

## Polo Beavers Share Conference Championship With Pomona

Chesebro, Tisch  
Hameetman  
All Conference

BY THE SPORTS STAFF

The Caltech Varsity Water Polo team blasted through Redlands 5-0 and then creamed Occidental 7-2 to share co-championship honors in the SCIAC water polo league with Pomona. The over-all season record was 9-6.

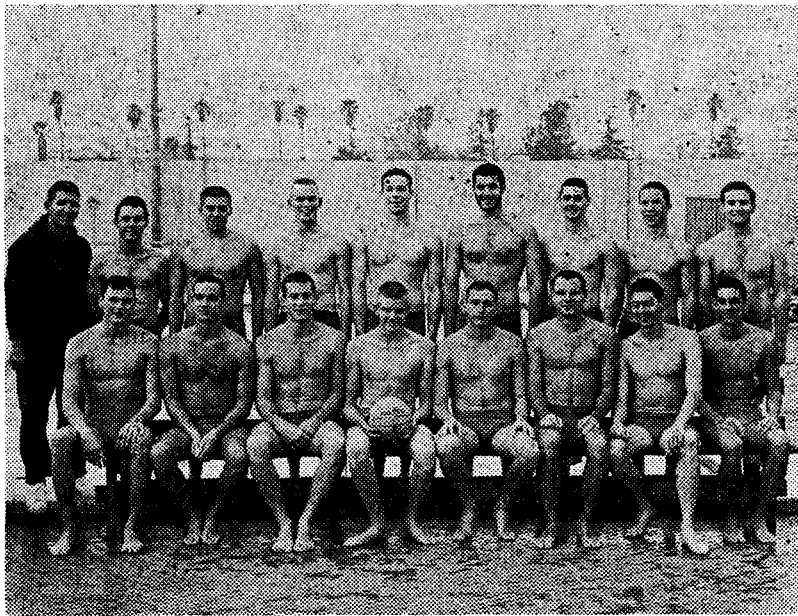
The co-championship was highlighted by the selection of guards Tom Tisch and Fred Hameetman, and forward Bruce Chesebro, to the all-conference team; this team is picked by a vote of the players in the conference.

Characteristically, the Caltech victories over Occidental and Redlands were team victories. The Caltech defense was probably the key to the conference crown and it was an all-team all-court defense. Typifying the defensive strength was the fact that Redlands was unable to score in the game, an almost unheard-of feat in water polo. Occidental, too, only scored in the last three minutes of the game when Caltech was leading by seven goals.

But defense alone cannot win a game, and the forward line usually provided more goals than the opposition. The overall balance of the team proved the deciding factor.

In the front line, Caltech started Bob Ruby, senior and all-conference pick last year, with Gary Tibbetts, senior letterman and top swimmer of the team. Sophomore Bruce Chesebro was the remaining starter on the team, and his consistent performance throughout the season won him his all-conference berth. Chesebro got two goals against Occidental and three against Redlands and had an over-all shooting average of .272 for 37 goals.

Bob Ruby got one goal against Redlands, but did not score against Oxy. His final season average of .233 fell off somewhat (Continued on page 6)



1960 Varsity Waterpolo Team Members. Left to right, front, are Bruce Chesebro, Fred Hameetman, Roger Bland, Al Huber, Gary Tibbett, John Smith, Gary Turner, Mickey Newton.

Back row: Coach Web Emery, Russ Russell, Tom Tisch, Jim Shaw, Pat Manning, Sherm Gratch, Gary Mitchell, Dave Ollis, Bob Heath. Absent: Bob Ruby.

## MacLeish Featured In Dabney Tonight; Sets Panel Discussion On Snow's Rift

BY MIKE TOWNSEND

Archibald MacLeish, visiting YMCA Leader of America, will be the featured member of a panel discussion tonight in Dabney Lounge at 7:30 p.m. on the topic "The Two Cultures: Sciences and the Arts." The discussion will be on C. P. Snow's lectures at Reed and the alleged rift between science and non-science. Other panel members, besides MacLeish, will be J. Kent Clark, Humanities; Jon Matthews, Physics; Cushing Strout, Humanities; Morgan Ward, Math; and Jesse Greenstein, Astronomy, moderator.

### OFFICE HOURS

On Thursday and Friday afternoon at 2 p.m., MacLeish will hold "office hours," open to all undergraduate and graduate students and consisting of informal discussion of poetry, J.B., and intellectualism in general.

Tomorrow night, at the home of Dr. Lindvall, chairman of the Engineering Division, an open

house will be held for MacLeish. Everyone (even faculty) is invited and dates are welcome. Lindvall's home is located at 1224 Arden Road, Pasadena.

Yesterday noon, at the Athenaeum Lunch Forum, MacLeish read Chinese poetry. On Wednesday night, MacLeish read his own poetry in Lloyd House Lounge.

### ILLINOIS NATIVE

Born at Glencoe, Illinois, in 1892, MacLeish lived as a child in a devoutly Protestant atmosphere; in 1915 he graduated from Yale University, and went to study at Harvard Law School.

MacLeish went to France during World War I with his wife and child and began his military service as an ambulance driver; after a short period he joined the AEF and by the end of the war held the rank of captain. During the war his first book, "Tower of Ivory" (1917), was published.

When MacLeish returned to the United States at the end of the war, it was to conclude his law studies and enter private practice. But the next several years produced a fundamental change in MacLeish's life, as he became progressively more dissatisfied with his ordered lawyer's existence and more inclined toward literary expression.

### FRENCH EXPATRIATE

Finally, in 1923, he gave up his practice and moved to Europe; he lived there for five years, during the first of which he published "The Happy Marriage" (1924) and later "Streets in the Moon" (1926).

In 1928 he published "The Hamlet of A. MacLeish," a long metaphysical poem involving variations on Shakespearean themes; this work is frequently regarded as his first important poem and the beginning of his literary maturity.

For a brief period in 1928 MacLeish returned to the United States, to his farm in Massachu-

## Student Visitors To Hear And See Varied Programs

BY BILL MEISEL

Students and teachers from all over Southern California will converge upon Caltech this Saturday as Tech has its annual Students' Day. This event is designed to give those interested "a little glimpse of what a center of education and research looks like," as President DuBridge puts it.

Over 300 schools were invited to participate in the activities this weekend. Dr. Richard M. Sutton, Chairman of the Faculty Committee for Students' Day, estimated (with a quick slide-rule calculation) that 240 of these

would be represented. About 1100 students and 200 teachers will find their way to Cal Tech.

Each house has the duty of registering about 150 arrivals, who will repay them by wearing a badge of the House color. The visitors will be divided into 70 sub-groups, each headed by a student guide, to see exhibits spread all over the campus. Every group will see seven of a total of 70 exhibits, ranging from the synchrotron and electron microscope to spinning protons and magnetofluidynamics. Sutton indicated he was confident the system would work as he demonstrated with adept gestures how all motion on campus would be in a clockwise direction.

Teachers will eat lunch at the Athenaeum where they will hear an address by Dr. John R. Weir, Associate Professor of Psychology, on the identification and nurture of scientific talent. Student guests will eat in the Student Houses.

