YMCA starts annual fund raising drive this Monday

Irwin Rubenstein, general chairman, announces goal of $26,000, all campus personnel will be approached.

The campus YMCA drive will get off to a flying start on Monday, Nov. 21, when more than 150 men will go out to raise $5,000 for the support of the Y. The drive will continue throughout the week and every person on campus will be contacted by one of the solicitors.

Rubenstein to head drive

Irwin Rubenstein, general chairman for the drive, and the Y treasurer, announced that the Y needs to secure about one fourth of its total budget of $11,000 from the campus. Although the Y receives support from the Institute and the Pasadena YMCA, much of its expenses are met through the contributions from students, faculty, parents, alumni, and friends.

Y activities cover large area

During the last year the Y has been carrying on an expanded program of activities and services. There were on the average 600 people taking part in some Y activity each week. This means there was an aggregate attendance of well over 10,000 at Y functions. Besides this increased attendance, there was also greater use of the Y's services such as the book exchanges, equipment and adding machines, and loan fund. The Y also continues its program of meeting new students on arrival each September as well as its summer vacation program, which is designed to prepare new students for the shock of actual campus life.

Students, members and faculty assist

Assisting Irwin Rubenstein in the drive will be Ken Luan, Kai Krikenroo, Bob Ruggerly, Vic Walkley, Al Helgeson, Dave Clark, Paul Hore, Monte Bill Gurn- der, Dave Stevens, Leon Shamos, Miles Neeman, and Jerry Praton. Bob Stanton is in charge of publicity.

Crazy themes make IH dance success

Tech's annual extravaganza, the Interhouse dance, was in no way lessened by the elaborate and scientifically contrived decorations.

Everyone was rushing up till the last minute to get the finishing touches on all the unique gadgets that were featured. Adlin's tents, fiery volumes, bailing mud pits, punch waterfalls, colored lights hooked up to the band's music, a Jacobs ladder, and weird sound effects were among some of the more notable inventions cooked up by ingenuity.

ASCIT dance will be held Nov. 22

A Thanksgiving theme will be the principal feature of the ASCIT dance for this term, to be staged November 22 at the Alta- dea Town and Country Club in Altadena. Benny Largasse and his band will play for the event, which will be the only formal dance this term open to the student body.

Pumpkins, cornstalks, and other traditional Thanksgiving decorations will be in evidence in the ballroom, and a bar operated by the club management will provide refreshment for the Techmen.

Lyman placed in charge

Bob Lyran, ASCIT First Representative, is in charge of arrangements for the affair. It will be strictly formal, with tuxedos or dark suits in order for the men and formal dresses for their dates.

This will be the only official ASCIT dance during first term, and the only student body dance, since the Frosh-Soph dance has been postponed until next term.

Students in flashy pajamas to troop through Pasadena

Scripps girls provide entertainment enthused Tech men will ignite fire

If no one else knows it by this time, at least the Pasadena grocery store operators are aware that the smog has been quite a problem this year. The stores have been absolutely solicitous this past week by fresh eagler to build box piles higher than fresh from competing houses. The mind-staggering climax toward which these preparations are leading will be reached tonight when the composite box pile is ignited.

County smog bureau gains industrial smoke control

For the majority of the first term the weather has been too smoggy. Recently because of this, people in Pasadena have been distributing a petition asking the County Board of Supervisors to do something about the smoke.

Pasadena petition

About two months ago some Pasadena city officials challenged the Board of Supervisors to place a moratorium on incinerators (to see how much they contributed to the smog situation. At the City Hall open house on October 23, some municipal workers started the petition mentioned in the first paragraph. The people who are doing most on the petition are regular workers in City Hall. The Pasadena Star News printed a copy of the petition shortly after it first came out and since then it has been more widely distributed. Already more than 5000 people have signed the petition.

Just what has been done though in smoke prevention and clearing up? In 1948 California passed a law creating air pollution control districts including Los Angeles. The law is probably one of the most stringent in the country and has some very interesting points. Los Angeles County is divided into 18 districts for the purpose of smoke control. These districts vary in size according to how much polluting material is produced in the area. For instance, Pasadena is district 18 and includes Mount Wilson and Pomona, while Vernon is in a district that is only about three-fifths of a mile wide and about three miles long. Each of these districts has an inspector who may check up on the amount of discharge going into the air at any time of the day or night or any day of the week.

