

Frosh Data Compilation

By Mojo

This is the third part in a series of articles containing data released from the Admissions Office about the Class of '79. The freshmen will hear more from Stirling Huntley at camp.

This year's freshman class is somewhat larger than those of previous years, with the last count from the Admissions Office being 224. Among those are 18 girls—a monotonically increasing number for the past 70 years.

A somewhat unusual percentage came from California this year, 48%. 45% were from out of state, and there are 19 foreign students.

Of course, the students' options will not be declared until third term, but some preliminary figures may be gathered from the interest sheets. Engineering is up again this year with 55 expressing interest, about 25%. The usual figure has been about 20%. Astronomy is also up.

One thing that is perhaps pleasant to see is that girls are more spread out in their interests, which are usually primarily biology and Chemistry. 5 expressed an interest in Engineering, 4 in Math and Physics, and 3 in Astronomy.

New Student Camp will continue to yield more surprises to the class as they learn about each other and the school they have chosen.



Television actress Anne Meara was filmed on campus Monday and Tuesday for another adventure of "Kate McShane". Photo by G. Laib

Anne Meara Here

Shooting Strangers On Campus

Of course, most of the frosh didn't know that this place was actually a giant film set, but the ones here on Monday and Tuesday learned quickly. A complete production crew from Paramount Studios was here to film several segments of *Kate McShane*, a brand new series about an Irish trial lawyer.

The star is Anne Meara, best known for her many comedy performances and routines with her husband, Jerry Stiller, as Stiller and Meara. Co-starring is Charles Haid, playing Kate's brother and a Jesuit priest. In this episode, which will probably be aired in December, the scene of the action is St. Regis College (Tech) at some undefined city in the Midwest. Scenes were shot in

the driveway by Downs-Lauritsen, in Throop Site, and other places, including the North side of Winnett, where props installed a traffic gate and security station for one scene.

Two reporters from the *Tech* talked briefly with Anne Meara and Charles Haid. This is Ms Meara's first major dramatic role. Comedy is more difficult, but dramatic roles show more diversity, according to Ms Meara. She prefers TV or movies to the stage, but hasn't done many movies. She also feels that TV should not have a moral obligation to the viewer, and that people should make their own moral judgments. (The National Association of Broadcasters and the FCC have recently delegated

Gag Rule Modified, Discontent Now Eased

by Alan Silverstein

The Interhouse Committee reacted to discontent in the student body by modifying a section of the Rotation rules in a long, discussion-filled meeting late Tuesday night. The "Gag Rule", which previously prohibited house members from characterizing any other house (and their own dishonestly), has been made more lenient. The 5-1-1 vote puts the following into effect immediately:

No person of any house shall

consciously or unconsciously present a false image of a house, including his own.

Any new student who consciously or unconsciously presents a false image of any house shall be considered to have chosen all seven houses.

The IHC shall decide if a violation has occurred and shall levy penalties it deems appropriate.

IHC Chairman Richard Atwater added, "This allows you to say true statements about a house as long as they are not malicious in the eyes of the house the statement was about."

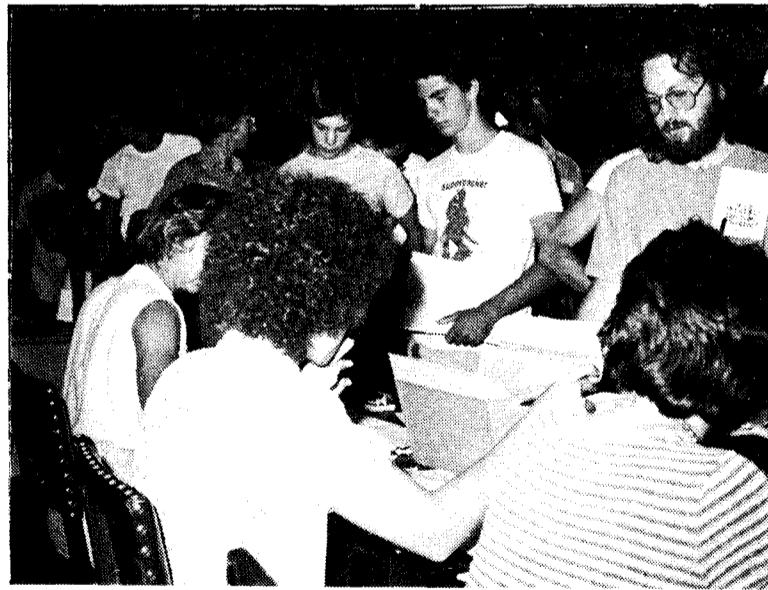
The phrase "Person of any house" does not necessarily apply only to undergraduate students.

It was noted at the meeting that special caution should be taken in certain cases where a house is trying hard to change its image. In these cases it might well be taken as malicious to disclose facts about a house that it wishes forgotten.

Frosh and upperclassmen alike are asked to report all violations of the rotation rules to Chairman Atwater, who lives in Fleming.

The IHC will refer to the
Continued on Page Three

Bunches of Frosh



Wednesday afternoon brought freshman registration, as is evidenced by the uncertain students milling around. Photo by G. Laib

The Road Goes Ever Onward

Newspaper Short On Asphalt

by Dick O'Malley

Faced with an acute shortage of competent personnel, the undergraduate newspaper here at Caltech nonetheless managed to produce a twelve-page issue, which appeared early this morning (September 25, 1975).

This issue, which is the only one scheduled to be published on a Thursday this year, appeared one day sooner than it might have in order to make sure that it got into the hot little hands of the new freshman class (see the article on page two) before they left campus to go to their orientation at Camp Fox.

The appearance of the paper was due primarily to the efforts of a very few people, which does not bode well for future success. Associate Editor Dennis Mallonee explains: "There's no way in hell they're going to get me to write as many articles for them as I did this week again. Sweeney and I'd be willing to take over when Llewellyn and Sivertsen flunk out if the BOD gives a couple of thousand each, but nothing less."