Visitors will gather on the Athenaeum lawn after dining to hear talks by President DuBridge and ASCIT President Bill Bauer.

Three lecture periods of an hour each will fill the afternoon. Guests will have a choice of five or six lectures per period. Dr. George W. Beadle, Nobel Laureate, will give one of the lectures, speaking on "The Language of the Gene."

Undergrads willing to act as guides, registrars, or general saviors of the lost and bewildered, are urged to contact their House officers or Carl Hamilton in Dabney.

## Xmas Dance Is Saturday

The ASCIT Christmas Dance, featuring Rip Marshall and his band, will be held this Saturday, December 3, in Dabney Hall Lounge. Men should wear dark suits to the dance and ladies should wear party dresses. Flowers and tuxes are not in order.

Admission to the dance will be one toy per couple. The toy will be donated to the JPL toy fund for underprivileged youngsters. The JPL toy fund will distribute the toys collected at the dance as well as toys collected from other sources.

Although the main entertainment of the evening will be dance music by Rip Marshall and his band, additional entertainment will probably be provided by one of the campus Dixieland Jazz Bands. Refreshments will also be served.

The ASCIT Christmas Dance is planned by ASCIT Social Chairman Tim Little and his social chairman committee. The expenditures for the dance run about \$400.

## Killian, Sloan, Adm. Bennett Join In Laboratory Dedication

The new Alfred P. Sloan Laboratory of Mathematics and Physics will be formally dedicated this afternoon at 1:30 p.m., and a portrait of Mr. Sloan will be unveiled in the lobby. Later, at 4:15, the new 10 MEV electrostatic accelerator in the Sloan basement will also be hallowed. President DuBridge will preside at the double ceremonies.

Dr. Robert F. Bacher, Chairman of the Division of Physics, Mathematics, and Astronomy, and Mr. Alfred B. Ruddock,

Chairman of the CIT Board of Trustees, will speak at the 1:30 dedication. At the later ceremony, Rear Admiral Rawson Bennett, Chief of the Office of Naval Research, will deliver a short address. An open house will be held from 3:30 to 5:30 throughout the building.

The day's activities will be concluded with a 7 p.m. dinner in Sloan's honor at the California Club. Mr. Sloan, Adm. Bennett, and Dr. James P. Killian, president of M.I.T. and head of the new Civil Space Administration, will speak, with Dr. DuBridge acting as master of ceremonies.

The modern, air-conditioned, reinforced concrete building was built with a \$1,165,700 donation to the current building program from Mr. Alfred P. Sloan, Jr. and the Sloan Foundation.

## Joel Donnelly New IHC President

Joel Donnelly, Ruddock, will assume the duties of IHC president because of the resignation of Stan Sajdera. Sajdera is leaving Tech at the end of the term.



A. MacLeish

setts; but soon he was off to Mexico, where he retraced the route of the 16th century Spanish Army. This trip produced the episodic poem "Conquistador" (1931), for which he won his first Pulitzer Prize.

### FORTUNE EDITOR

MacLeish's interests were at this time beginning to expand; for a while he was an editor of Fortune, and when Roosevelt was elected in 1932 he became associated with the group of intellectuals connected with the new administration.

In 1939 Roosevelt appointed MacLeish Librarian of Congress, and it became his task to reorganize the Library; this he accomplished, along with helping to produce a fundamental statement of the purpose, conception, and services of the Library. During the Second World War he became more deeply involved with the government, becoming Assistant Secretary of State under Edward Stettinius in 1945.

Three years later, *Active and Other Poems* was published and acclaimed, and in 1952 *Collected Poems 1917-1952* appeared as the definitive record of MacLeish's poetic development.

But besides purely poetic material, MacLeish has for some (Continued on page 4)

## Editorial

## Solution To Rotation

Rotation discussions are starting again with the ASCIT Ex Comm attempting to make some recommendations to the IHC. The Ex Comm has done a good job of recalling all the old arguments. In reading them over again, however, we began to wonder on what sort of criteria a rational undergraduate who wanted to make a conscientious rational decision on whether to vote for or against a rotation could weigh the traditional points.

On what grounds can an individual decide whether the advantage of a rotation as giving people a freedom of choice about where they live outweighs a possible disadvantage such as the claim that frosh who get stuck in a third or fourth choice House will be academically, emotionally, and socially damaged at the outset of his college career? Or similarly, how do we figure out whether rotation is good because it causes many more upperclassmen and frosh to meet each other in the first two weeks than they did this year or bad because these initial meetings stress superficial qualities and tend to engineer superficial value judgments on how to have a popular, acceptable personality? Does rotation create tension between the Houses that is so great it destroys the advantage of the fierce House spirit it also builds in the Houses that compete strongly for the top freshmen? Again, on what criteria do we decide whether the tensions or the spirit is acceptable?

It seems to us that when one asks for such criteria there is bound to be much guess work unless one ultimately goes all the way down to the purposes of Caltech, or indeed the purposes of college or education in general. You find yourself asking ultimately what kind of person we are trying to graduate from Caltech and next how we should go about educating such a creature. Eventually you get around to how he should live and undoubtedly whether arbitrary assignment or a free-choice system adds or detracts from the goals you have set for the school and the individual. However, we have not seen any evidence that any group has set out to define such goals or intends to.

On the other hand, those of us who have lived through one or more rotations have an opinion on whether a rotation helped or hurt us as individuals—forgetting for the moment about the rest of society and the philosophy of education which may or may not exist.

We would like to suggest that a simple decision on the basis of the effect of the system on each individual will yield in just about every case the same answer as that individual would come to if he thought and thought and debated and debated the more philosophical questions. The long traditional arguments eventually boil down to individual value judgments about what is important in life. Why should we go through the process of arguing and losing sleep and tempers when in most every case we know the answer we are going to reach right now?

Those upperclassmen who now live on campus but did not go through a rotation can ask themselves simply whether they are happy about having had a choice of which new House they would move into rather than being arbitrarily assigned and whether they would like to have a choice over what frosh move in next year. Frosh, likewise, can ask whether they would be equally happy right now in any of the seven Houses or whether they would be happier in some House other than the one they are presently living in. To us it is pointless to burden those who have not actually been through the system with such arguments as the dirty tactics and the tensions involved. To really decide what effect such specific problems have on one's educational growth depends on having experienced them and we have lots of sophomores, juniors, and seniors who have gone through the unpleasanties and will obviously include them in their judgments.

We admit that our solution seems overly simple, but maybe after all there are a lot more important things to do at Caltech than spend our time deciding about rotation. —jt

## Travel Prize Report

## Hospitality, Friendliness Characterize Greeks

BY BILL BAUER

To merely visit Europe does not insure that one will gain an understanding and familiarity with the countries of the continent and the people who live in them. Just as there are many levels on which life is carried on, there is a variety of impressions for the traveller to receive, depending upon such factors as his age, financial status, and degree of gregariousness, to mention but a few. For this reason, nearly everyone who goes to Europe returns with his unique idea of the true nature of Europeans and their ways of life.

