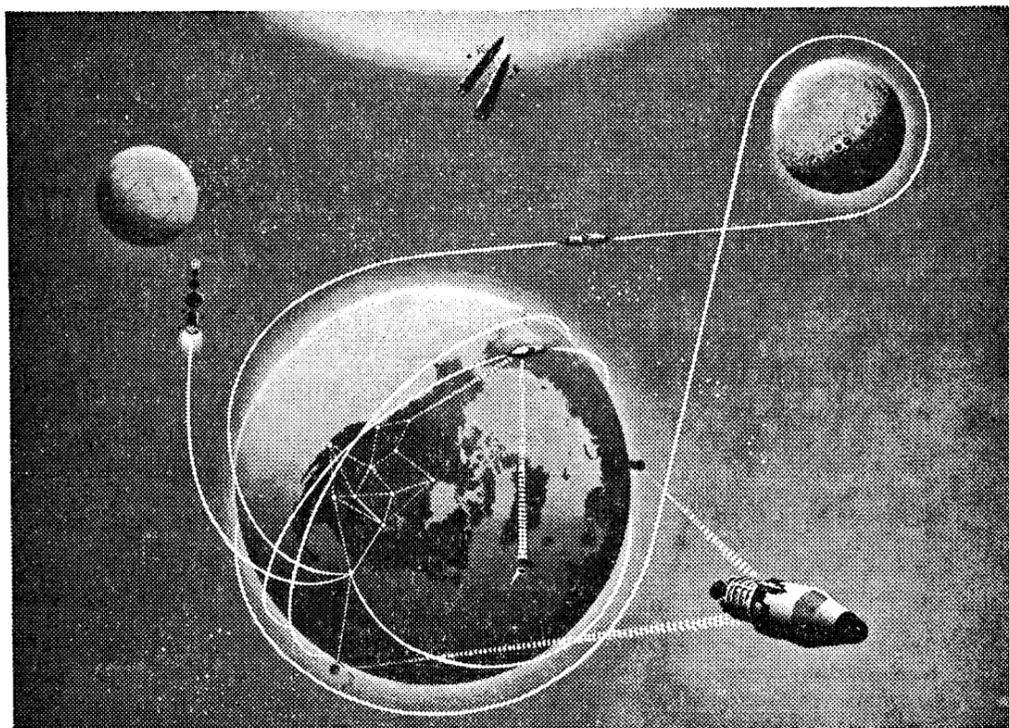
A pox on the unknown borrower of numerous books of Orange Stamps and a little cash, too, who made his haul over

Christmas vacation. This was a heart-breaking loss to the residents of MJ House, who were saving the stamps to buy a watchdog — so that their House may be safe from tigers, Orange Stamp borrowers, and other watchdogs, and so that the parking lot may be free from undergraduate cars.

**Sorry, Fellows**

The 100 ruble reward for info about Sobolchevsky's book is being withdrawn. Mike Fourney claims that the book can be purchased quite inexpensively from the Smiley Chow Book Store in Hong Kong. An order has been placed for a translated edition, and we're hoping the translation

(Continued on Page 7)



## 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.

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## Anarchists Take Over Penn Campus

A new political party dedicated to "sin and occasional motherhood" has been formed at the University of Pennsylvania by a group of students intent upon putting an end to student government at the University. The party, which calls itself THE UNITED CHRISTIAN FRONT-STUDENT ANARCHIST LEAGUE has rallied considerable support from various segments of the student body including nattily-tailored Ivy Leaguers and bearded Bohemians. At the core of the movement are a group of fifteen students who, in a manner reminiscent of the Dadaists and goldfish-swallowers of twenty years ago, are given to holding meetings on rooftops and signing petitions on toilet tissue.

### Political Idiocy

The leader of the elite inner circle of the party — known as the Committee of the Faithful — is Charles Horner, a writer for the campus daily who is described by other members of the paper as the incarnation of the late H. L. Mencken. When asked to state the motives of his party, Mr. Horner replied, "We desire, through a subtle combination of satire and sense, to demonstrate the basic absurdities of any system built upon political idiocy."

Planks of the party's platform

## New Jobs Ease Recession

Modern technology, ever spreading out to include more and more subjects, seems to have resulted in a weird combination of generic names for the newest specializations. Bantering about some strange combinations in the California Tech office the other night, we came up with these:

- Bio-metallurgy
- Astro-ornithology
- Paleo-engineering
- Tonsorial mathematics
- Organic chemistry
- Social spectroscopy
- Aero physics
- Semantic seismology
- Celestial neurology
- Topological neurology
- Journalistic taxidermy
- And last of all, Psycho-geology.