Special check

These inspectors do not check the amount of noxious material coming out of a chimney; instead they find out the weight of material going into a particu­ lar process and the amount coming out. There are limits on the amount of material that can

(Continued on Page 3)
About the smog petition...

Is the smog getting you down on these dreary days? Ap-
dont think that the County Air Pollution Control Commission has been doing enough to check the sources of Los Angeles. These Please Petition officials have issued a smog petition which is currently being circulated as widely as possible. The petition is asking the Commission to “do something” about the present smog conditions.

Actually there are currently several theories about the origin and control of smog, some of which seem to have been done by the County Commission, as it claims that as a result of the four and one half years of work of the Commission 450 tons per day of air pollutants that formerly went into the air are now being collected or prevented from going into the atmosphere.

The above seems a good result on paper, but going out on a smoggy day, which is still to be done too frequently, seems to disprove the claims of the Commission. However, in view of the extreme difficulties which have confronted the Commissi-
on, we believe that the best possible practical methods have been used in trying to curb smog and that there has been some improvement in the situation, although at least three consecutive clear days in the immediate past. Therefore it is not for some

President’s Message...

Next week a solicitor will knock on your door and ask for a
collaboration with the Caltech YMCA finance drive. I ask you to consider a few thoughts in making your contribution. Directly or indirectly everyone on campus benefits from the activities and facilities of the YMCA, and only through your financial sup-
port can the YMCA continue its valuable program. Throughout their four years of undergraduate study, the ASCIT, is in many functions and operations. Read the article on the front page and read the literature when promised by the solicitors, then consider your contribution in view of the many activities and services of the Caltech YMCA.

Support the “YES”! it is yours and depends on you! J. Geen

ASCIT President

Caltech

Prescriptions

Dependable Registered Pharmacists

Fountain

Breakfast, Lunch, Dinner

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Pasadena, Calif.

LANE JEWELERS

JEWELRY AND GIFTS

All Watch Repair

Checked and Timed on An Electric Timing Machine

885 East Colorado St.

SY: 2-2101

Pasadena, Calif.

As the Roak pens these im-

mortal lines, he has

from the far corner of Ricketts the

beautiful, melodious sound of the illustrious Allen-Booth manic-

ing dissecting the lad with a

Half man...

The Rowdies had a rather in-

teresting punch dispenser for

the Inter-views—fist, one-half of one Ashton Brown. This

view section was nestled by

Mr. Brown, however, to his

service to House President

M. Cormick—with the straightest

face we’ve ever seen yet

Ash dealt the said president one

glass of pasteurized cider; to the

first lady of the evening went a

large-sized sample from the oth-

er barrel—Ah, well, Bill—there’s

always the Macaroni Club—

Ward?

Bates, Gamer, and Ogilvie, being men with an unquestion-

ably practical outlook on life, asked those dates on Saturday

morning to help with the dec-

orations. Sounds good, if you

can get away with it—The fol-

lowing day these six sailed

forth to smoke out a wild bee

hive in Griffith Park. They were

either lucky or unlucky, depend-

ent on your point of view—–the

bees were gone.

Purity Pete Finley turned down three dates for the Inter-

house. Why? We aren’t sure, writing on a topic that they are

interested in, but who neverthe-

less want to express their opin-

ion, I would suggest happy to

listen to it and incorporate it

into the Great Crisis Column. I

can be reached in 5G Crellin.

It seems to me that there is a

most disheartening paradox about Caltech. Opinion has it that

as a scientific and research insti-

tution, it is unexcelled. It turns

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technical schools to incorporate the social sciences and humani-

ties into all four years of its un-
dergraduate curriculum. The paradox lies in the fact that

the nature of the Institution encour-

ages many distinguished scient-

ists to visit the campus as guest

lecturers, but encourages almost no distinguished men of arts

and letters to appear. The stu-

dent receives considerable edu-

cation in his scientific field but

almost none in the humanities or social sciences. The courses in

these subjects which the un-

(Continued on Page 8)

HOTALING’S

921 East Colorado St.

For Arrow University Style

You get extra comfort built right in—

ARROW GABANARO

your exact collar size

size and

sleeve length

you can wear, Arrow Gabanaro. With the amazing Avarold collar that looks great—feels great—worn open or closed, with or without a tie. Washable rayon gabardine. We have all your favorite solid colors.