## ARRAY OF CHOICES

When one first arrives in Europe, he is immediately and forcefully confronted with a somewhat bewildering array of choices. He must decide whether to attempt to see all the museums (naively supposing, at the time, that this is possible), whether to concentrate upon meeting as many people as he can, or whether, perhaps, to attend such events as plays, concerts, and operas.

Often time is so limited that these alternatives become almost mutually exclusive. In order to avoid some of these difficulties, I adopted the point of view that this was to be not my only trip to Europe, but my first. This meant that I was not so much interested in exhausting the European store of museums and exhibits, but was more concerned with forming acquaintanceships and making friends.

## LEARN TO LIVE

In addition, I tried to learn what it is like to live, rather than merely to travel, in a given area. For this reason, also, I tried to meet and live with Europeans and their families, and to stay away from hotels and other American tourists as much as possible. This method of approach proved to be particularly rewarding in Greece, where I spent about one-third of my travel time.

Greece is a country which contains practically every degree of cultural and social gradation, from the superstitious

simplicity of the Island Greeks to the strange combination of three eras, Ancient, Byzantine, and Modern, that is Athens.

## SINCERE FRIENDLINESS

Although their economic status may range widely, and although they speak with nearly a thousand different dialects, the Greek people have one characteristic in common: nowhere else can be found such a sincere combination of hospitality, friendliness, and readiness to accept strangers, particularly Americans. I was introduced to a family of Islanders by a friend in Athens and they invited me to spend a few days at their home on the Island of Skiathos, about 40 miles off the main coast of Greece. This proved to be the most enjoyable portion of the entire summer.

## VACATION-LAND

The population of the island consists of about 2,000 inhabitants, most of whom are engaged in fishing or the production of olive oil. The island itself turned out to be a favorite vacation spot for the Greeks, although it is frequented by very few foreigners; it is resplendent with rolling green hills covered with olive trees, its shoreline is dotted with countless beautiful natural beaches, and it is surrounded by the crystal-clear Aegean Sea. It was at one time a center for the Greek War of Independence, and the flag of modern Greece originated at one of its monasteries.

During the time I was there I was taken on a tour of the island, partly on foot, partly by boat, and partly on muleback; I was fed innumerable exotic sea-food dishes; and, most important, I was able to live for a while as a part of the island community.

## ATHENS VISITED

Besides the islands, I spent a considerable portion of my time in Green in the city of Athens and the surrounding area. In my opinion, Athens is the most interesting city in Europe. The evidences of its long and varied history are everywhere to be seen; from the ruins of the Acropolis one can view the development not only

of Greece but of the modern world; on one side stretches out the ancient Agora; next to it is the Roman Agora, symbol of the Roman occupation; on beyond them lie the beginnings of the modern city, with dirt streets containing converted mosques and Byzantine churches; last comes modern Athens itself, with its beautiful parks, fountains, and public squares. Not only is the city interesting and beautiful, but its people are almost as friendly as the islanders—a somewhat strange phenomenon in a large city. This is true in spite of the extremely low living standard there (a living standard which, by the way, makes Greece one of the least expensive countries for an American to visit). To a Greek family, it is a matter of tradition and pride that a guest be well cared for, even though they themselves may eat practically nothing for days afterward as a result. The average family of five can usually expect \$2.50-\$3.00 income per day; a good meal in a restaurant, by way of comparison, is about 50 cents.

## GREEK RELIGION

Another important tradition to most Greeks is their religion, the Greek Orthodox Church. They live by a strict moral code; teenage girls, for example, are severely punished if they are even observed talking to young men. One instance of this particularly impressed me. One evening I went to an outdoor movie with some Greek friends, and during the course of the evening it began to rain. We ran under a tree for shelter, and

(Continued on page 3)

## Beckman Plans Just Revised

The plans for Beckman Auditorium were revealed this week. The style of the new auditorium is a radical departure from present campus architecture. The circular structure was designed by Edward Stone, architect of the U.S. Pavillion at the Brussels World Fair.

The auditorium is named in honor of Dr. Arnold O. Beckman, member of the Institute Board. Dr. Beckman was on the Caltech chemistry staff until 1938, when he founded Beckman Instruments, now one of the world's largest manufacturers of scientific equipment.

The \$900,000 structure will seat 1250 people. It will be located 400 feet north of San Pascual Ave., directly opposite Gates Laboratory. Rehearsal rooms for band and Glee Club will be included. The auditorium is to be wired for live television transmission.

Mr. Wesley Hertenstein, director of B&G, stated that use as "a large lecture hall is its primary function." All popular lectures will be held in the building, which is to be outfitted for demonstrations to large groups.

Plans for Beckman Auditorium will be completed in late spring. Construction will be finished about a year after the final plans are approved. There are no definite plans concerning the future of Culbertson Auditorium.

## Sports Banquet Slates Awards, Talk, Next Monday In Chandler

The Annual Fall Sports Banquet will be held this year at Tech's own brand new Greasy (instead of "somewhere else" as in past years) next Wednesday, December 7, at 6:30 p.m. Featured speaker for the evening will be a prominent coach from the University of Southern California. Following the talk will be the presentation of awards for fall sports: football, soccer, water polo and cross-country.

Awards to be presented are all-conference trophies to members of the varsity football and water polo teams; letters, numerals, stripes, sweaters, jackets, and blankets to outstanding team members of all sports—varsity and frosh—and the Wheaton Football Trophy to the varsity gridder who, in the opinion of his teammates, was outstanding in sportsmanship, scholarship and spirit for the

season.

Tickets are available and will be on sale by the House Athletic Managers through Saturday, December 3. Prices are \$1.50 to team members, bandsmen, and cheerleaders, and \$3.25 to all others. All students and friends are urged to attend this dinner, highlight of the fall athletic season.

## P. E. Signup

All undergraduate students expecting to meet the PE requirement for second term should report to the Athletic Office before Friday, December 9, and register for classes, or Interhouse or intercollegiate sports. Interhouse sports are tennis, track and field, and football. Intercollegiate sports are basketball, baseball, swimming, tennis, and track and field.

## California Tech

Published weekly during the school year by the Associated Students of the California Institute of Technology, Incorporated.

## Editors

Tom Tisch, John Todoroff  
Managing Editors

Lance Taylor and Roger Noll

## Editorial Staff

Craig Bolon, Dan Entingh, Larry Gershwin, Bob Greenwald, David Helfman, Richard Karp, Chuck Leonard, Butch Lungershausen, Bill Meisel, Barry Petersen

## Business Staff

Cleve Moler, Manager

Circulation Manager: Howard Monell

The California Tech, 1201 East California Blvd., Pasadena, California.

Member of The Associated Collegiate Press.

Second Class postage paid at Pasadena, California

Printed by Bickley Printing Co.

Represented nationally by National Advertising Service, Inc.

Subscriptions: \$1.00 per term, \$3.00 per year. Write: Circulation Manager.



