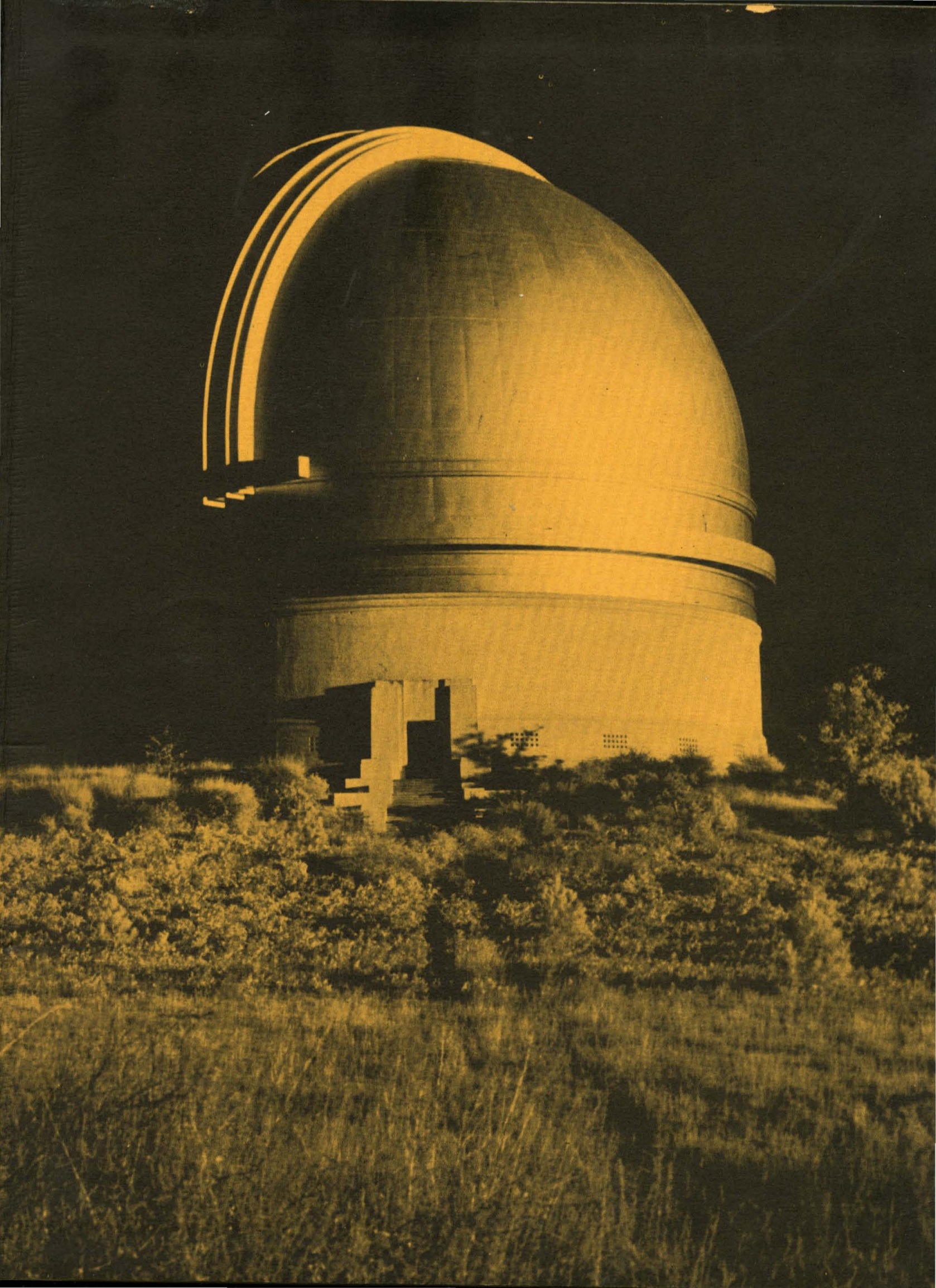