Absurd as some of these may seem, they represent only about 25% of those suggested. Suggestions by one person turned out to be options of others. Combinations of the strangest terms turned out to be current indus-

include "settlement of the German question by re-establishment of the Holy Roman Empire" and conversion of the university's faculty club into a retirement hall for the university's building and grounds crew.

trial and professional specialties. One hesitates to predict limitations on fields of study. Readers who dream up some more can send them to us. If we get enough, we'll publish a compilation later this term.

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# Poets Down Beavers In Second League Loss

BY RICK WEINGARTEN

The Caltech varsity basketball team lost its second straight league tilt to an impressive and powerful Whittier five last Saturday night at the Whittier gym. The final score was 80-52, and the varsity was outplayed in every quarter but the second. The Poets, sparked by the sharp play of Steve Hayes, who traditionally has his best games against Caltech, jumped to a commanding lead in the first ten minutes of play and the best the Beavers could do was to pull back to within six points in the second quarter. This was the

same Whittier team that had been trounced by Pomona just the week before. Saturday the Poets looked unbeatable.

## Gerber High Man

High scorer for the Beavers was Dean Gerber, who scored fifteen points, and close behind were Noll and Bopp with twelve and eleven points, respectively.

Earlier the frosh lost by a 77-31 score, being completely outclassed by the Poet freshmen.

The band deserves a compliment for Saturday night's efforts. We heard several favorable comments from Whittier people about their playing. It is hoped they will show up at further games since it adds a lot to the spirit, even in a losing cause like Saturday's.

Tomorrow night the Beavers meet Claremont-Harvey Mudd at Claremont in a league contest.

# Page Leads In Varsity Rating

Last week the Athletic Department released first term standings for the Alumni Intercollegiate Athletic Rating Trophy. Page, winner of the trophy last year, was significantly ahead of the pack again this year with 73 points. The score is tabulated by awarding a House four points for each varsity team member, two points for each frosh team member and varsity manager, and one point for each frosh manager.

The points awarded per sport were:

## WATER POLO

Ricketts	24
Dabney	18
Lloyd	18
Page	18
Blacker	14
Fleming	10
Ruddock	4

## CROSS COUNTRY

Page	16
Fleming	8
Blacker	6
Ricketts	4
Dabney	2
Ruddock	2
Lloyd	0

## SOCCER

Blacker	14
Lloyd	10
Dabney	8
Page	8
Ricketts	8
Ruddock	6
Fleming	4

## FOOTBALL

Ruddock	32
Page	31
Lloyd	20
Ricketts	20
Blacker	16
Dabney	9
Fleming	8

The summed-up standings are:

Page	73
Ricketts	56
Blacker	50
Lloyd	48
Ruddock	44
Dabney	37
Fleming	30

# Fleming Wins Discobolus Rifle Match

Fleming House, led by John Letcher with a score of 135, scored a clear-cut 643-585 victory over Ruddock in a Discobolus rifle match last Friday. A combination of peak performances by most of Fleming's shooters and below-normal scores by Ruddock decided the match, which was expected to be much closer. Dan Paxton led the losers with 132.

Current standings are:

HOUSE	POINTS
Dabney	15
Fleming	10
Ricketts	4
Ruddock	2
Blacker	1
Lloyd	1
Page	1

Page has the next challenge.

# Swimming Practice Begins; Oxy Potentially Strongest Foe

BY J. C. SIMPSON

Practice has begun for the coming swimming season, but the outlook for the coming season is a bit darker than last year. Many of last year's championship men have been lost, and the competition promises to be rougher in the league this year.

Although many of last year's stars, such as Gary Tibbetts, have been lost, the team this year will be strengthened by the addition of George McBean, who is coming out for the first time. Caltech's strongest league opponent this year will be Oxy,

which has come up with a very strong team. Many team members feel that if they can beat Oxy, the Beavers will take the championship again.

This year's team has most of its strength in the backstroke and all the freestyle races. The breaststroke and butterfly are the weak spots, with butterfly being the more serious problem.

Practices have begun in preparation for the preliminary meets which begin in late February. The league finals are in May.

# Drama Club Meets Tonight

The Caltech Drama Club will meet tonight at 7:30 p.m. in 206 Dabney to choose a play for a public reading in the latter part of February. Anyone interested in the reading or the club is invited.

Suggestions for a play should be accompanied by enough

knowledge about it to permit a brief description and outline. Those plays submitted will be discussed and a preliminary elimination will be carried out. Members who have not had the opportunity to meet the club sponsor, Dwight Thomas, should be sure to attend the meeting.