The imminent retirement of two editors-in-chief, leaving only Photo Editor-in-Chief Ken Yoshida, is not the only problem facing *The California Tech*. The paper also lacks a Sports Editor, an Entertainment Editor, a Features Editor, a Managing Editor (that one vacant since 1970!), and is in constant need of Staff and Photographers.

On the other hand, the Circulation Manager is totally competent, and the Business Manager has brought in four full-page ads for the first issue and has a winning smile.

In an exclusive interview with this paper, the former Business Manager and Caltech graduate, Gavin Claypool, made this observation: "Hey, you guys ought to suck in some frosh."

Academic credit is available for the learning experience involved in working for *The California Tech*. Anyone interested in spending at least two hours a week (plus one in class) on newspaper work should sign up for Lit 15 (Journalism). The

class is taught by Ed Hutchings and Floyd Clark and meets each Friday afternoon (or morning, depending).

Advancement will be rapid. The first person who shows interest and ability will doubtless be able to pluck off an editorial job. (Some of which pay at least a little money or goodies.)

News Briefs

Burke Is Elected Trustee

Walter Burke, attorney, business executive and financier, has been elected to the Board of Trustees of the California Institute of Technology.

He is President of the Sherman Fairchild Foundation, Inc., was financial adviser to the late Sherman Fairchild for many years, and for five years was Chairman of the Board of Fairchild Camera & Instrument Corp.

Mr. Burke now devotes full time to public service activities, such as being on the Boards of several educational institutions.

Li'l Round Tubers Back On Thursday

Thursdays at 4 pm, starting Rotation Week, there will be donuts in Flora's office, 105 Winnett.

Li'l Round Tubers Back On Friday

Fridays, at 9 am, starting Oct. 3, there will be donuts at the Master's office on the Olive Walk.

Cover Photo by
Gerald Laib

Art Is Modern Dance

Modern dance happens at Caltech twice a week, in Dabney Lounge on Tuesday and Thursday afternoons. Karen Goodman teaches two classes each day, working with students whose experience ranges from none at all to years of lessons.

What is 'modern dance'? Ms Goodman defines it first as an American art form—the only dance that's truly American, and it is still little performed in Europe. It began as a rebellion from Ballet, a need for more freedom of movement. "Movement is an art form. The material is anything that one feels can be dealt with in working toward

some expression." Techniques have been developed to explore movement possibilities of the entire body and to strengthen the body. Classes are designed for discovering how bodies can move and expanding this range through stretching and strengthening exercises.

Teachers do not differ from other students she has taught. "I love working with intelligent students, and experience is not necessary. I enjoy giving insight to non-dancers." This is one of the strengths of Ms Goodman's teaching. Starting from nothing, she builds your strength and awareness, relying on the ability

of the students to grasp concepts presented in a single verbal explanation. One rapidly progresses to more complex and interesting exercises, as the body becomes more limber and more easily controlled.

The two classes differ in complexity. *Body Movement* is an introduction to exploring movement possibilities through basic exercises. It deals with relaxation exercises and finding the internal motivations for moving, e.g. breathing and the pulse. The class progresses by taking these basics into some simple dance movements. *Modern*

Continued on Page Seven

A Punishing Adventure

The Death of Sherlock Holmes

by Dick O'Malley

Many believe that Sherlock Holmes is still alive. This, on the face of it, is absurd. If Holmes were still alive and tending his bees, he would have more than one hundred twenty years. What convinces them is the fact that the *Times* would surely have carried an obituary upon the death of so noteworthy a person.

In fact, Holmes died in 1934, a victim of 1) the British ban of opiate-related products, and 2) the fact that Watson had prevailed upon him several years previously to carry a pistol.

Where Holmes was simply forced to find other means than the legal to satisfy his cravings for the former, he objected strenuously to the latter at first, for he knew that it would be in violation of unwritten rules if he and Watson were to begin toting sidearms. But Watson was obdurate, and as age slowly crept upon the great detective and increased his physical disabilities, he acquiesced.

It was not much after Holmes' eventual retirement that Chan Wang Chang, Holmes' chief supplier of cocaine, made his way for the first time to Baker Street.

"Yes? (It was Watson, visiting his old friend, who answered

the door.)

"Ah, greetings. You are not the detective; you may, in fact be Doctor Watson."

"Yes, yes, quite so. Holmes! A visitor."

"I am Chan."

"Our Chan? Holmes asked.

After ascertaining that this was, indeed Chan Wang Chang, the man was pressed to explain the reason for his visit. "Ah, detective. As you may know, this humble one is engaged in many enterprises. One very important one is the small wood carving shop in Soho. Manager reports that valuable supplies of teak-wood have been stolen four times in last three weeks, and nothing else touched... except that last time a guard was placed and the only entrance bolted with heavy metal bands. In the morning guard was found mauled, and iron was sheared. This indicated great mass, strength and speed, but each time only clue has been small child's footprints leading to and from alley."

"Hmm. Shouldn't be too difficult to trace, eh, Watson?"

"Why, no; I should hope not, at any rate. Oh! We're coming out of retirement, then?"

"Hush, Watson, I must decide

upon the fee."

So in order to placate his supplier, the aging Holmes came out of retirement to take on one last case. The trail was as easy to trace as any, for the thief struck again and the great detective was able to take a fresh track. But imagine Watson's surprise when the criminal was tracked to his lair, and...

"Holmes! By God, it's a great bear!"

"Hmm. So it is. I expected as much."

"What?"

"My dear Watson. You've never heard of the boyfoot bear with teaks of Chan?"

And Watson mercifully took out his pistol and drilled him through the forehead.

Use Our Tools

Student Shop Opens

by Kutcha Fingerzof

On Saturday, October 11, 1975, anyone not already a member of the student shop will have a golden opportunity to gain access to all the tools and equipment there.

Previous shop administrations have been extremely lax, but this year's new leadership has turned the trend around. Useful and working tools will be available. No longer will people who borrow tools for months at a time be tolerated.