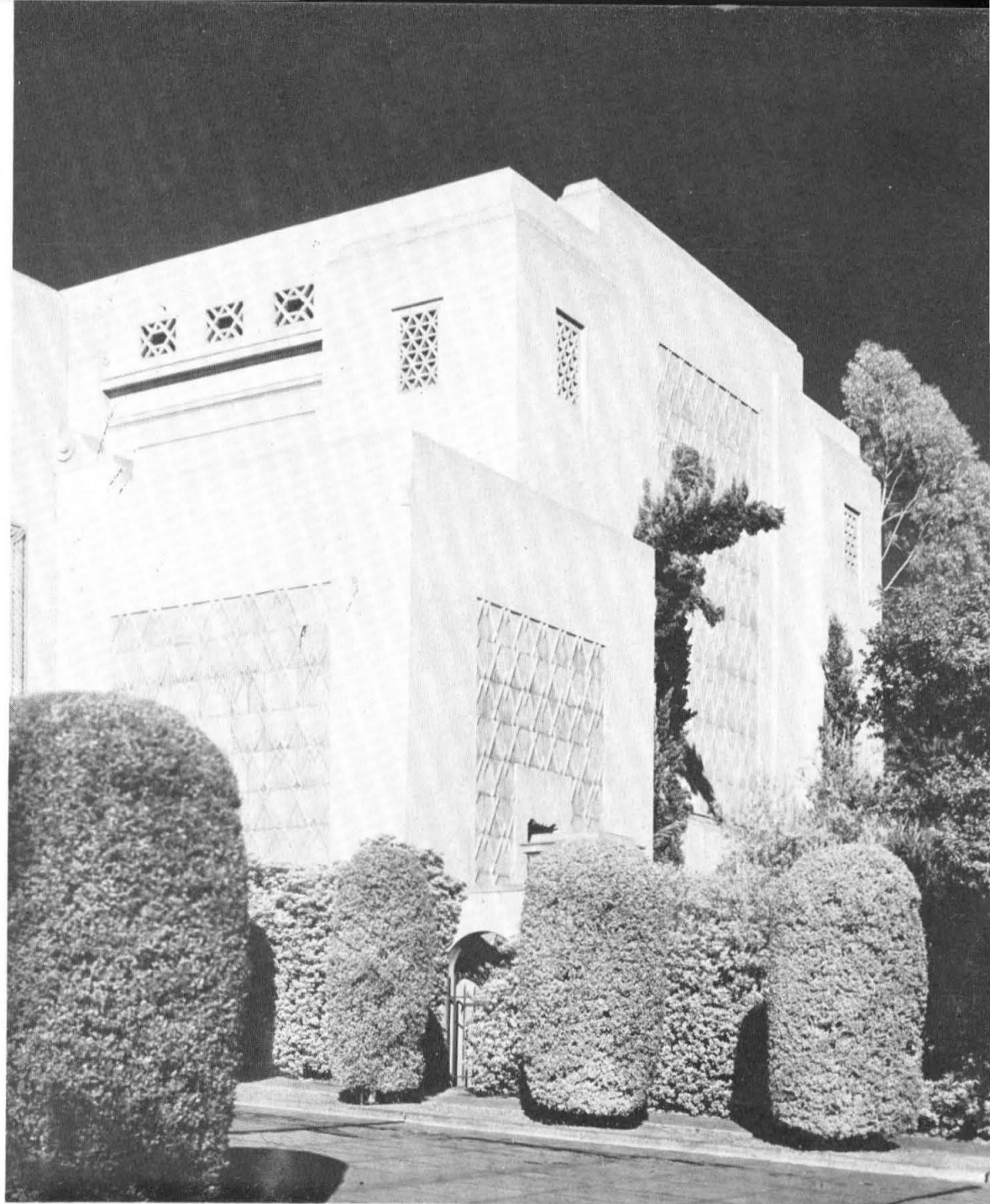