# C. P. Snow Emphasizes Difficulty Of Scientists In Political Roles

BY LANCE TAYLOR

Sir C. P. Snow, scientist, director of Britain's World War II Scientific Reconstruction Program, novelist, eminent person, and father of an eminently good-looking daughter, visited Caltech last week as a speaker in the Carnegie Series of Disarmament Talks. He came from Berkeley, where he is visiting professor of English at the University of California, and spent two days on campus with his wife and family. Besides giving his Carnegie speech Tuesday night, he met with students Wednesday at dinner and in a discussion group.

He also went to Disneyland on Thursday with a Tech staffer as chauffeur and guide. He enjoyed it immensely, especially the Jungle Ride.

Snow, with a shiny pate and a habit of pushing his glasses back by an index finger on the

left lens, looks and acts the part of a humorous savant. He demonstrated his claim to such a title in his speech Tuesday night.

He devoted his talk Tuesday night to exploring the role of the scientist in government, which he called a hard one. He illustrated his point with a story about the most significant happening in the British defense program (such as it was) before World War II.

Snow's story was about two men named Lindemann and Tizard — the first was Winston Churchill's right-hand scientific adviser during the war and the other was a good scientist.

Tizard was chairman of the committee which recommended the development of radar in the mid-1920s. He, himself, was the man who got the whole British radar program under way—not in the scientific sense, but in the sense of getting the right people

behind the idea.

Lindemann was on the committee, voted against radar, lost, and was removed from the committee. This was a source of grievance between the two men.

During the war, Lindemann was top dog in the British scientific corps, due to his connection with Churchill, and he used his position against Tizard, creating possible detriment to the war program, and certain detriment to personal reputation.

From his story, Snow developed his speech:

Few men make the real decisions in any country, he said, and those who do are often hidden by the facade of bureaucracy and mumbo-jumbo. (Who has heard of Lindemann and Tizard?)

And the way these few men make their decisions is political — by operating in committee, by hopping up and down the snakes and ladders of the chain of command, and by courting the very few men who hold the real power.

Tizard was master of all three, which explains the development of radar and the saving of Britain. Lindemann was grand master of court politics — the last kind — which explains his personal power during the war.

But, Snow said, his story was unusual, because there was a definite need for scientific counsel in the pre-radar days. Tizard was a good scientist, and could give the counsel. He was also adept at politics, and could get his points across.

This is harder to do today. Administrators are not willing to listen to "spout-off" scientists unless there is current danger and/or the scientists are masterful politicians.

Yet, also today, scientists are more urgently needed to contribute something to government — especially as regards defense and disarmament. The only trouble is: most scientists are bad politicians, having preferred physics to people at the age when most politicians are learning the most.

"A scientist must contribute, but how?" Snow didn't answer his question, but he raised many thoughts by asking it.

This is enough for one speech.

# Miniaturized Motor Gets Feynman Prize

Want a one-millionth horsepower motor only 1/64th inch cubed in size? It can be used for a motorized needle-threader or a flea circus merry-go-round.

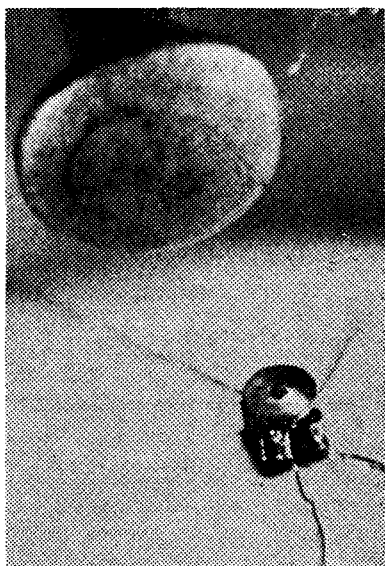
William McLellan (Tech, 1950, ME) of Electro-Optical Systems just finished two and a half months of work with a jewelers lathe and a sharp toothpick under a microscope in order to collect a \$1000 award offered by Dr. Richard Feynman for just such a small motor.

Feynman made the offer in a speech last spring in which he discussed the micro-miniaturization of the world around us.

The miniature motor has 13 moving parts and draws 50 ma. when in operation. Weight of the device is 250 micrograms (Whassat?).

Each of the four coils on the permanent magnet motor has a diameter of four one-thousandths of an inch and there are 21 turns per coil. The moving (get that?) rotor is mounted on quartz bearings.

Other suggested uses for the device included that of a personalized phonograph — literally plays in your ear — or a micro-centrifuge. More seriously, the device may have applications in the field of surgical medicine.



Two-phase, permanent magnet, synchronous motor contrasted to normal sized pinhead. Motor, which has four coils and moving rotor, was built in answer to a challenge by Caltech's Dr. Richard Feynman, who offered \$1000 to anyone who could construct a working electric motor 1/64th of an inch cubed.

## NEED SOME TYPING DONE?

- Reports
- Theses
- Themes

Electric Typewriter  
Technical Experience

Call HI 7-5608  
After 6 or Weekends

**M'GOO says—**

"The only thing we have to fear is the pizza itself."  
—Franklin D. M'Goo

Istanbul • Pasadena

## Announcements

### BIG T OUT

1960 Big T's are available. Check house bulletin boards for information on how to get them.

### CHAMBER MUSIC

Gerhart Albersheim and Oscar Kosches will present a Franz Schubert program at the chamber music concert tomorrow night at 8:15 p.m.

### WRITERS WANTED

The California Tech is looking for feature writers in the fields of bridge, booze, drama, Hi-Fi or whatever else anyone knows anything about, if anyone knows anything about anything.

### SENIOR RINGS

Senior class rings must be ordered from the bookstore before the end of first term according to Don Forrest, class president. They cost \$27.

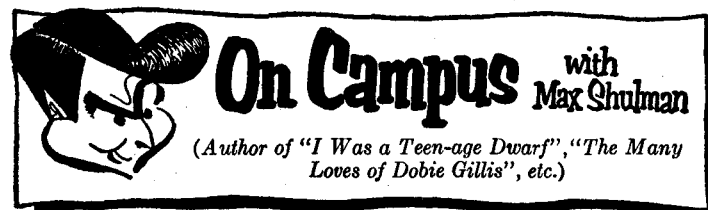
# Bauer Says Athens Most Interesting City

(Continued from page 2)

a young Greek girl happened to pick the same place. She had been standing there only for a few seconds when her father came storming up, grabbed her by the hair, threw her to the ground, and gave her a public beating for doing nothing more than standing near us. As happens with all strict moralities, however, the teenagers devise

means to circumvent the rules — some of them quite ingenious.

After leaving Athens I went to Epidaurus, around the Peloponnesus, then back to Italy by boat. The month spent in Greece was satisfying to me in many respects, but primarily because I now feel that I understand the country, at least to a fair approximation, on the level of the Greek people themselves.