The shop has many useful tools to offer. In our woodworking areas we have a large, powerful table saw, a radial arm saw, a wood lathe, a disc sander, a drill press, a wood bandsaw, a jig saw and a planer.

In the metal shop we have four lathes, two drill presses, a pedestal grinder, a wirewheel/buffing wheel combination, and a milling machine (currently being replaced). We also have two arc welders, a gas/air welding torch, a power hacksaw, and a bandsaw for cutting metal.

There is ample bench space the shop for most moderate large sized projects and storage space is available for members to keep current projects. We have a selection of expensive and precise equipment in a special cabinet (called the committee cabinet) which is also available to members on a special loan. Most tools can be signed out for a day or two by members.

Scheduled instruction will be available if you need help with any tool, and the committee members are always available for advice and consultation.

The new member check-in will begin at 2:00 pm Saturday. Old members should come at 1:00 pm for a brief clean-up and short discussion (and renewal). If you can't make the meeting, leave your name with Flora in the Winnett Center Office and we will contact you.

The student shop is in the basement of Winnett Center, just south of the game room. Stairs down can be found at the west side of the building.

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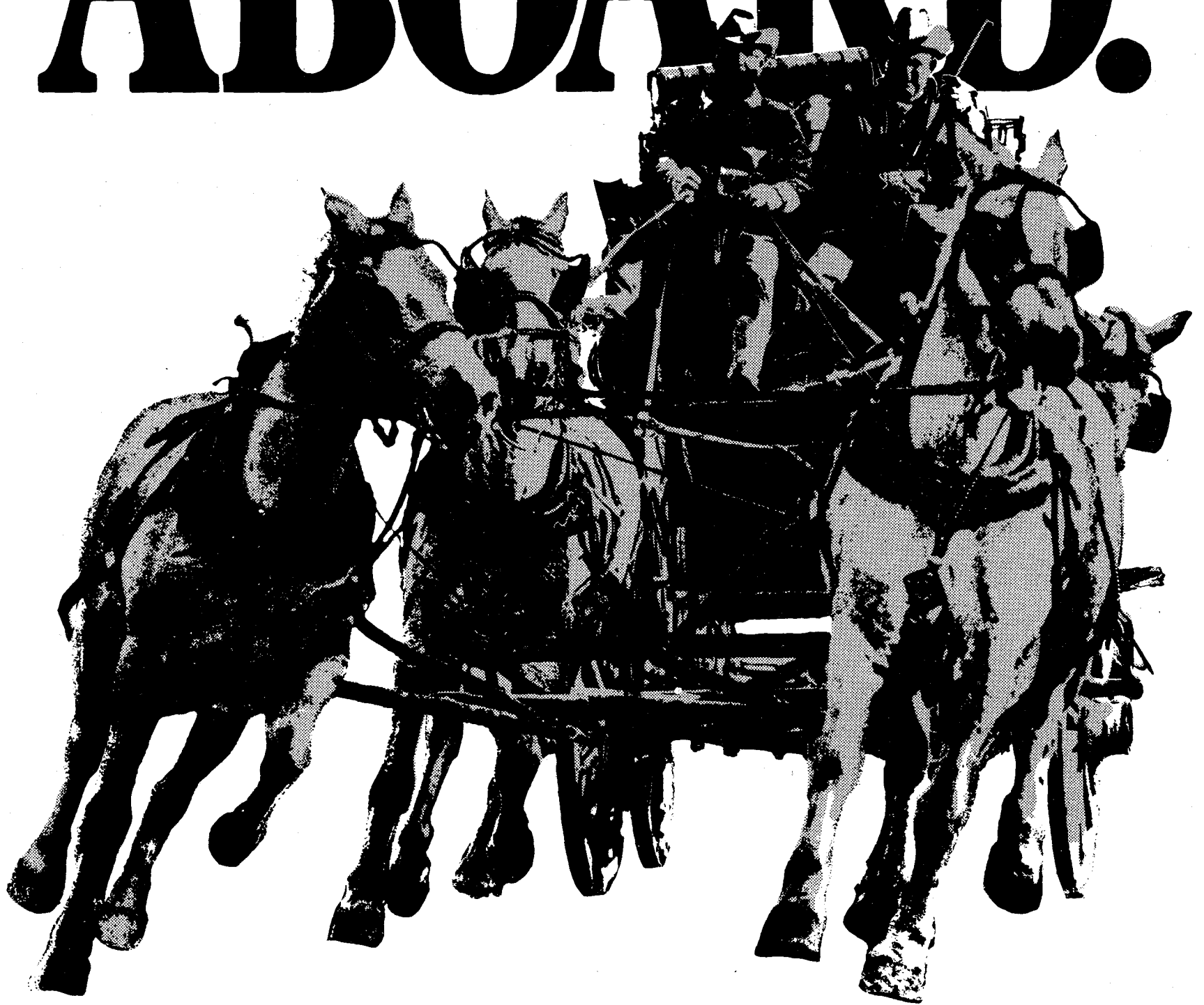
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MEMBER F.D.I.C.



Dear Fanny

Dear Fanny,

I came up to Tech early, hoping to learn the ropes a little before school started, and an incredible thing happened. Suddenly I find myself surrounded by about half-a-dozen guys, all but one of whom remind me of mosquitoes around an unfrosted porchlight. (The other one is an incredible ass, as obnoxious as the guys who interviewed me.)

This kind of pressure gets

incredibly tough after just a few days, but I really don't want to hurt anybody's feelings. What should I do?

Pancake

Dear Pancake;

You've already run into the major problem that goes with being a reasonably friendly girl (I assume you're a girl) and being at a nearly all-male school. You'll find that you'll be forced to A) like it, B) become surly and

chase them all away, or C) wind up choosing one of them for your own protection.

Unless you come up with a D) of your own, the problem will solve itself in one of those three ways inside of a month, so don't sweat it—yet.

Fanny

Dear Fanny,

My advisor is really neat. I'd like to tell him what I think of him, but I'm afraid he'd get the wrong idea. He's so modest and insecure that I'm afraid he'd think I was being sarcastic, or worse that I was flattering him for my own selfish reasons (whatever they might be). I know this isn't exactly a loveletter, but I hoped it might be similar enough for you to help.