**PALOMAR'S DAY
BEGINS AT
SUNSET**







FOREWORD

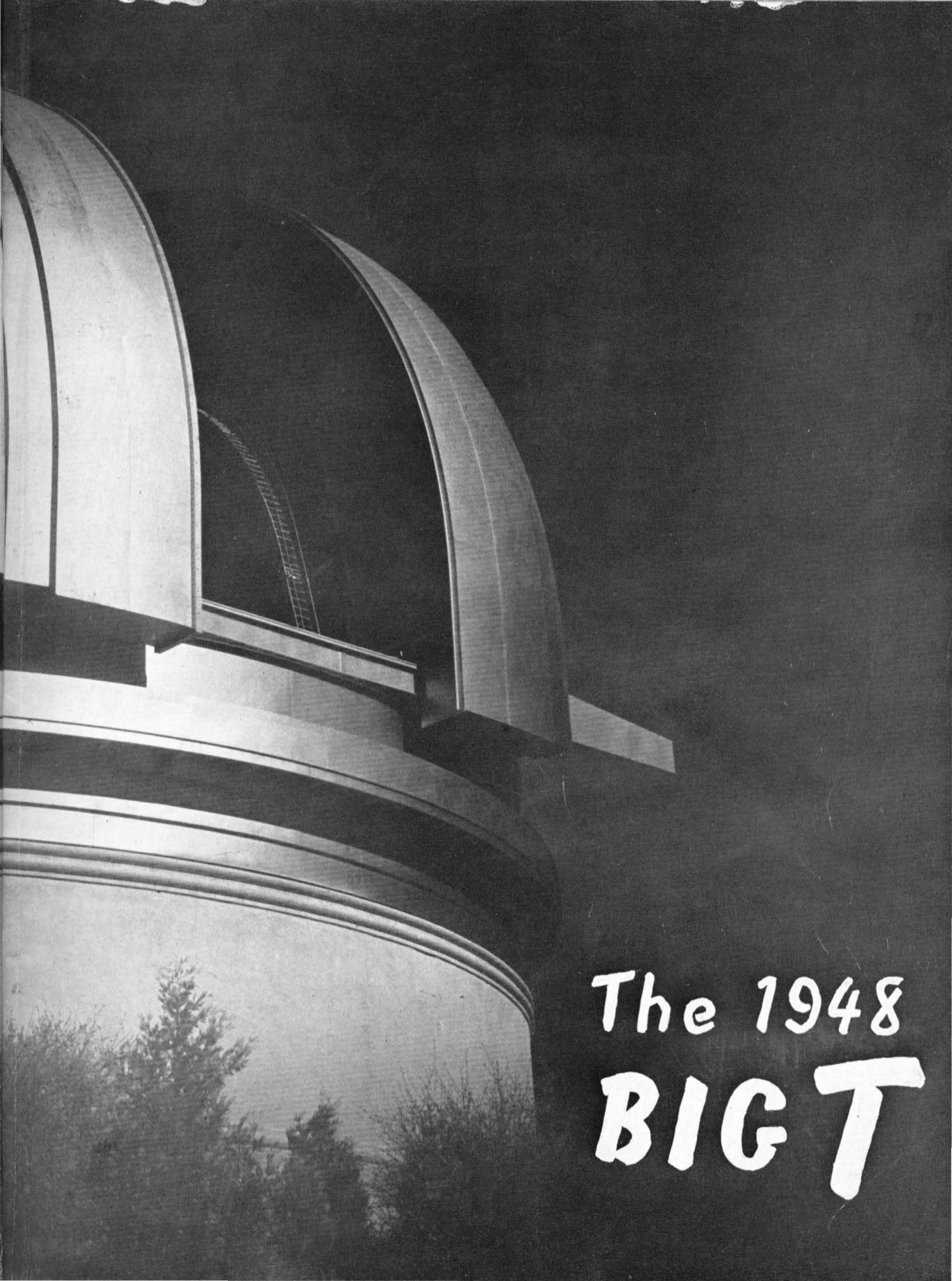
This is a book of few words and many pictures. To Ralph Lovberg who produced the striking architectural drawings on these pages, I express admiration and gratitude for a major contribution. To each of the other editors goes complete credit for the finished sections. It was hard work, and well done.

Thanks go to Roy Day of the Progress-Bulletin for the printing, to George Peterson for the engraving, and to Lloyd for the individual portraits. That this is such a fine book is directly their doing.