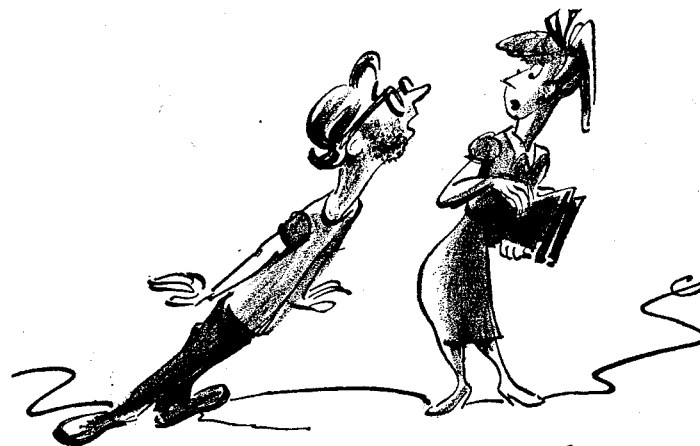
## "THE INTELLIGENCE QUOTIENT OF NED FUTTY"

Chloe McFeeters was a beautiful coed who majored in psychology and worked in the I.Q. testing department of the University. She worked there because she loved and admired intelligence above all things. "I love and admire intelligence above all things" is the way she put it.

Ned Futty, on the other hand, was a man who could take intelligence or leave it alone. What he loved and admired above all things was girls. "What I love and admire above all things is girls" is the way he put it.

One day Ned saw Chloe on campus and was instantly smitten. "Excuse me, miss," he said, tugging at his forelock. "Will you marry me?"

She looked at his duck-tail haircut, his black-rimmed glasses, his two-day beard, his grimy T-shirt, his tattered jeans, his decomposing tennis shoes. "You are not unattractive," she admitted, "but for me beauty is not enough. Intelligence is what I'm looking for. Come to the I.Q. testing department with me."



"Will you marry me?"

"Of course, my tiger," cried Ned and giggled and smote his thigh and bit Chloe's nape and scampered goatlike after her to the I.Q. testing department.

"First, I will test your vocabulary," said Chloe.

"Be my guest," laughed Ned and licked her palm.

"What does juxtaposition mean?"

"Beats me," he confessed cheerfully and nibbled her knuckles.

"How about ineffable?"

"Never heard of it," guffawed Ned, plunging his face into her clavicle.

"Furtive?"

"With fur on?" said Ned doubtfully.

"Oh, Ned Futty," said Chloe, "you are dumb. Consequently I cannot be your girl because I love and admire intelligence above all things."

He flung himself on the floor and clasped her ankles. "But I love you," he cried in anguish. "Do not send me from you or you will make the world a sunless place, full of dim and fearful shapes."

"Go," she said coldly.

Lorn and mute, he made his painful way to the door. There he stopped and lit a cigarette. Then he opened the door and started away to his gray and grisly future.

"Stay!" called Chloe.

He turned.

"Was that," she asked, "a Marlboro you just lit?"

"Yes," he said.

"Then come to me and be my love," cried Chloe joyously. "You are not dumb. You are smart! Anybody is smart to smoke Marlboro, the filter cigarette with the unfiltered taste which comes to you in soft pack or flip-top box at prices all can afford at tobacco counters, drugstores, groceries, restaurants and trampoline courts all over America. Ned, lover, give me a Marlboro and marry me."

And they smoked happily ever after.

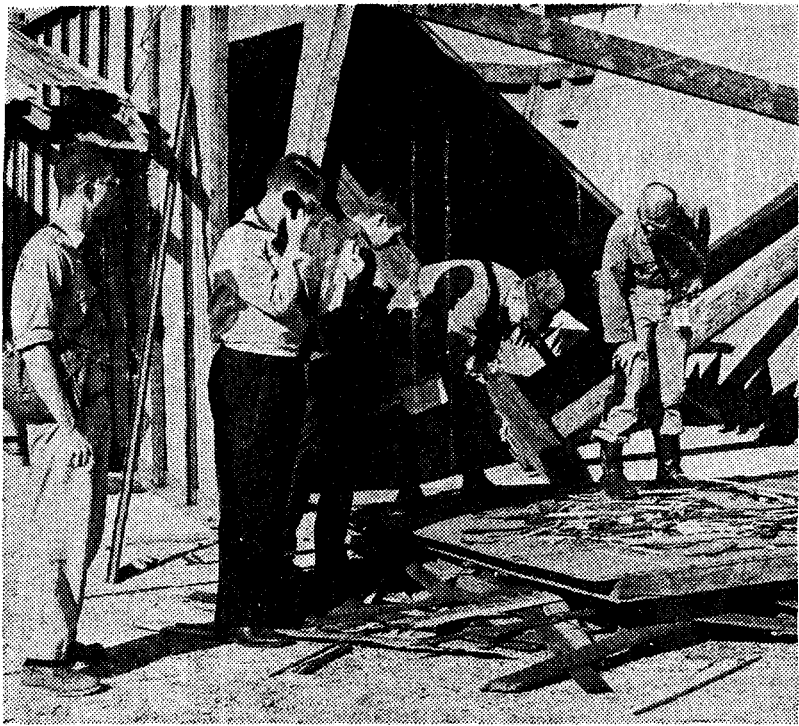
© 1960 Max Shulman

And if your taste runs to unfiltered cigarettes, you're smart to try Philip Morris—from the makers of Marlboro. We especially recommend Philip Morris's new king-size Commander—long, mild, and leisurely. Have a Commander—welcome aboard!

## THE CAMPUS BARBER SHOP

New Location:  
South End of T-4  
ALL HAIRCUTS  
\$1.50

Two Barbers to Serve You



Caltech civil defense trainees are seen in action last Saturday during the carefully staged exercises in Disaster City.

## Defense Unit In Practice Drill

Last Saturday morning, while most Tech students were still recuperating from their Thanksgiving celebration, seven Techmen were engaged in a hot game of hide-and-seek. They were members of the new CIT civil defense unit who were engaged in a practice drill at Disaster City.

Disaster City is a collection of semi-demolished frame buildings located in the mountains above Eaton Wash which is used to simulate the outer fringes of a nuclear blast area so that C.D. workers can practice the techniques of location and disposal of radioactive debris. The seven, under the leadership of Richard Drew, employed the techniques they had learned during regular civil defense classes held here on campus to find and dispose of radioactive sources placed throughout the "city" before the exercise was begun.

## Cal Poly Crash Fund Drive Opens Today

Since the first of this month the tragedy of the crash of the plane carrying the Cal Poly football team to a game has been a frequent topic of conversation among college students. The horror of 22 sudden deaths has shocked all who heard of it.

Out of the 22 people killed, five of the deceased players were married, leaving their wives and 10 children. Of the survivors, three married players, one of whom has a four-weeks-old baby, were seriously injured. In addition to this there are a number of survivors who had been working to put themselves through school, but now, because of their injuries, are no longer able to do so.

Litigation brings some hope of compensation, but certainly not for the next nine months.

With hopes of lessening the burden on the families of those injured or killed and on injured players, ASCIT will collect donations for their aid through the House vice-presidents. Money will be turned over to the Cal Poly Student Memorial Fund of the Pacific Student Presidents Association, which will distribute to the people need as they see fit.