Anguished

Dear Anguished;

You shouldn't sweat it either.
Fanny

Dear Fanny,

Do you have any idea how tough it is to be a genius in a world of geniuses? All through school I was the top student in my class, football star, student-body vice president, head basketball cheerleader, etc. So what do I get during three years at Tech? A football team I wouldn't lower myself to play for, professors that write 'not bad' on a 95% term paper, girls that remind me of boys (and not enough of them), and a 3.0 that may or may not be enough to get me into grad school.

This place is for shit.

What it is is that when you're a genius and at Tech, nobody appreciates you. Anywhere else, if you're reasonably intelligent, you get encouragement and maybe even a little loving care—you even get it sometimes if you're not. But the dickbrains on the faculty here don't even want to Know who you are. I'm typecast as a Caltech student (God help me). There must be

something a Caltech student can do to make himself noticeable without pushing a lecturer into the blackboard, but damned if I know of any ways.

Dillatory Tactics

Dear D.T.;

You SHOULD sweat it. Sounds to me like you've got a bad case of megalomania growing here. Why don't you just get on your hands and knees and just praise the Lord (or whoever) for being allowed to be alive and living in this great nation of ours. If this were Russia, a letter like yours would probably have gotten you expelled—and then how would you get to grad school? God knows why you'd want to go anyway.

Crying snottosed hypocrites like you just frost my tunic and make me sick. You'd better hope I never find out who you are or I'll break you so swift you won't even have time to bleed to death.

You weenie.

Fanny

Ten Years Ago: Sept. 23, 1965.

—There were 201 freshmen at frosh camp, reported 'Ken Kamm, Frosh.' The camp was held at Camp Radford, in the San Bernardino Mountains.

—Dr. C.C. Patterson of Caltech's geology department was reported as warning that "a slow and painful death from lead poisoning is closer than many people think... the American people may be in danger of cumulative poisoning from the amounts of lead being absorbed by the body."

—A conference on the moon and planets, involving 140 authorities, was held on the Caltech campus.

Modern Dance

Continued from Page Four

Dance class suits students with more exeperience, and those who have taken the basic class and want to go on. It is more of an intellectual challenge, as well as a greater physical demand. Ms Goodman defines the goals of the more advanced class as "a basic study of Modern Dance techniques, dealing with exercises in a more dancelike framework. This included learning small pieces of choreography." Aside

from verbal explanations and demonstration, Ms Goodman employs basic rhythms of counts, claps, and drumbeats. The long pieces are taught with music.

Modern Dance does exist at Caltech, and it is highly recommended to those looking for an interesting P.E. class or for enjoyable exercise. It stretches and strengthens muscles—including some you were unaware of—and demonstrates the possibilities of lyric, flowing movement in situations beyond dance. The sense of improvement is definite and provides motivation for trying harder at the basic exercises, as well as aspiring to the more complicated patterns.

T about T

Continued from Page Three

spectacular estate, some of the most beautiful and extensive gardens in the southland surrounding a tremendous library and art museum. If you don't see this, you don't deserve to, for some of the pleasurable hours in the area are to be spent there.

Let me as a final insert mention the Pasadena Art Museum (which unlike the Huntington is not free), which under Norton Simon is becoming one of the more notable collections around. So: enjoy your spare time, for there really is more of

it than you think, and remember that the more you put into your entertainment, the more you will get out. Take care.

—Chris Harcourt

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Variety is more than the spice of life: **variety is what makes life worth living.** The major goal of the Caltech Y in all its functions is to provide you Techers with as many opportunities as possible to inject variety into your lives here.

The column you are now reading is a regular weekly feature in the *Tech*. It is intended to keep you informed of the activities we sponsor, so you don't miss any unintentionally.

In this, the first issue of the new school year, I address myself to the freshpersons. You've heard from us once already in the form of a two-page brochure mailed to you over the summer. Many of you caught rides to the campus in the Y wagon, or went on one of our pre-college camping trips last week. These were but the first of many services and activities we will be sponsoring for you during your time at Tech. Right now, I'd like to tell you about some of the major events we have scheduled for this term.

We have purchased eighteen season tickets to the LA Philharmonic, in response to the

Plesset On Nuclear Advisory Committee

Dr. Milton S. Plesset has been appointed by the Nuclear Regulatory Commission to its Advisory Committee on Reactor Safeguards.

This committee is composed of specialists in the various aspects of nuclear power, plant design and operation. Its members advise the commission on requirements for adequate safeguards for existing and proposed nuclear facilities.

Dr. Plesset, whose appointment takes effect October 1 and is for four years, has served as consultant to the committee as well as an advisor to other Federal and state agencies concerned with the peaceful uses of nuclear energy. He teaches nuclear energy here at Caltech (APh 161).

interest we saw last year. These will be sold to individuals on a nightly basis for about a quarter of their full value, and we will be providing transportation to the concerts.

Dr. Guyford Stever, Director of the National Science Foundation (NSF), will be our guest in November. Dr. James Watson, of the Watson-Crick pair famous for their DNA research, will be on campus in January.

Ski trips—several of them—are being planned for December.

Those are the more mentionable events upcoming. Then there are of course noon concerts, Finals Decompression Chambers, and many other happenings that will be announced as they are scheduled and arranged. There will be two or three a week, as always, and the best way to find out about them is to read this

column in each issue of the paper.

By the way, frosh, we have more used books on our shelves now than ever before, so you might check with us prior to buying texts in the bookstore. We are located on the second floor of Winnett Center. Don't forget that in addition to selling used books, we manage the campus lost and found, have an emergency loan fund (no interest, no hassle), a record library, a lounge, a publications/reproduction workroom, and provide the services of an ordained minister.

So: enjoy Catalina, come back prepared to work, but never let your education get in the way of your overall growth as a human being. Good luck, strong ambition, and much fulfillment to you.
—Alan Silverstein

Optically Transparent

Gas Clouds Discovered

It all began at the Owens Valley Radio Observatory (a Caltech outpost) where a team of young scientists was observing a neighboring galaxy, called M33, a mapping job.