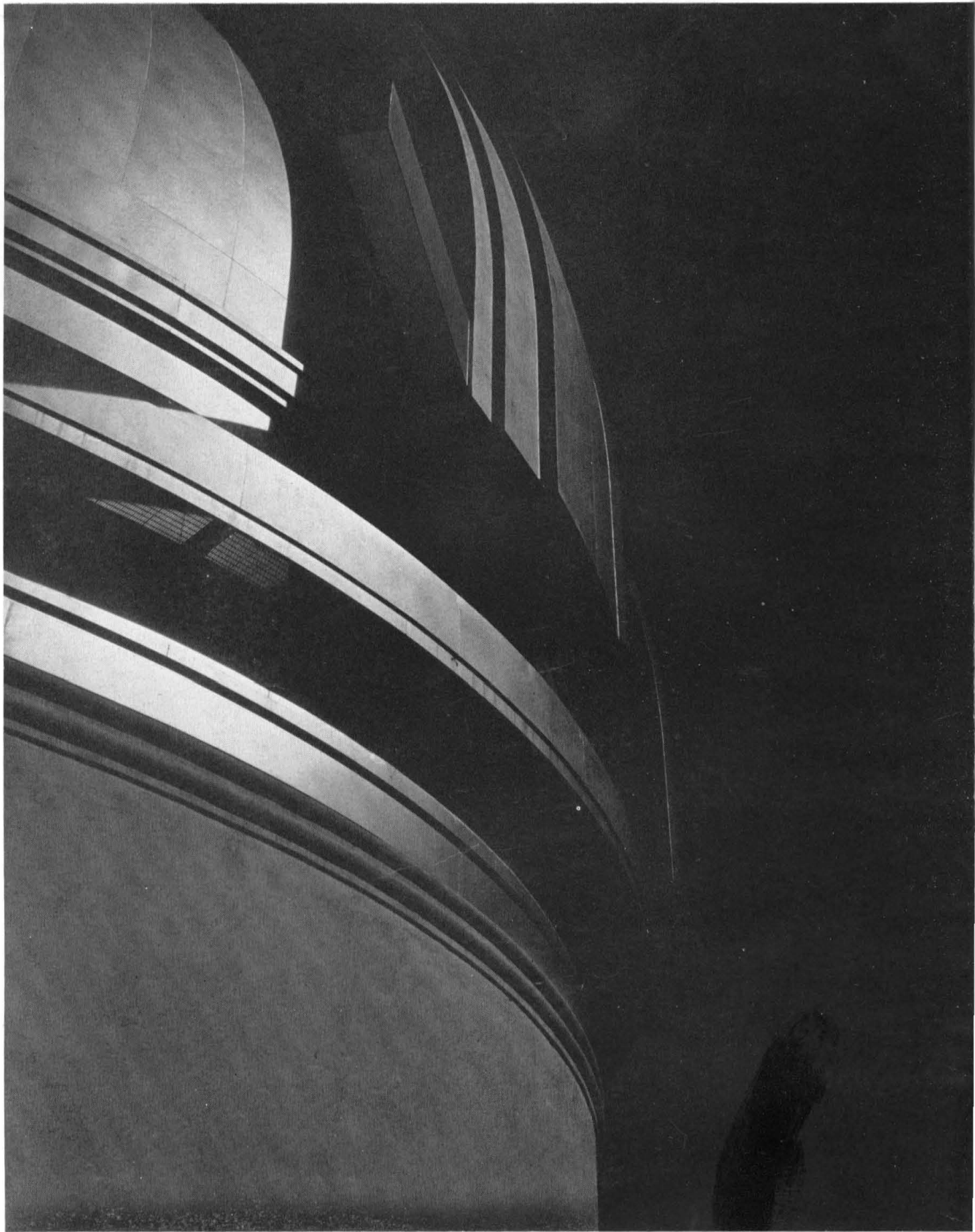
From Bob Crichton and his staff, and from our advertisers came the means to carry through the Palomar theme and to produce this large book. Our sincere gratitude for their work and patronage.