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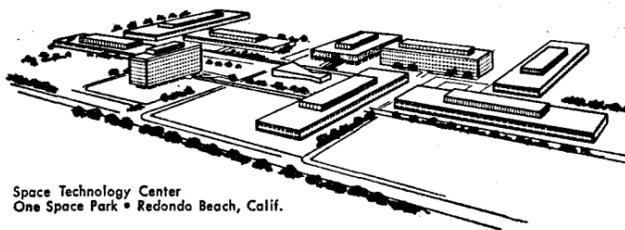
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# High School Teaching Suits McCombs

(Continued from page 2)

to work out new ways of teaching high school science and ways of getting the new learning into high school courses. Challenging programs are being worked out in every area. The new chemical-bond approach to high school chemistry is teaching material that I am just learning for the first time in a graduate quantum mechanics course. Many schools will give you nearly complete freedom to choose your textbooks, outline your course, and even purchase laboratory equipment. More and more high school teachers are conducting original research on their own or in cooperation with their more brilliant students.

### Free Time

Lack of free time? This is a somewhat valid detriment. Most schools will expect you to teach between 100 and 150 students. You will probably have four or five classes and a study-hall or two during the day. All the preparation of lessons and grading of tests and homework will have to be done outside of school time. If you plan to keep up with the reading in your field and constantly revise your courses to incorporate new concepts in science and new teaching ideas, you won't have a great deal of free time. But you will have three months each summer when you can take further graduate work in science (thereby improving your salary scale), earn extra money (as much as \$1000) by teaching in summer school, or just take a long vacation. Many of the extraneous drains upon a teacher's time are being done away with. In many schools, the science teacher is not expected to handle a home room, serve as a lunchroom monitor, or act as a chaperone at games and parties. He will be paid extra for these duties if he decided to take them on. Most schools expect a teacher to serve as advisor for one extra-curricular activity, such as a science club, but even this requirement is not universal.

### Shave and a Haircut

Pressure to conform? Here the Caltech student may feel a certain amount of pinching. He must dress decently, shave daily, and in general conform outwardly to the minimum moral code of the community where he is teaching. But, as mentioned above, more and more schools are giving the science teacher a free rein in the classroom to do as he likes. Whether your ambition is to give carefully-prepared college-like lectures, or to introduce the classes to the complexities of research, you will be able to find a class where you can try your ideas.

The strongest objection usually made to high-school teaching is the necessity of taking great numbers of dull and trivial education courses. This is true at most state universities and at teachers' colleges. However an increasing number of well known universities are offering M.A.T. programs. May I point out the Yale M.A.T. program as an example, since I am best

acquainted with it.

In this program you will be expected to take a one-semester course in the psychology of education (taught by a psychology prof), one semester of the history of education (a history prof) and one semester of the philosophy of education (a philosophy prof, natch). These courses all come during the school year. In addition to them you will be able to take three full-year courses in your own specialty. You will be encouraged to take undergraduate courses if you wish to fill out holes in your background, or you may take three advanced research courses if you wish. I am taking undergraduate courses in biology and organic chemistry and a graduate course in quantum mechanics. Needless to say, Yale offers just about any subject you might want.

### Summer Teacher

Then during the summer following the school year, you will teach in a six-week summer school. You and two other stu-

dents will each teach one class per morning, and spend the rest of the morning observing your fellow-students teaching and observing your master teacher. The master teachers are persons with 10 or more years in high school teaching who are known in their school as outstanding teachers. In the afternoon you will have seminars with your master teacher to discuss problems and methods of teaching your particular subject. At the end of the six weeks you will receive your M.A.T. degree from Yale, which entitles you to teach in 13 Eastern states. At the present time, it will not be accepted for certification in California — additional education courses would be required; but the California laws are now undergoing revision.

I am finding the Yale M.A.T. program challenging and exciting. My talks with high school teachers and administrators and my observations in high school classrooms have convinced me that there is a challenging and exciting opportunity for superior science students to move into the high school teaching field.

If you'd like more details, write to me (147 Bradley Street, New Haven, Connecticut), or check the college catalogues in the humanities library for the addresses of the various M.A.T. programs themselves. Colleges will be glad to answer questions. I think I can guarantee that they will be anxious to admit Caltech graduates into their programs.

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## Gomez Hosts Y

The first YMCA Faculty Fireside of the term will be held next Sunday evening in the home of Ricardo Gomez, Senior Research Fellow in Physics. Everyone wishing to become better acquainted with this lively campus personality should sign up in the Y office immediately. The group will meet at 7 p.m. in the Athenaeum parking lot to organize transportation.