In a paper that will soon appear in the "Astrophysical Journal," Caltech and JPL radio astronomer and engineer Dr. David H. Rogstad and his colleagues reported finding, in addition to the flat disk of gas normally found in a galaxy, a tenuous, optically transparent cloud of hydrogen gas either intermingled with the galaxy or between it and the earth. The vast hydrogen cloud appeared to spin with the galaxy—but at only half the rotational speed (which is typically some 200,000 miles an hour).

The observations were made with the two 90-foot radio antennae at the Observatory near Bishop, using a technique known as aperture synthesis interferometry, which enables the dishes to map fine details in the galaxy. The dishes were observing hydrogen gas that emits radio waves at a wavelength of approximately 21 centimeters.

Rogstad, 35, and Drs. M.C.H. Wright, 31, of the University of California at Berkeley, and Ian A. Lockhart, 32, of Caltech, reasoned that if the cloud were in the plane of the pinwheel-shaped galaxy it would quickly have reached the rotational speed of that galaxy. So if it wasn't in the plane, where was it?

In addition, two other peculi-

arities in this galaxy had been noticed earlier by several other astronomers. They had observed that the hydrogen cloud in M33 didn't have the flat disk shape expected for this type of galaxy. Instead it had tenuous 'wings' extending out on either side, giving it an S-shaped appearance. At the same time the edges of the cloud adjacent to these 'wings' were found to end very abruptly.

While the radio astronomers pondered these difficulties they also were working on observations of a somewhat more distant galaxy (M83). It arose about the time of day that M33 sank below the horizon.

"Previous observations of M83 indicated that funny things were going on there, too," Rogstad said. And, not surprisingly, M83 has a hydrogen cloud similar to

that in M33, has an odd shape, and rotates about the galaxy in an unexpected way. But more remarkable was the fact that the cloud in M83 was two to three times larger in diameter than the entire galaxy. (M83 is roughly 100,000 light years in diameter.)

Because this galaxy appears more nearly face-on in the sky than M33, Rogstad and his colleagues were able to devise a three-dimensional model that fits the apparent odd shape and rotation of the cloud in M83. It showed that the cloud is thin, but instead of being just a flat disk, its outer parts are warped up out of the galaxy's plane on one side and down on the other, like the brim of a cocked hat, to an angle of nearly 40 degrees near the edge.

This same model proved to be the key for unlocking the

mystery of M33. By proper adjustment of the model, it was possible to explain all three puzzles as due to an equally enormous warp in the plane of M33. In this case the outer 'brim' bent across the line of sight to the galaxy and appeared in the observations as the perplexing 'extra' cloud of gas.

Previous observations indicated that our own galaxy and nearby Andromeda both show a slight warping of their planes. What causes warping on such a gigantic scale? Astronomers have tried to explain a warp in Andromeda by calling attention to a small galaxy near it, speculating that it could have passed by Andromeda in the past and given it gravitational tug that could have ruffled up its material. Even our own galaxy is linked with two

Continued on Page Eleven

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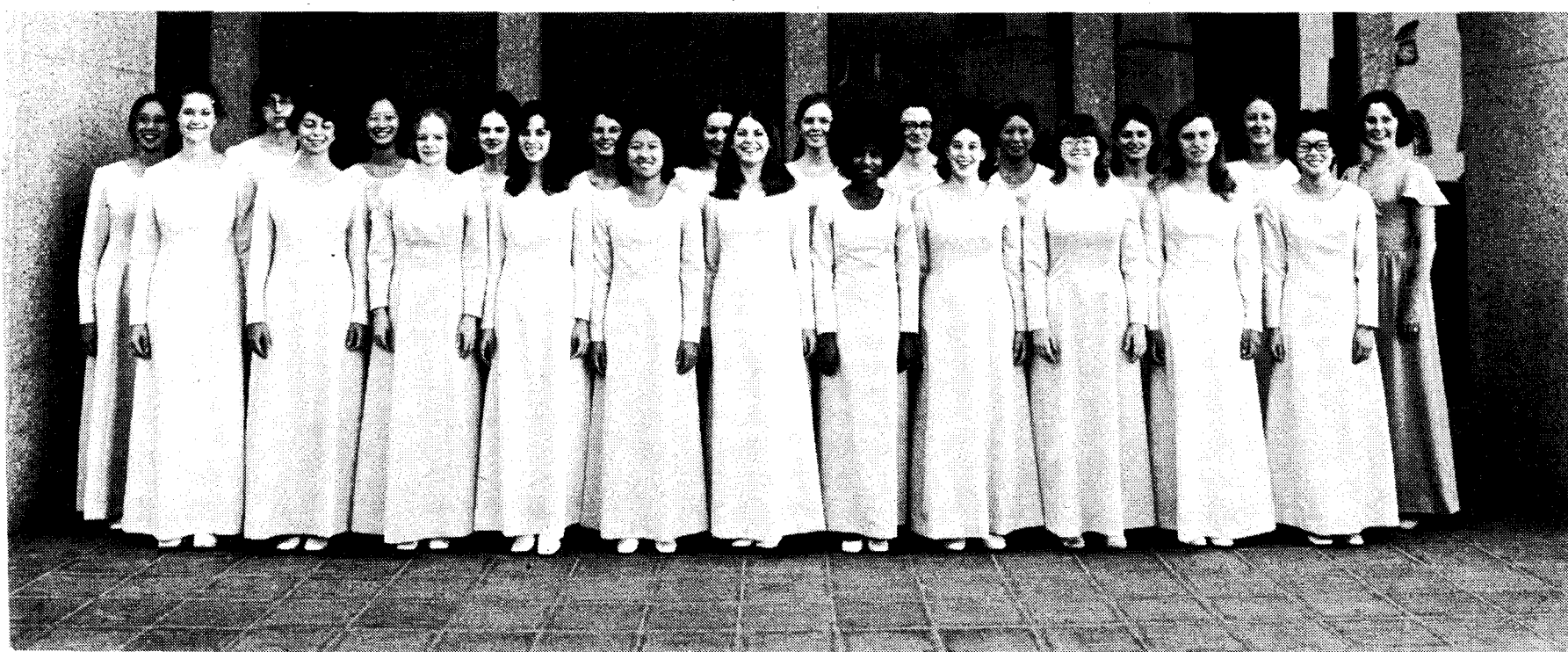
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Men—Fleming Basement