## Katzenback To MacLeish To Discuss Speak On War, Scientist-Writer Rift U. S. Retaliation

Edward L. Katzenback, Jr., will lecture on "Command Control Problems," next week on Thursday, December 8. This lecture, the eighth in the Carnegie series, will be given in 119 Kerckhoff at 1 p.m.

Katzenback is a historian with administrative experience. He took his graduate work at Harvard, and was successively Director of Harvard's Defense Study Program and vice-president of Brandeis University.

(Continued from Page 1)

time been interested in poetic drama for the stage, motion pictures, and radio, so that in the years since his return from Europe, he has written many such plays, among them "Panic," "The Fall of the City," and, more re-

cently, "This Music Crept by Me Upon the Waters," and "J.B." The latter two appeared almost simultaneously. "J.B." won his second Pulitzer Prize in 1955.

MacLeish currently lectures at Harvard, and is working on a new play.

Your Activity Card May Bring a Free Pizza From

**ROMA GARDENS**

1120 E. Green

Call SY 2-9748 for Speedy delivery service  
**15% OFF TO ALL TECHMEN**

*look to Berlitz for languages!*



**BERLITZ**  
School of  
LANGUAGES  
82nd Year

**GERMAN, RUSSIAN, FRENCH**

You can speak any foreign language fluently in an amazingly short time!

**CALL FOR A FREE TRIAL LESSON**

170 So. Lake Avenue, Pasadena SY. 5-5888

Also Los Angeles, Beverly Hills and Santa Ana  
Air Conditioned Studios Free Parking



## "IT'S HERE—IF YOU WANT TO WORK FOR IT"

Even before Ron Spetrino received his engineering degree from Case he had good job offers from six companies.

He joined The Ohio Bell Telephone Company—his reason: "I was convinced an engineer could go further here—if he was willing to work for it."

As soon as Ron got his feet on the ground in telephone engineering, he was tapped for a tough assignment. The job—to engineer switching equipment modifications needed to prepare Cleveland for nationwide customer dialing of long distance calls.

Ron wrapped it up in five months, and found he had earned a shot at another tough assignment. In this job Ron helped engineer a completely new long distance switching center for Cleveland. This switching center connected Cleveland with the nationwide customer dialing network. It was about a year later that Ron put the finishing

touches on the specs for this \$1,600,000 project.

Today, as a Supervising Engineer, Ron heads a staff of five engineers and is responsible for telephone switching in much of the greater Cleveland area.

He supervises the design and purchase of \$3 million worth of equipment a year. And even more important, he is charged with developing the technical and managerial skills of his staff.

Ron knows what he's talking about when he says, "In this business you have to do more than a good job. We expect a man to be a self-developer. We expect him to take responsibility from his first day on the job and think for himself. You don't get ahead around here by just doing time."

If you want a job in which you're given every chance to prove yourself, and real responsibility right from the start—you'll want to see your Placement Office for further information.



"Our number one aim is to have in all management jobs the most vital, intelligent, positive and imaginative men we can possibly find."

FREDERICK R. KAPPEL, President  
American Telephone & Telegraph Co.



**BELL TELEPHONE COMPANIES**



# SPORTS

## Tech Cagers Open Season

Caltech's varsity basketballers journey to San Diego this week-end for this year's first contests. The Beavers face unpredictable Naval Training Center on Friday, and then face tough Cal Western on Saturday. The home opener is Tuesday at 4 p.m. against Upland College.

Last year the Beavers crushed hapless Upland, and the same is probably in store this year. Upland's tallest man last season was 6 feet 2 inches. This should be a sure Beaver win.

Naval Training Center could be a very tough opponent, or a complete pushover, since their team is made up of those players who happen to be at the Center at the time. They usually have several complete personnel changes during a season.

Cal Western, which defeated Caltech by 20 points last year, has almost their entire team back. The Westerners, who played in the District Three NAIA eliminations last year, expect great things from the team during the coming campaign.

But the Beavers are not to be counted out. Senior guard and captain Bill Ripka is a fine scorer and playmaker, and should

give the opposition fits with his long set shot. At the other guard spot is Dean Gerber, a junior, who does everything well—shooting, playmaking and defending. Backing up the top two guards are junior Gerry Clough, a great shooter, and sophomores Dave Barker and Les Tomley.

At forward is Tom Bopp, the only sophomore on the first string. Bopp, at 6 ft. 4 in., is a good rebounder and scorer, and along with Ripka could pull down All-Conference honors. The other forward spot will probably be filled by Larry Brown, senior sharpshooter, who is also a good guard. Other forwards who will see action are Pete Fischer, sophomore jump shot artist, and Mike Perlman, another sophomore.

Starting at center will be junior Rober Noll, who has switched to the pivot after playing first-string forward last year. Although lacking height at 6-ft. 4-in., Noll will be quicker than most of the centers he'll face. Backing up Noll is junior Jim Scull, who needs only a little experience to go along with his big frame (6 ft. 6 in.) to be a fine player.

## Tech Meets UCLA Soccer Team In Saturday's Season Finale

BY FRANCIS WILSON

Caltech plays its final game of the soccer season this Saturday morning at 10 a.m. in Tournament Park. The team has been improving since its disappointing 2-1 loss to Riverside several weeks ago. This was the team's first home defeat in over a year.

The next week the team traveled to Redlands, where it lost 6-3 to a team it had previously tied. Largely responsible for the loss was unusually flighty play by the defensemen who allowed Redlands to score five more goals than in the first game. In its most recent game, the varsity coolly defeated Pomona, 4-2. The team's record for the year is now 4 wins, 4 losses, 1 tie.

The big question for this Saturday is, "Can the Red machine defeat the UCLA Allstars?" This year, the Red machine has evolved into a 4-3-3 formation to compensate for its lack of size and team experience. The starting lineup has been:

Joel Kwok—left wing  
George Argyropoulos—left ins.  
Jerry Davis—Right inside  
Dave Osias—right wing  
Herb Chen—left half  
Dick Chang—center half  
Gary Osterberg—right half  
Wes Shanks—left full  
George Seielstad—center full  
Joel Young—right full  
Don Wiberg—goalie

Into this lineup, Coach Lee Andrews often rotates Kay Sugahara and Fred Gibbs. The Tech team is composed of fairly good players, and its mediocre record is partly caused by lack of teamwork which in turn can be traced to the fact that almost

never is a full varsity together during practice.

The UCLA team, composed of individuals of prodigious size and skill, has already clinched the league championship for the third year in a row has played 48 straight games without a defeat, in other words, is ripe for a lesson in humility. Last year in an identical situation the cocky UCLA squad was slightly outplayed but managed a tie.

## Polobabes Top Redlands

The Caltech freshman water polo team rounded out its season last weekend, topping the Redlands frosh, 10-9, in a real thriller, but losing in turn to the Occidental freshmen, 16-3.

Mike McCammon and Larry Seib lead the 1960 Polobabes in offensive showings.

Mike McCammon was far and away the best scorer on the freshman squad as he picked up 28 goals in the course of the season for an over-all average of .301. In the victory over Redlands, McCammon picked up 8 goals, the remaining two being scored by Spicer Conant.