Tom Tracy, Editor



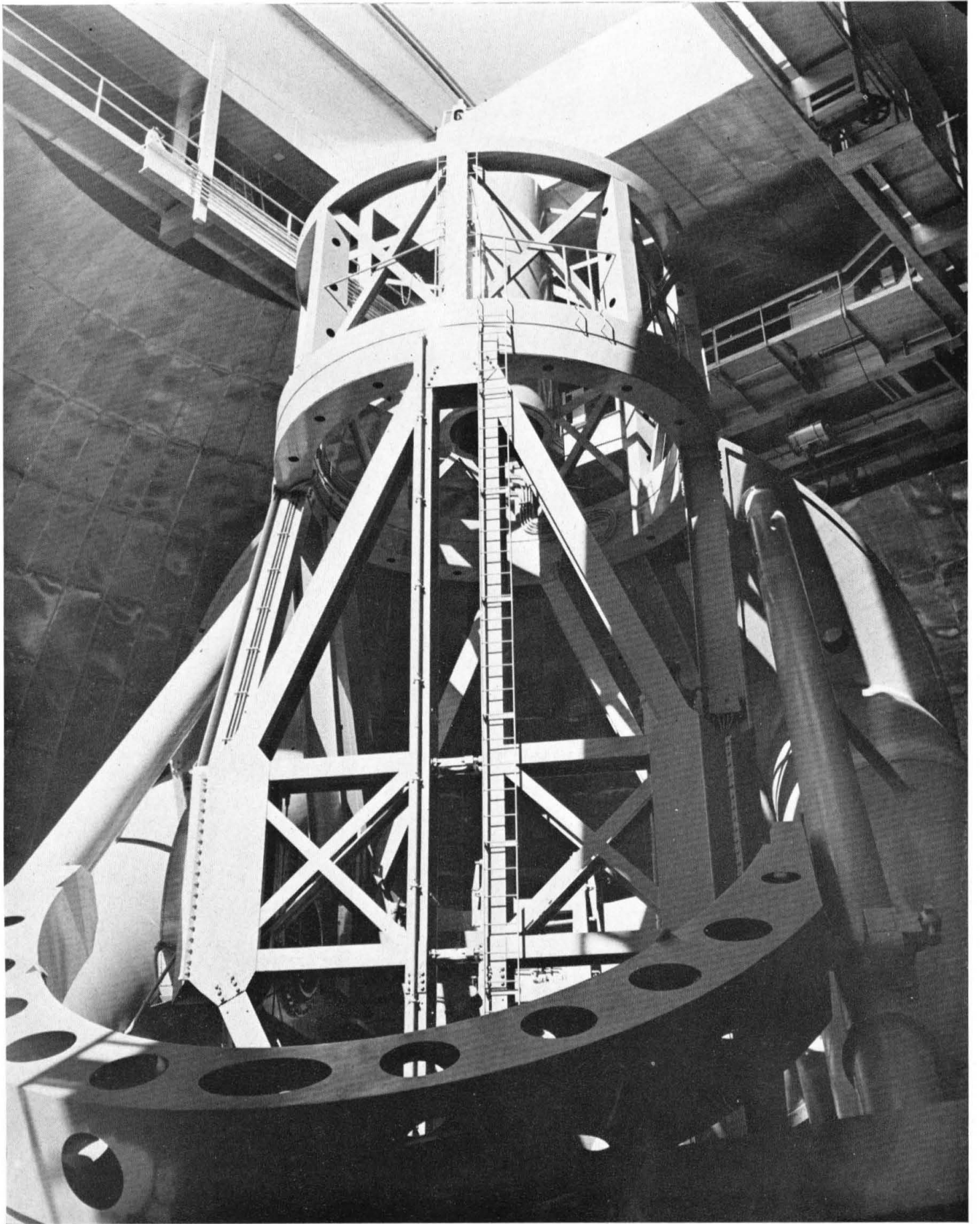


The 1948
BIG T





**OUR THEME:
PALOMAR COMPLETED**



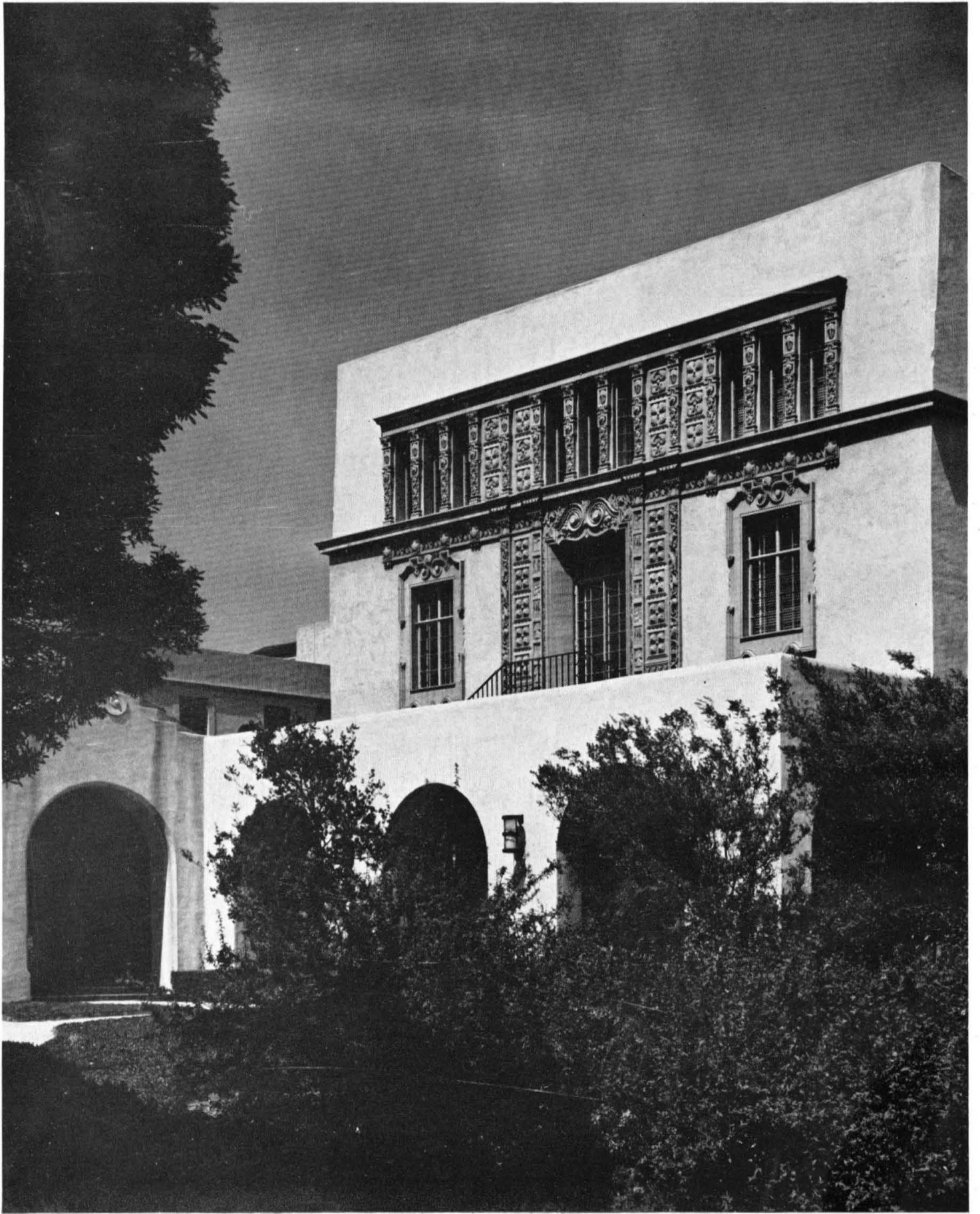




IN MEMORIAM