Sunday—3 to 6 PM
Monday—3 to 6 PM, 7 to 8 PM

Women—19 Baxter

Sunday—3 to 5 PM
Monday—5 to 6 PM

HOME

Anytime a play deals with the nature of man and society it is either brilliant or terrible — and SPECTRUM 9, David Storey's HOME, won the NY Drama Critics Award for the Best Play of the Year.

Ramo Aud

Oct. 17, 18, 23, 24, 25
8 pm \$1.00

Oct. 19
5 pm \$1.00

(Caltech Student Ticket Price — no further discount)

DAVID GRIMES

David Grimes graduated from Caltech in 1962, and has become a truly fine classical guitarist. His performances have been acclaimed across the country, and he now returns to Caltech in a blaze of glory.

Ramo Aud Nov. 1 8 pm \$5.50GA

GUTIERREZ

Cuban-American pianist Horacio Gutierrez has astonished audiences around the world with his artistry. His keyboard work, both technical and interpretive, must be heard to be believed.

Oct. 24 8 pm \$6-5-4-3

CARLSON & LAWRENCE

One of the most demanding of all musical instruments is the human voice, an instrument unparalleled in its flexibility. Claudine Carlson and Douglas Lawrence are truly gifted vocal artists, and their duo recital promises to be remarkable.

Oct. 11 8 pm \$6-5-4-3

VIRTUOSO CONSORT

Jonathan Mack (tenor), Shirley Marcus (recorder, krumhorn, viol and vielle), Richard Grayson (harpsichord), and Stuart Fox (lute and guitar) are the Virtuoso Consort, an ensemble devoted to the renaissance and baroque music of England, France, Italy, and Spain.

Ramo Aud Nov. 8 8 pm \$5.50GA

MORCA

The fiery magic of Flamenco, the dance and music of the Spanish Gypsy, has been called "emotion in motion". The musicians and dancers with Teo Morca bring Flamenco to life with unrivalled artistry.

Nov. 21 8 pm
\$6-5-4-3

Beckman FALL 1975

S-T-R-E-T-C-H YOUR MONEY

This is the line-up of Caltech's fall music, dance and drama events, and there are semi-infinite ways to save money on them. The Caltech student can buy two tickets event⁻¹ at a 30% discount, and more at a 10% discount.

On the day of an event, RUSH tickets (max 2 tickets student⁻¹ event⁻¹) will be sold for \$1.00. Money can also be conserved at the Coleman Chamber Concerts and the LSB Leakey Foundation Lectures. On the Tuesday before each Coleman Concert, 50 FREE and 50 \$1.00 tickets will be available (max 1 of each ticket student). One week before each Leakey Lecture, 50 tickets will be sold for \$1.00 (max 2 tickets student event). 15 minutes before each lecture, any remaining tickets may be bought for \$2.25. As always, the Watson lectures and the Dabney Lounge Concerts are FREE.

For information, call the Ticket Office, ext. 1652.

TOCCATAS & FLOURISHES

Toccatas & Flourishes — the majestic music of ritual and ceremony, the music of trumpet and organ which has stirred men's souls for centuries, will be performed by Martin Berinbaum (trumpet) and Richard Morris (organ).

Oct. 18 8 pm \$6-5-4-3

CRONYN-TANDY

In the Many Faces of Love, husband and wife Hume Cronyn and Jessica Tandy bring their tremendous expertise to an evening of vignettes concerning man's favorite preoccupation by Robert Frost, Dorothy Parker, St. Paul and others.

Oct. 31 8 pm
\$7-6-5-4

LA4

The LA4 is comprised of guitarist Laurindo Almeida, bassist Ray Brown, drummer Shelly Manne, and alto saxist and flutist Bud Shank. While giants in their individual fields, together as a jazz quartet they approach perfection.

Oct. 25 8 pm \$7-6-5-4

MORE ABOUT ...

WATSON LECTURES

Members of the Caltech family deliver the Earnest C. Watson Memorial Lecture Series on topics which this year include satellite photography, birdsongs, myopia & art, cosmology, triangles and others.

COLEMAN CONCERTS

The Coleman Chamber Music Association hosts concerts by the world's foremost chamber groups, this year including the La Salle Quartet, the Francesco Trio, the Cassenti Players, the Bach Aria Group, the American Brass Quintet and the Amadeus Quartet.

LEAKEY LECTURES

The LSB Leakey Foundation presents an annual lecture series which this year brings Mary Leakey, Jane Goodall, George Schaller, Jonas Salk and Buckminster Fuller.

DABNEY LOUNGE CONCERTS

The Dabney Lounge Chamber Concerts present outstanding young artists in chamber music recitals which this year will open on Oct. 19 with Kathleen Kong, who is also a junior in Ruddock House.

FESTIVAL OF LIGHT

The Festival of Light is a pageant in sight and sound with the Caltech glee clubs, a masterful evocation of the holiday season. Although December is a term away, this celebration of Christmas and Hanukkah is almost sold out.

Dec. 5, 6 8 pm \$4.00
Dec. 7 4 pm \$4.00

PRESERVATION HALL JAZZ BAND

If the Preservation Hall Jazz Band wasn't so good, it would be simply an historic monument. But these men, the founders of jazz itself, are here from New Orleans to show you how it's really done.