California Tech

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GRAD CRITER

by Jerome Horsham

It is my purpose to present in this column the views of gradu-

tion students on all phases of their student life. To do this ade-

quately, I shall need the coopera-

tion of all such students who

want to make their publica

gles and stories concerning Caltech. When one of the many

grads who is qualified to do so wants to present his viewpoint on

some pertinent topic, I shall gladly turn that column’s entirely

over to him to write away from the herculean task of writing on a

topic that they are interested in, but who neverthe-

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lecturers, but encourages almost no distinguished men of arts

and letters to appear. The stu-

dent receives considerable edu-

(Continued on Page 4)
by Bernie Schwartz
and Tom Tucker

Nas your Ears.

Rejoice, ya grovelers in the
dangerous, ya denizens of the
snake pit — for something new
has come to the California Tech.
Not to be outdone by the local
col-ed schools, your friendly edi-
tors have decided to introduce
some of our own local talent
right to the readers of this slim
rag.

Each week, a picture of one of
the Institute’s many secretaries
will appear in this column along
with a brief commentary. Any
suggestions as to choice of ma-
terial will be welcome, and should
be addressed to the fea-
ture editor.

This week’s lovely usually
be found in the Chemistry of-
room 119, Gates. Her name is
Joan Briskman.

Joan hails from Cincinnati,
Ohio, where she went to high
school, graduating in 1948. Since
then, she has been a secretary
for General Electric, coming to
Califonia only a month ago.
Joan says she likes it out here,
especially because she is fond
of swimming and tennis. She
also reads historical novels and
delights in poetry, and likes to
cook. Hats off to you, Joan, our
first secretary of the week.

Y to hold race
relations discussion

This Saturday, November 15, at 7:30
at the Y residence, as a followup
to the presentation of the film,
then, she has been a secretary
with a brief commentary. Any
suggestions as to choice of ma-
terial will be addressed to the fea-
ture editor.
Consulting architects: A. C. Held, M. H. Nager, and C. L. Miller. Laboratories the location and general design of these facilities will have been planned in advance with a view to a coherent development of the entire campus.

**GRAD CRIER (Continued from Page 2)**

A graduate takes pride, I imagine, some incentive for him to do something in these fields. I come from a large university and consequently miss the presence of men who are well versed in fields other than the sciences. I don’t want to give the impression that I am an intellectual highbrow looking down on Caltech, but I do want to voice a gripe concerning lack of interest in the humanities and social sciences because no dignitaries in these fields are around to provide incentives. I held the personal opinion that incentive gained as an undergraduate isn’t necessarily the same as that of people who are interested in organizing something like a “Great Books Course.”

The above argument and suggestion are based upon the assumption that the curriculum of life requires knowledge and interest in the humanities and social sciences as well as proficiency in some “bread and butter” field.

Egad! He, I suppose you don’t! She: Oh yes, I love to! He: Great, let’s do that instead.

**Discoveries at Tech find rainbows between galaxies**

Astronomical research at Caltech has shown that some wide-angled separated extragalactic nebulae do not necessarily live in complete isolation from each other.

Rainbows luminous bridges more than ten thousand million million miles long—substantially longer than any previously known—have been found to extend between a number of these gigantic starry islands that float by the millions in the universal ocean of space. These observations were made by Dr. Fritz Zwicky, professor of astrophysics, and have been confirmed with various instruments at Caltech’s Palomar Observatory and the Mt. Wilson Observatory of the Carnegie Institute of Washington. They are reported in the current publications of the Astronomical Society of the Pacific.

**Dumbbells and Tagatangs**

After the identification of extragalactic nebulae by astronomers, Dr. Fritz Zwicky found that luminous filaments resembling a string of Christmas lights, between galaxies, might be connected by double nebulae, like the bars of dumbbells. But that faint bridge does not always stretch between nebulae separated by extremely great distances—many times the diameter of the nebula involved—are relatively common had been generally unknown.