Larry Seib was next best scorer as he threw in 7 goals for an over-all season average of .318.

Marc Kaufman did a fine job as goalie for the season and will lend depth to next year's varsity squad.

Other members of the squad who saw considerable action were Ray Weiss, Spicer Conant, and Bob Storwick. All three improved greatly during the season.

## Tech Harriers Wipe Out Redlands; Earley Sparkles In SPAAU Meet

The Caltech varsity cross-country team made it eight straight Friday, November 18, as they added a 21-40 win over Redlands to a string of consecutive dual meet victories started in October of 1959, thereby completing their second consecutive perfect dual meet season.

Pat Earley, individual winner of all but one of this season's races, showed his mastery over his home course as he ignored a fast start by the field to set his own steady pace for a Caltech course and Redlands meet record of 15:56.2 (5:18 — 5:23 — 5:15) for three miles, leaving Redlands' Powers (who had beaten Earley twice during the 1959 season) far behind at 16:31.

Also scoring for the varsity were Richard Harris, 3rd in 16:35; Marshall Johnson, 4th; Al Whittlesey, 6th; and Art McGarr, 7th. Padding the Redlands score by displacing some of their top five runners were Norm Reitz, 8th; and Bill Giauque, 9th.

Meanwhile, the Tech frosh, running on a four-man scoring basis by agreement with their undermanned Redlands counterparts, answered a near record-

breaking first place on the part of Redlands' Lockard with a show of depth for a 15-21 victory and a 2-2 record for the 1960 dual meet season.

Lockard covered his two miles in 10:22.6, only 1.1 seconds over the course record of 10:21.5 set by Harkness of Oxy in 1956. Offsetting this first were, however, Tech's Ed Lee, 2nd; Larry Weaver, 3rd; Jacques Calma, 4th; Bob Sorensen, 6th, and Dennis Holt, 9th.

Over Thanksgiving, in preparation for the all-conference meet to be held this Saturday at Whittier, varsity runners Earley, Harris, Whittlesey, and McGarr, and frosh runner Larry Weaver picked up valuable experience by running as individuals in the SPAAU 10,000 meter (6.21 miles) road race over the rolling hills of the Griffith Park course.

Earley ran a fine 5:18 pace for 23rd in a field of 76 top-rank competitors, which included Olympic names such as Alex Henderson, Bobby Cons, and Bob Soth and such teams as SC, the Striders, and the Culver City Athletic Club (winners of the meet).

Occidental, perennial national

track power and the only conference school the Tech cross-country teams have not met this year, must be considered favorites to win both conference championships Saturday, but, to paraphrase the sentiments of both coach and team, "We may not be able to beat the Tigers, but we can sure (sic) put a scare into them."

## 6 Day Week For Finals

Saturday, December 10, has been added to finals week this year in order to accommodate the large number of elective courses. The complete exam schedule will be officially released today.

Those final exams scheduled for Saturday prior to the normal finals week are English 7, History 5, and Economics 100. Exam conflicts during the next week will be held to a minimum, with most completed by Thursday. The L 32 and Ec 4a exams will be held Friday, December 16.

This year no conflicting examination days will be scheduled. When a conflict occurs, the student should get a conflict form at the Registrar's Office, take it to his professor, make the desired arrangement, and return the signed form to the Registrar's Office.

## Make Your Reservations Now

For that trip home at Christmas

INFORMATION - RESERVATIONS - FRIENDLY SERVICE

Transportation on all major airlines

DAVIDSON

Travel Service

SY 2-3177

903 E. Green at Lake

Drugs Sundries Cosmetics Tobaccos

CALIFORNIA REXALL PHARMACY

555 S. Lake SY 2-3156

Breakfast Lunch Dinner



Tried Regular Filter Cigarettes?



Tried Other Menthol Cigarettes?



NOW! Come Up...All The Way Up to the MENTHOL MAGIC of KOOL!

When your taste tells you it's time for a change, remember: Only Kool—no regular filter cigarette, no other menthol cigarette—gives you real Menthol Magic!

YOU FEEL A NEW SMOOTHNESS DEEP IN YOUR THROAT!



©1960, BROWN & WILLIAMSON TOBACCO CORPORATION THE MARK OF QUALITY IN TOBACCO PRODUCTS

## BOD Gives Funds For Cameras, Clubs

Disposition of the ASCIT surplus was completed by the BOD last Monday with total disbursements of \$1533, or about \$10 for every minute that the Board was in session. The total surplus amounts to about \$6000.

Requests were made by several organizations. The following is a summary of the requests, given in the order considered by BOD. The Radio Club requested \$500 for a receiver and a single sideband adapter. The club indicated it could raise \$50 and the Board voted funds in the amount of \$450 to make up the remainder of what is needed.

Tech photography requested \$100 for an electronic flash unit. It was decided that this could be taken from the Tech budget and if there is any need for the money it will be considered at a later date. The student shop received all of its request for \$280 for the purchase of new equipment through state surplus.

The Physics Club, supported by John Trenholme and John Soule, placed a request for \$175, which was completely disallowed. Soule unwittingly gave the concept of freshmen that the Physics club seems to have by stating when referring to research, "Then you take it to your freshman who stupidly volunteered to correlate the data".

The photo club requested \$460, of which \$85 was granted for the purpose of refurbishing the old darkroom. The remainder of the sum will be considered if it is found that suitable air conditioning can be found for the new darkroom.

Of an original request of \$155, the band was trimmed to \$38 to cover the cost of instrument accessories. The remainder of the amount, which consisted of bills for instruments, was disallowed by the Board.

Civil Defense originally requested sums from \$398 to \$998 for portable communications apparatus. The Board decided to give CD the minimum requested, \$398. However, later during the meeting a motion to reconsider this allotment was made and passed, and the persons who are

in charge of CD will return to discuss CD matters with the Board. The amount that was allotted to CD may be eliminated, increased, or kept constant at the time of reconsideration. It is probable that the CD funds will not be increased.

Other requests were: The Sailing Club requested \$300 as half of the funds needed to purchase sails for the Caltech Sailing Fleet. All \$300 was given to the club. The Caltech Young Democrats requested \$50 as annually recurring travel expenses, of which the entire amount was disallowed by BOD. The Glee Club made a request for \$100 and an individual (not the IHC) requested that \$200 be given to each house. Both of these requests were put under consideration.

## Emerymen Share League Crown

(Continued from page 1)  
from his early games' average of .340.

The last ditch defensive line in the back court was spearheaded by Tom Tisch (senior letterman, 1960 captain) and Roger Bland, senior letterman, whenever Fred Hameetman (Oxy transfer student, all-conference pick last year from Oxy) was downcourt scoring, and by Tisch whenever Bland and Hameetman were both gone.

Hameetman's shooting arm added to the balance of the team as he garnered two goals in the last game for an over-all season average of .395 for 32 goals, high for the 1960 Tech team. This, coupled with his defensive ability, was more than sufficient to earn Hameetman an all-conference berth.