Oct. 3 8 pm \$7-6-5-4

All prices listed are prices to the public
See \$ for Tech student discounts

All events in Beckman Auditorium unless otherwise listed



Intramural Athletics Coming

by Dennis Mallonee

If you have neither the time nor inclination for intercollegiate sports at Caltech, but still enjoy knocking people around, you might consider playing for what-

ever house you wind up in in the intramural programs at Tech. There are two separate and distinct programs, both of which are played for prestige and a trophy. One of them is a challenge competition called Discobolus, the other is a round-robin competition called Interhouse.

held by Page House) consists of seven events played at various times during the school year. Points are awarded for the house's finish in each tournament or meet, and the house with the greatest number of points will have custody of the trophy during the following year. These events are: softball, track, tennis, volleyball, basketball, swimming, and touch football.

Interhouse (trophy currently

Water Polo Splashes

The splashing and exuberant activity you may notice in the campus swimming pool is most probably the Caltech water polo team. Water polo, for the uninformed, is a cross between swimming and soccer, with the major objective being to slap a ball into a goal at the other end of the pool.

Caltech has the potential for a strong team this year, with seniors Jim Rowson, captain and defensive specialist; Howard Bubb, offensive specialist; Phil Naecker, and Art Gooding. Transfer Peter Chang, now eligible, is goalie. Sophomores Jim Findley, Doug Mehoke, Alan Paeth, Lloyd Maxson, and Ray Morris are returning, and upperclassmen Tim Ahern and Margo Robe are out for their first year.

Incoming freshmen (freshpersons?) who have been involved in preseason training include Bill Buchanen, Warner Pyka, Dimitrio Papantoniou, and Pamela Crane. Steve Brown, a junior from Pierce Junior College is also helping out. Coach Ed Spencer expects several more walkons at the beginning of the year. Regardless of background, new people are welcomed.

The team will start its season Tues., Oct. 7 at 2 pm in a tournament at San Bernardino. The first home game will be Wed., Oct. 15, at 4 pm against Ambassador.

Fighting Beavers

Caltech Football Rolling

By Dave Sivertsen

Caltech football is back and ready to roll. With a dozen freshmen out already, Coach Thomas Gutman says the word is quality. With a total of twenty-five undergraduate Techs out, and more on the way,

the Beavers should have double the numbers of last year's team.

Some of the promising freshmen include Mark Wold, lineman; Bill Graham, back; Paul Gutierrez, back; Armand Bedoy, lineman; and many others. Upperclassmen out for the first time are Dean Sanzo, Gary Cox and Joe Alonis.

Returnees on the team include Mark Bandhauer, receiver; Steve Comens and Andy Falls as backs; Mark Sutton and Tom Trinko, linemen; and Norm Nelson at quarterback.

Prospective freshmen not yet out will be contacted at frosh camp by freshman football players.

The team, and especially the freshmen, have a lot of ability, but will require your support to come to their full potential. For a preview of Caltech's football team, students as prospective players are welcome to come and watch the practice on Saturday, September 27, at 3 pm. The first game will be Thursday, October 7, at 2:30, when Caltech takes on the Whittier JV.

Hustling Harriers

Cross Country Falls

by Dave Sivertsen

The Caltech harriers have already started their season running hill and dale. Eighteen men have been running workouts so far. Freshmen make up the bulk of the team, with Robert Bourret, Dave Wheeler, Vic Manzella, Larry Doolittle, Karl Rutz, Dave Trawick, Paul Meyer, and others. Returning are Junior Steve Kellogg, in strong shape after much summer mileage, Joe Arpaia (Junior), Rick Debus (Junior), Larry Bridge (Junior), and Sophomores Lou Testa, Dave Sivertsen, and Duane Gray.

Last Saturday was the first meet of the season against UC Riverside and LIFE Bible College. UC Riverside won 21-38 (low score wins), and LIFE Bible College did not have sufficient numbers for a team score. UC

Riverside made an exceptionally strong showing with the help of three new transfer students, all experienced runners. Garcia of UCR, who placed fourth in the Pike's Peak road run, took the first place on the hilly five mile course in Lower Arroyo Park. Harrie from UCR was second. Veteran Steve Kellogg of CIT took third, with freshman Robert Bourret in fourth. Other CIT places were Joe Arpaia, seventh, Dave Wheeler, twelfth, and Rick Debus, thirteenth.

The next meet will be held at Pomona-Pitzer against Redlands and Whittier. Coach Leroy Neal expects a tough contest, but points out that CIT has already had their first meet.

said, "that material in the warped disks may only recently have joined the galaxy and may have come from intergalactic clouds pulled into these galaxies by gravity."

He pointed out that when several other galaxies were recently mapped through observation of hydrogen, great hydrogen clouds were observed in their vicinities. Enormous clouds similar to these may be the source of supply for the warped disks intertwined with M33 and M83.

Thus three puzzles become a mere enigma.

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Music

by Flora

The Caltech Wind Ensemble, the Chamber Music Workshop, the Caltech-Oxy Orchestra, and the Jazz Band are all having auditions the first week of school, and the Master Piano class and guitar lessons begin instruction.

The Wind Ensemble and the Jazz Band will hold auditions during their first rehearsal Thursday night in Beckman Auditorium basement. Wind Ensemble meets from 7-9 pm, and Jazz and from 9-11 pm.

Also on Thursday, the Chamber Music Workshop will hold auditions during its first rehearsal, from 5 to 8 pm in Room 25 Baxter. And don't forget Music 1, music theory on Wednesday from 7:30 to 10 pm. It's an honest to goodness credit class.

The Caltech-Oxy Orchestra will audition on Monday, from 6 pm, and Tuesday, from 3:30-5:30 pm in 25 Baxter. And the Master Piano class will have its first meeting Wednesday in Abbey Hall Lounge from 4:30-6 pm.

For any questions, call ext. 157.

Galaxies

Continued from Page Eight
small irregular ones—the Magellanic Clouds.

But what about M33 and M83? There are no other galaxies sufficiently close by that could be begun to tilt up all that hydrogen.

According to present understanding of the dynamics of galaxies, the warped clouds must be short-lived. Eventually the spinning should get 'washed out' and disappear.