Professor Zwicky found such interstellar highways in plates exposed with the 18-inch Schmidt telescope on Palomar Mountain and later with the 48-inch Schmidt, which is the 200-inch Hale Telescope—had proved capable of recording fainter objects than had hitherto been possible. The phenomenon is illustrated in the following example, one of the first encountered:

**BOULEVARD in the sky**

The sky system consists of three nebulae in the constellation Virgo at a distance of about 50 million light years from the earth. Between the nebulae IC3481 at the upper end of the system and the one (uncatalogued) diagonally below and slightly left of it is a band of luminosity almost as sharpened and well defined as an oriental sword. Between the anonymous nebula and the one (IC3481) diagonally below and left of it is a hue of hue a somewhat less sharply defined shadow like like an oriental sword. Between the present distance scale (IC3481 and IC3481) are separated by a projected distance of 72,000 light years. Thus the three nebulae, as a cloud, because of its yataghan-like course, has a span greater than 72,000 light years.

Contrast between the cloud and the sky background on the photograph in which the cloud was first found is so slight that a casual observer might easily miss it. Professor Zwicky noted, however, that once the observer knows what to look for, a discerning eye can readily detect many similar cases. The most important of the systems so far spotted are now being photographed with the 200-inch telescope.

(Continued on Page 6)
Frosh football team shows power, spirit

Wins show it as one of strongest frosh teams in modern history

By Dave King

This Saturday the frosh football team plays their final and toughest game of the season against Whittier. The Frosh have displayed tremendous strength and talent in battering all comers this far. However, our own frosh have put on a show not seen for many years by winning two out of three.

In the game on November 1, the Beavers stopped Pomona for the second time, to the tune of 26-3. Conley displayed his usual excellent football play and had the whole crowd breathless with his fantastic one-handed interception of a spun pass, which he ran for a TD. Not to be outdone, Big Art Takido ran around left end on two opportunities to score another 12 points.

To set up the first touchdown, a new tackle-eligible play, with John Hickey taking the pass from quarterback Chuch Lehman, caught Pomona napping and the ball was downed a few yards from the goal. The next play scored.

It's interesting to watch the Frosh in practice, because with all the kidding around and horseplay that goes on one can't imagine their taking a game seriously enough to win. But they do. The boys are good, and they show it. With men like “60-minute Man” Larry Whitt, Larry Raleigh and Bruce Richbohn opening holes big enough to get a look at Jane Hasenfratz through it's a lot easier for the backs to run up the yards.

In the backfield along with Chuck Lehman and Art Takido are Pete Finley and Little Jim Okada. These men can be counted on to come through when the going is rough to run and pass. Probably the best defensive man, the guy who has consistently stopped runners almost twice his size and hit them so hard thatoultry is an ever increasing occurrence, is Purity Pete Finley—another man with almost no past experience.

We could go on naming the players who are always in there fighting, charging, and really giving that old college try—Alex Oertoff, Dick Small, Carey, Stidler, McCune, Holladay, Lindors. Call it rah, rah, stuff if you like, but every one is out there to win.

Two men who really deserve b Stephen are coaches Ivan Mann and Ed Freidler. It's gratifying to them to have good material, and they haven't missed a bet in developing the boys into a top team.

All of them have a huge job ahead of them for Saturday, but they have what it takes. Get there and stomp on you guys. Let's BEAT WHITTIER!

Over the wall

By John Wall

Tomorrow is the Big Game, at least for Caltech, for tomorrow the Beavers take the gridiron against the Tigers of Occidental. This year the Oxy record has not been too spectacular, but the backfielders (if interested) will probably go out of 19-14. Phil Conley displayed his usual excellent football savvy and had the whole crowd breathless with his fantastic one-handed intercept of 19-14. Phil conley displayed his

BEAVER SPORTS

Thatcher next for soccermen

Due to the “Great Plague” which has struck the Soccer team, the UCLA game has been postponed until November 26. This Saturday, however, the shinklekeys will go after their fourth victory of the season against Thatcher. The game will be played at 10 am on the home field and it is hoped that at least some of the infirm will be ready for action.

Conley takes screen pass as Whitlow lays key block and Maltz and Holladay and interference, gains a mere 30 yards.