Roger Bland also typified the balance of the Webmen this year. His good scoring eye and quick understanding of game situations added immensely to the team's capability. Roger

picked up 11 goals this year.

Tisch's three years at guard provided the nucleus for the back-court defense which on occasion (Redlands, for example) was impenetrable. His over-all feeling for the game and foresight in the thick of play made it possible to break up a large number of dangerous offensive situations in the Caltech end of the pool; the result—all-conference guard.

In the goal, Caltech was well represented by Marshall Buck, nicknamed the "praying mantis" by Pomona players because of his ability to fill the goal cage without moving. Buck averaged about 11 saves per game, and in general, the men in the court felt that they were well backed up. He will be a key member of next year's squad.

Top two substitutes for the Techmen were Russ Russell (junior letterman) and Gary Mitchell. Both are expected to contribute greatly to next year's

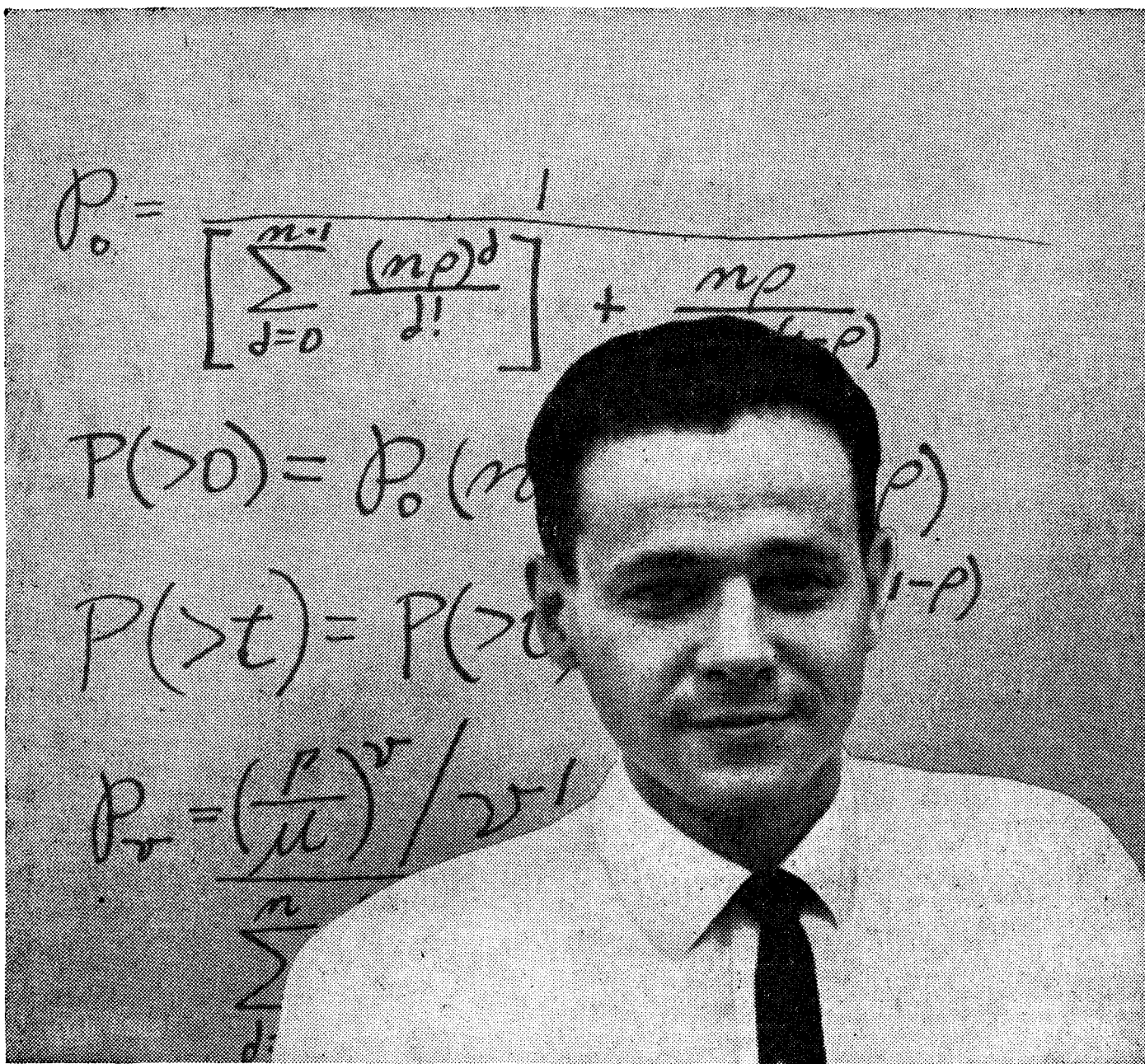
squad, Russell at guard and Mitchell at forward.

The Tech team in the court suffered little when Mitchell entered the court, or when Russell took over a rough spot in the back court.

Lots of thanks must be rendered to the remainder of the team members who saw a lot of practice and little action in intercollegiate competition. They are indispensable in building a strong team.

Senior Bob Heath came out in the middle of the season to help the team. Other seniors on the team were John Smith and Hayden Macurda. Junior Sherm Gratch and sophomores Mickey Newton and Dave Ollis improved greatly and are expected to provide a nucleus for next year's squad, along with goalie Buck.

Pat Manning (sophomore) and Tom Sallee (junior) are expected to play important roles in the 1961 water polo team.



Soon to receive his Ph.D., partially through an IBM education program, Harold Mechanic (B.S. in Mathematics, CCNY '53, M.A., Columbia '55) is constructing ingenious mathematical models of advanced IBM data processing systems.

## a mathematician works in the mainstream at IBM

Advanced data processing systems—whether designed for business, industry, science, or government—have been made possible by the talents and abilities of the mathematician.

Harold Mechanic, for instance, is working in areas of system simulation. He and his colleagues have done some of their most interesting work in building mathematical models to study the performance of proposed Tele-Processing\* systems. After transforming the models into computer language, numerous possible system configurations were fed into a giant computer to determine an optimum arrangement of components. Thus, like many mathematicians at IBM, Harold Mechanic is able to use the computer as a tool to advance both theory and technique of systems analysis.

\*Trademark

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

IBM will interview January 17 and 18

**IBM**

If you are receiving your degree in mathematics, you might do well to investigate the unusual opportunities at IBM. Working alone, or as a member of a small team, you will find many chances to make important contributions to your field. You will also be eligible for excellent education programs.

Positions will be open in mathematics research, computer programming, and applied mathematics. The IBM representative will be interviewing on your campus. He will be glad to give you further information. Your placement office can make an appointment. Or you may write, outlining your background and interests, to:

Manager of Technical Employment,  
IBM Corporation, Dept. 888,  
590 Madison Avenue, New York 22, N. Y.

**P.h.D.'s**

**HAMILTON  
STANDARD**

**DIVISION OF  
UNITED  
AIRCRAFT  
CORPORATION**

**WILL INTERVIEW ON  
DECEMBER 8**

concerning scientific positions in  
Missiles & Space Systems, Elec-  
tron Beam Technology and our  
Research Laboratory.