"We speculate," Dr. Rogstad

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GUITAR CLASSES AT CALTECH Caltech will again offer classical and flamenco guitar classes with guitarist Darryl Denning free to Caltech students only. Beginning and advanced students are invited to the classes which will meet on Tuesdays from 4 to 6 PM in the Fleming Music Room starting on October 7. For further information call the Student Relations Office (ext. 2297).

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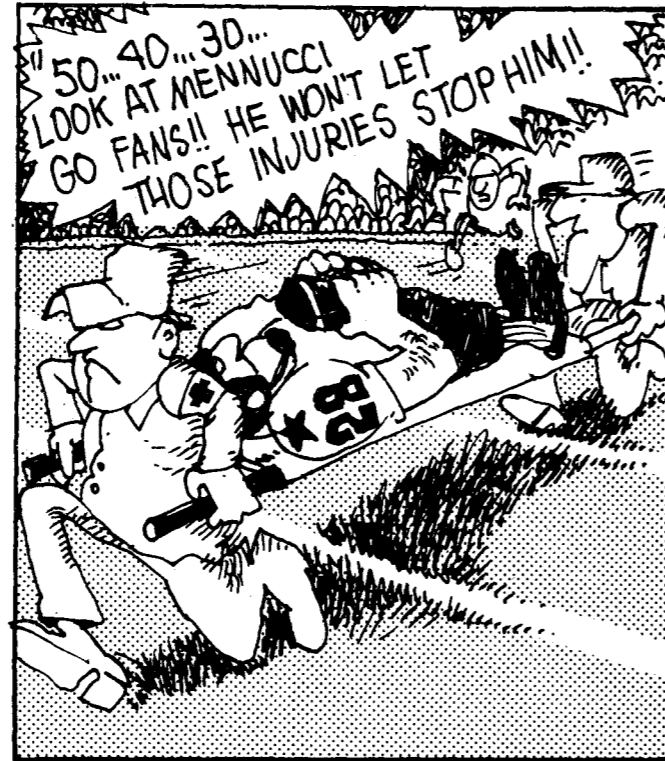
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And we won't

let our editors

stop us either!

FRANKLY SPEAKING... by phil frank



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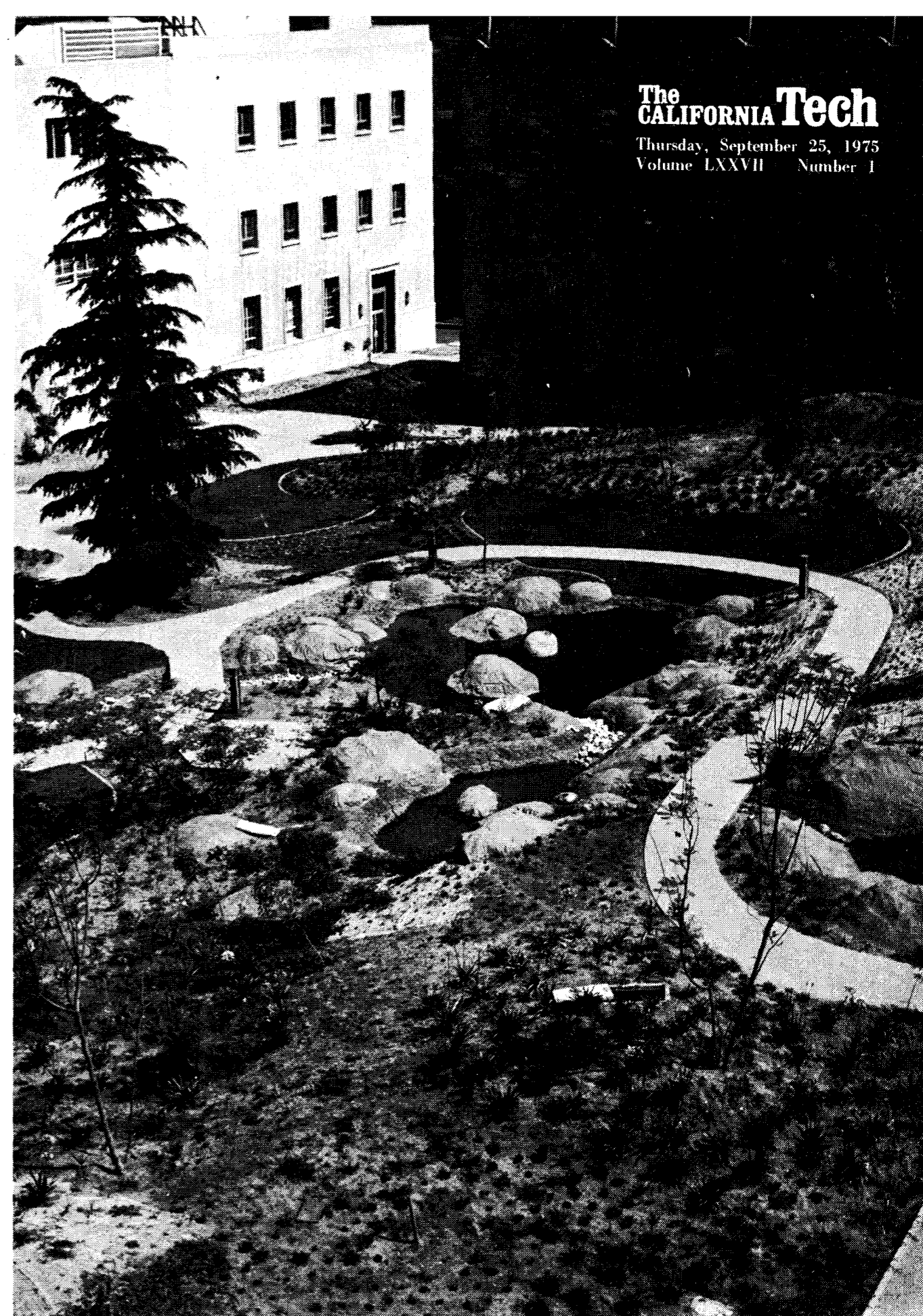
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