To a rainbow, all umbrellas are the same

Yes, the nice part about umbrellas is their similarity. When the need is urgent, any one will work. But one Bell System asset is the smooth and interlocking system that only such rigid standardization made possible. The system is capable of handling many different kinds of calls in much the same way.

WALTER'S Barbeque Shack

Genuine Wood Pit Barbeque

With Our Own Delicious Sauce

“I once visited and you will always return”

• Delicious Sandwiches
• Spare Ribs
• Assorted Meats

5 P.M. to 10 P.M.
Tuesday thru Thursday
6 P.M. to 1 A.M.
Friday and Saturday

WALTER KLASSEN
All Area 1772
1054 E. Jarman Blvd.
(behind Chuckle & Fingers)

Lettermen attention!

Measurements of varsity major and minor sport athletes will be taken in Ricketts lounge tomorrow afternoon. Be sure to be present if you want your reward before Christmas.

Telephone men from other areas can come and pitch right in with the same methods, tools and equipment.

But one Bell System asset isn’t standardized. That is its people. It's able, original minds to keep our business moving ahead. For college graduates qualified for and interested in such wide differing work as research, engineering, operations and administration, we offer many opportunities.

Your college placement people will be glad to tell you more about it.
The Ski Club is running a trip about Dec. 20 and return by the afternoon of Wednesday the 26th, if there is snow, and return the following Sunday. Several beginners are going and others are coming as they will be there as free lessons given by a club member.

Incidentally, for those without equipment, most of the ski shops in the area have rental outfits for $6 for the four-day weekend. Chamberlain's and Peterson's have them. You beginners can't find a less expensive method of getting started than the Mammoth deal.

Aspen

The Aspen trip will leave about Dec. 20 and return by the second or third. There will be about 35 skiers in the group, the best skiers in the country for about $150 each. You have a lot of money, but a good price for six weeks "on the hill" and good transportation. Anyone interested should see me in the next two weeks as reservations will be made early.

OVER THE WALL

(Continued from Page 5)

The hard running and clever ball handling of Pat Fazio, Jack Walker, and Al Johnson; but there is no doubt in my mind that the team seen in several years in Big West play was the finest ever. The meet is here at 4:15. However, it is not always impossible to make a guess as to how this team came about. For one thing, the three nebulae may be rotating independently of each other. They may then exert such a gravitational pull on each other that they will drift further apart, and have the effect of being pulled apart. The nebulae might be so close to each other that they could collide and absorb enough of the light from one to make the other invisible. The three nebulae might be so close to each other that they could collide and absorb enough of the light from one to make the other invisible.

A use a yardstick

The amount of matter in the universe, and the average density of the universe, are both finite. If one cosmic phenomenon appreciably is the effect of visible light, then the average number of stars is the average number of stars per unit mass. The number of stars in a unit mass of the nebulae themselves. If one region happens appreciably, the effect is felt in visible light, then it acts on all stars of the same type. If Professor Zwicky believes he is right, then the effect is felt in visible light, then it is felt in visible light. His own recent experiments and cosmological theory influence the yardstick.

Caspers move into 3rd week practice

The Orange and White cagers moved into their third week of practice and men report

CROSS COUNTRY BLAST BULLDOGS

There were smiles around the Tournaments on Tuesday and Friday. The Tech cross-country team blasted a weak but game Redlands squad 4-2. The Frosh again won, but by a default. Leading the team was Leigh Moody, and also in line were LaTourneau, Mandela and Patfoster. Close behind came Ams Marshall, and Cramer. Only Redlands man to break into the first eight was Eaton, the other Bulldogs being far back.

Whittier

This Friday the leatherjungers run headlong into the Whittier Engineers. The Whittier Engineers are expected to handle the finest cross-country team seen in years in Big West play. The meet is here at 4:15. However, it is not always impossible to make a guess as to how this team came about. For one thing, the three nebulae may be rotating independently of each other. They may then exert such a gravitational pull on each other that they will drift further apart, and have the effect of being pulled apart. The nebulae might be so close to each other that they could collide and absorb enough of the light from one to make the other invisible. The three nebulae might be so close to each other that they could collide and absorb enough of the light from one to make the other invisible.

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