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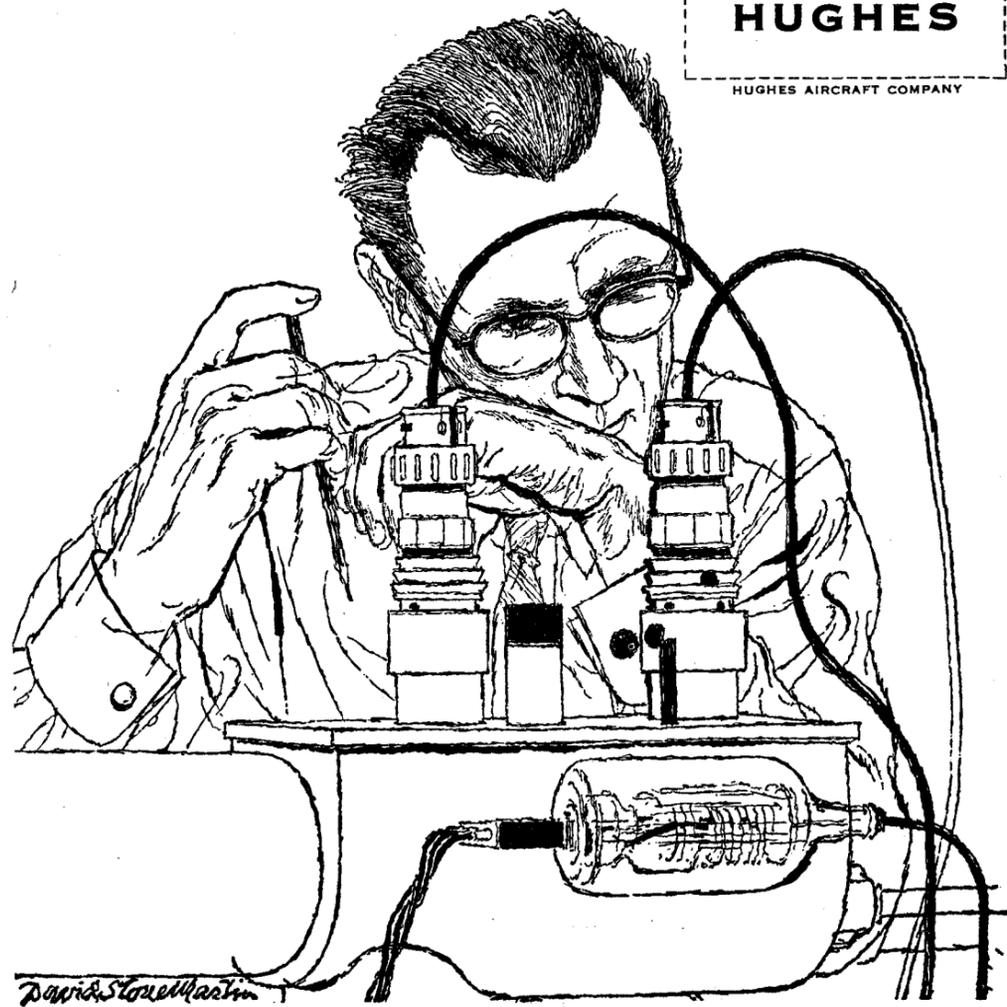
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## Graduate Rattle

(Continued from page 3)

isn't into Chinese.

### A Look at the News

"Khrushchev has the flu". — "Nixon says Khrushchev drinks too much" — So that's my trouble.

### Princess Gayle

I've always wondered about the supposed feud between Caltech and PCC, and decided to do a little snooping around with the hope of finding a way to improve relations and lower the class average around here.

To make the job as easy as possible, I decided to interview Gayle Morris, one of the Rose Princesses:

Q.: What usually comes to mind at PCC when Caltech is mentioned?

A.: I've often heard that the parking lots over there are a good place to park.

Q.: You mean the PCC lot gets overcrowded?

A.: Yes, it does, but that has nothing to do with it.

Q.: I've heard that Techmen and CC's live in different worlds. Do you believe that to be true?

A.: Yes — a world of thick glasses, beards, and boundary layers there, and a world of empty cigarette packages, gas tanks, and not so exceedingly full heads here.

Q.: Do you think anyone desires to change this situation?

A.: No.

Q.: Do you think an exchange dance would be well attended by PCC girls?

A.: Yes.

End interview.

To quote I forget who, "Women are like modern art. You can't enjoy them if you try to understand them."

## New Metal Fatigue Theory Revealed

An aeronautical engineer at Caltech has developed a comprehensive new theory of metal fatigue that makes it possible to predict accurately the life span of any structural component in aircraft and missiles and to predetermine the probability of failure due to accumulated damage at any stage of its life.

### Progressive Damage

Developed by Dr. Sitaram Rao Valluri, senior research fellow in aeronautics, the theory is based on experimental evidence that metallic structural components are subjected to progressive damage called fatigue in proportion to the intensity and the duration of the stresses applied to them. At any given time after the structural component is put in use, only a decreasing amount of strength remains in it. The theory is concerned primarily with the estimation of this residual strength and the analysis of the factors affecting it.

The theory has been able to predict results of strength tests with much greater accuracy than has hitherto been possible. In one instance, the errors in a fairly complicated type of loading averaged less than five percent.

## Techmen Rank High On Bill Of Rights Quiz

BY DANNY ROMM

Techmen demonstrated they know more about the Bill of Rights than do students at other southern California colleges on the basis of a recent poll circulated by the Caltech chapter of the American Civil Liberties Union. They also demonstrated that they don't know too much about how these rights are applied.

On a series of "yes or no" questions regarding rights guaranteed in the first ten amendments, Techmen averaged a 90% correct score, as opposed to an average of 78% at UCLA, LA State, LA City College, and San Diego State.

### Bill of Rights

Techmen were almost unanimous in their views towards "businessmen's rights". The Bill of Rights guarantees neither freedom of enterprise nor right

to work, say 16% and 10% of Caltech students, respectively. The averages at the other schools were 23% in favor of right to work, and 36% in favor of freedom of enterprise.

Caltech was also right on several questions that other colleges missed badly — for example, only 16% of Techmen said freedom from excessive bail is not guaranteed, while 47% of the people at the other colleges felt this way. Similarly, all Techmen said freedom of worship is guaranteed, while other schools listed significant minorities of anti-religionists who apparently feel that the First Amendment doesn't exist.

### About Civil Liberties

There was also a section in the ACLU pool which included some highly simplified black-and-white question about civ-

(Continued on page 8)

## California Tech

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Circulation: Howard Monell

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## ACLU Poll

(Continued from page 7)

il liberties. In most respects Caltech appeared to fit ACLU's concept of "civil libertarian" better than did the other four colleges sampled.

As examples — 92% of Techmen said a Socialist should be permitted to teach in a college, while 76% of the others held this view. Similarly, 55% of Techmen said a labor leader should be able to refuse to answer questions before Congressional investigating committees, while only 36% of the other students agreed.

On the other hand, Techmen came out strongly in favor of government and property rights, supporting the following concepts by much greater majorities than did the other colleges: (1) giving the government power to arrest and hold without court hearing suspicious persons during a "national emergency"; (2) not outlawing racial discrimination in public and private housing; and (3) giving to police the right to pump the stomach of a known dope peddler on suspicion that he has swallowed evidence.

Yet, surprisingly in light of the above results, Techmen also overwhelmingly refused the Federal Communications Commission the right to cancel TV programs which it feels are against the national interest. However, 35% of Techmen supported double jeopardy, and 41% favored wire tapping as a means of fighting crime. Also, despite wide campus publicity about the issue, only 50% of Techmen were opposed to loyalty oaths as a condition for financial aid from the government.

### Inconsistency is Neat

The above on-campus results illustrate a fairly inconsistent approach to the civil liberties ideas expressed in the polls, even in view of the highly simplified questions. ("Anyone who has ever belonged to the Communist party should be barred from public employment—yes or no?" is a typical question. What employment? Where? How long ago was he a Communist? Why was he a Communist?) This inconsistency was reflected in the overall statistics, partly because half the students polled were from Caltech.

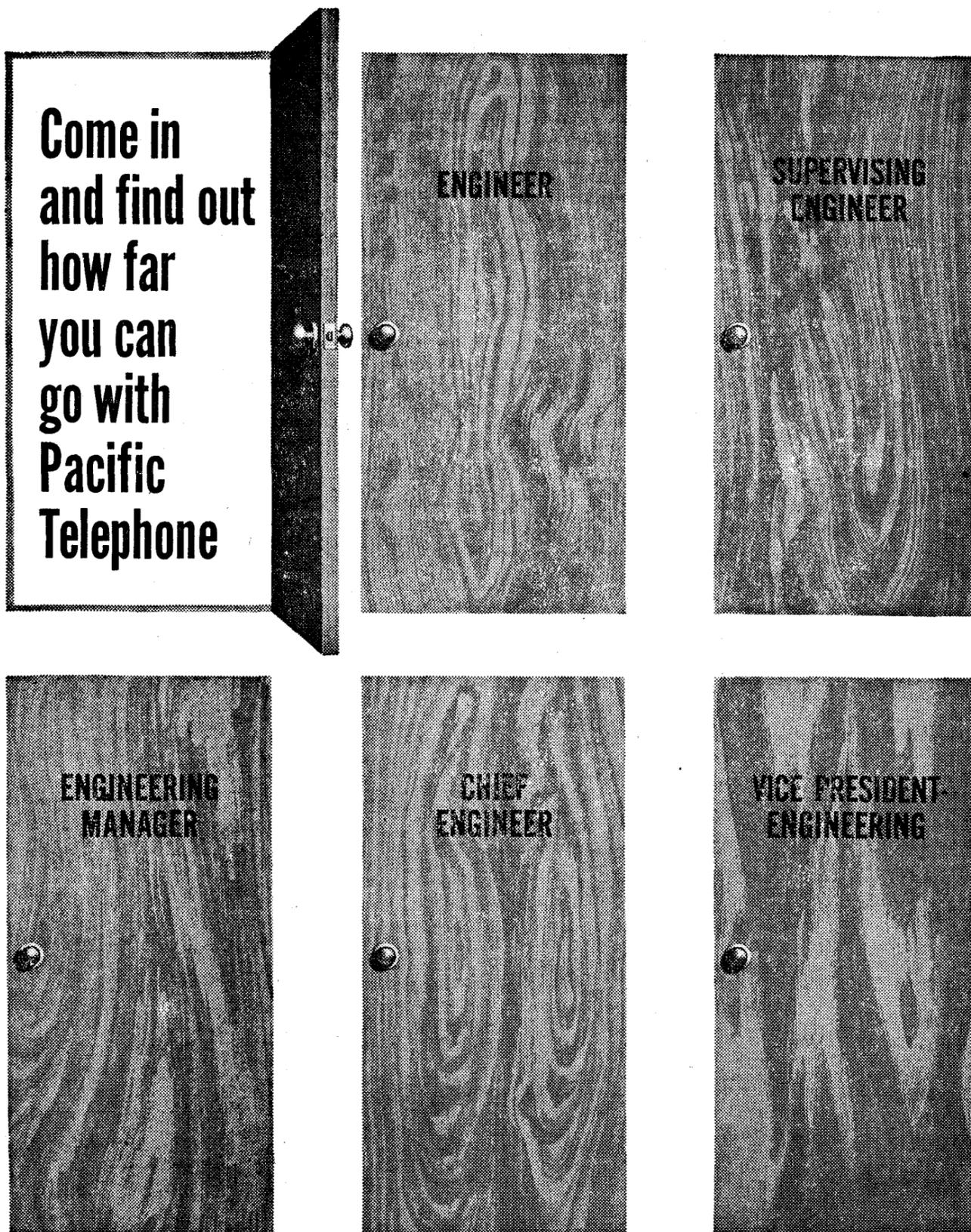
Eason Monroe of the southern California branch of the ACLU said the poll revealed college students showed "remarkable inconsistency and lack of clarity" on Constitutional questions. Despite the faults of his poll, Mr. Monroe's statement seems well founded. Techmen did repudiate their role of unaware scientists by showing a far better knowledge of the Bill of Rights than did other college students, but they also seemed rather vague on the applications of the rights they know about.

Copies of the Poll, and scores thereof, are available from Larry Rabinowitz, ACLU Caltech chapter president, in Page House.

## Physics Club

### Meets In Week

Dr. Ted Forrester of Pasadena's Electro-Optical Systems Corporation, will speak next Thursday, January 25, at a meeting of the Tech Physics Club. Forrester will discuss photoelectric mixing, a topic of significance in coherent-light research. The Physics Club meeting will be held at the home of Professor T. Lauritsen; it starts at 8 p.m.



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# February 7, 1962

## PLACEMENT OFFICE



BY JOHN BERRY

Two results of last week's column are that (1) there is a persistent rumor that a high Caltech official is hunting me with a vodka bottle in hand and (2) I have been informed that there will be a chapel in the basement of the Beckman toadstool. I wonder if there is any connection between the location of the chapel and the perennial complaint that "Tech is Hell!" All I know is that I'm not going to visit the place on All Hallow's Eve or Midsummer's Eve at midnight.

**Pat's, Not Kloke's**

For those who have found Kloke's unfriendly of late there is now a reasonable alternative. Pat's on Colorado Street has asked the Barfly's expert advice and received it. Only the ineptitude of our scurvy Business Manager has so far prevented them from advertising here. Pat's location is near the Track, and if by some mischance the stock doesn't include what you want Pat will probably be glad to know about and order it.

The remainder of the column is stolen from Gene Cordes, my predecessor-but-one, and is about five years old. Its age is the reason why most of the prices are out of date.

**Scotch Evaluated**

"This week we deal with specific evaluation of several brands of Scotch. First let us assume that drinker has a strictly beer budget. For this imbibor we restrict ourselves to those Scotches costing less than \$7 a fifth. Most of the brands are actually found in this range, so a great latitude of choice is available.

Prominent products that fall into this price class include **Black and White, Haig and Haig, Five Star, Dewar's White Label, Ballantines, Old Smuggler, White Horse, Whyte and McKay, Teacups Highland Cream, Martins VVQ, Vat 69, Johnny Walker Red Label, Ushers, Grant's Laphroaig, Cuttysark and Horse of Lord's.** If the prospective drinker prefers a drink of light body and delicate flavor, no better choice can be made than **Cuttysark.** If a fuller and richer drink is desired, then **Black and White** or **Johnny Walker** must be the pick. Scotches in this class to steer clear of include **Martin's** (too smooth), **Laphroaig** (too rocky), **White Horse** and **Usher's.** For an all around Scotch, **Whyte and McKay** makes an excellent drink but it is unfortunately almost impossible to obtain it on the West Coast. The rest of the Scotches are quite acceptable but it is felt that the above mentioned brands are the finest quality available at this price.

**Up a tad**

Let us skip up a tad and consider those Scotches that sell for between seven and ten dollars. There is no point in purchasing Scotch that costs this much unless it is consumed straight or on-the-rocks. A process that requires 8 years of aging can be completely obliterated in five seconds with just a bottle of soda. Most of the drinks in this range are the result of more costly blends and longer periods of aging.

The list here is more restricted but does include **Haig and Haig**

**Pinch, Black and White Delux, Johnny Walker Black Label, Kings Ransome, Chivas Regal, Ushers (20 years old), Martin's (8 years old), Grant's (12 years old), Crabbie's and Blended Moorlan's.** The best Scotch of full body and flavor here is probably **Chivas Regal, with Black Label** not far behind. Those who like a lighter Scotch will prefer **Pinch** or **King's Ransom.**

**Blended Moorland's** has fine flavor qualities but is all of 100 proof which is fine for the Wyoming roughneck but may do disturbing things to the delicate linings of milady's throat. All of the above Scotches are fine products whose quality reflects their high price.

**Plutocratic realm**

At this point we move into the realm of the plutocratic, capitalistic money hoarder. The prices of the following brands range from \$10 to a nifty little job that markets for \$32.25. This is a considerable range, but above \$10 who cares? All of these brands are among the finest Scotch available and are all the result of extensive aging. The list includes: **Ballantines** (17 and 30 years old), **Grant's** (20 years old), **Glenlivet** (10 years) and a few exotic brands not obtainable in this part of the country.

**Glenlivet** is the only unblended Scotch on the market, to the best knowledge of this writer, and will not appeal to the drinker accustomed to the conventional blended Scotches. It is quite highly spiced, being distilled in the Scottish Highlands. Just for the record, the 30-year old **Ballantines** is the \$32.25 a fifth dandy.

The above list is not intended



# Brewins



**Russo Routed**

"Quit pulling down my pants, Russo!" was feminine comment heard by startled Scurvefrosh who was walking by closed door. Beak, always anxious to find a good piece for column, investigated matter further. Unfortunately, expected turns out to be false. Russo, attempting to find new standards for wenchae, has measured calf of female associate. Wench, attempting to retrieve leg from tape, finds bull-fighter pants caught in same. Thus issueth comment. Sigh!

**Lamplight Lamponed**

Beak is relieved to find that others can cause almost as much confusion as himself. Consider case of great mass of nervousness at Scripps school when two

girls at same dorm find that they both have dates on same night with a Mike Lampon from Tech, of which there is only one. Confusion is hopelessly increased when one wench believes that said Techman is senior, while other female thinks Lampon is sophomore. Fortunately for women, situation clears up when two Techmen arrive to pick up dates. Explanation is soon found to be telephone operator-wench, who has garbled messages. Sophomore Lamplight found name changed to Lampon, only Lamp known to operator. Beak has unanimously voted said telephone-wench into "Brewin Maker" club.

Scratch Swamped

Scurve Coxswain Scratch was much surprised upon returning from recent date with Hero-Frosh-wench. Upon opening door to room, Scratch discovered that he has been buried under 700 cubic feet of newspaper; the result of one week of collecting and 50 man-hours of crumpling. Not to be outdone, Scratch convinced courtyard rooms that morning was at hand by using remains of room cleanup for marshmallow roast in our founder's pot.

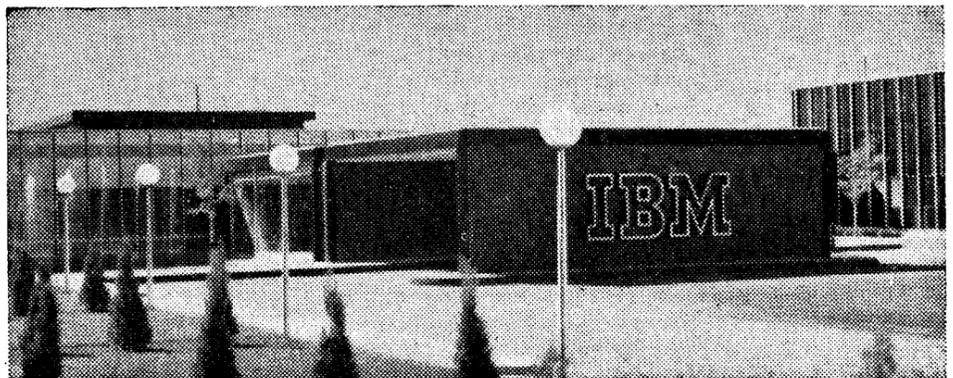
**Toad Tells Trophy Tale**

Toad is no longer sober, and so is in a position to report that Scurvedwart now holds House record by consuming more of certain spiriti frumenti than could the combined efforts of half-a-dozen others of the house at a recent party. A perpetual trophy in his name will be awarded to those bettering this mark. Only dissenting opinion is from Rah Anvil, who objects to being continually left out of such contests.

**Brewin Brewins**

Floydman Brewfree, deciding that his Klokebill was rather high, came across the idea of utilizing some useful information from the **California Tech.** Before Beak receives numerous letters reminding him that there is no useful information in the **Tech,** it should be noted that the issues said Floydman used were two years old. Contained within previously mentioned glorious issues was the secret formula for the production of a weakly alcoholic beverage. At the present, 4 gallons of this wonderful liquid are hibernating for a short period. Inquiries reveal that the results of this endeavor are being distributed absolutely free! Gifts will not be rejected, however.

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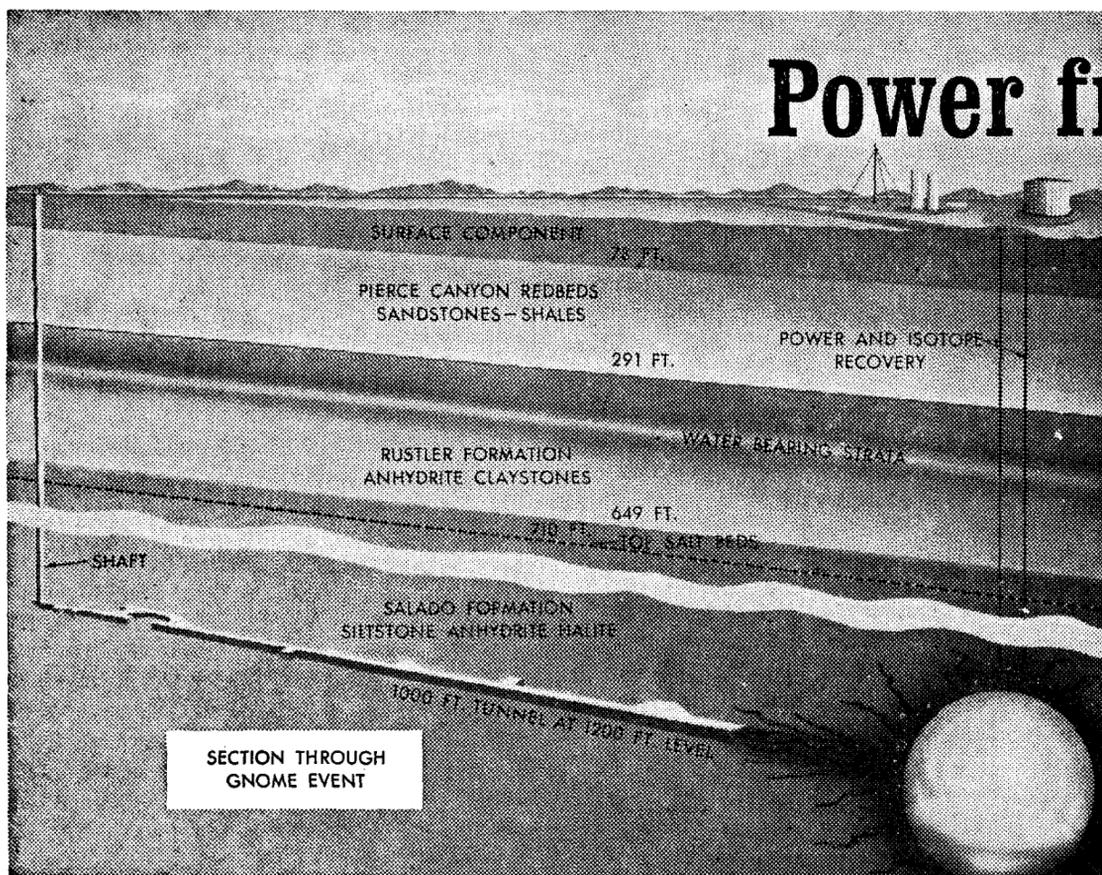
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**Your placement officer can help you to learn more about IBM.** He can give you literature describing the many career fields at IBM. He will arrange an appointment for you with the IBM representative. If you cannot attend an interview, write or call the manager of the nearest IBM office:

**R. A. Karlberg, Branch Manager**  
**IBM Corporation, Dept. 882**  
**705 N. Brand Blvd.**  
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# Power from below



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.

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.

**ON FEBRUARY 5 & 6**

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

*Call your placement office for an appointment*

## LAWRENCE RADIATION LABORATORY

*of the University of California  
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**January 23 — Contact University Placement Office for appointment.**