LEON CAMBOURS
IRA COPLEY
CHARLES REEVE
GERALD ROBINSON
THOMAS WARNER





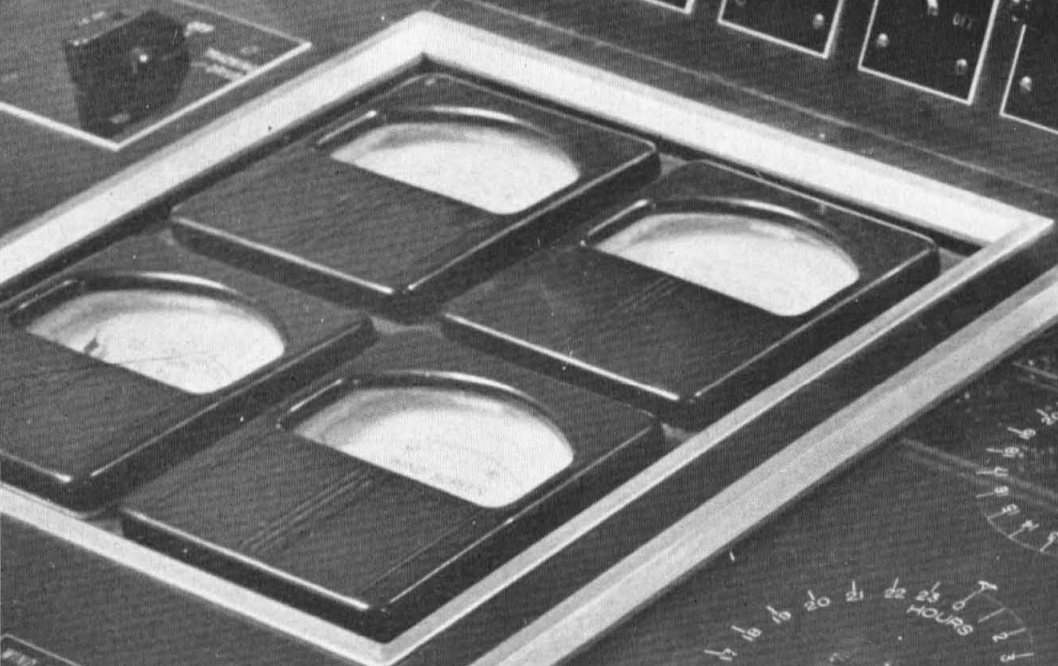




CONTROL POWER
AC DC
AUX. AC AUX. DC

DOME CONTROL TRANSFER SWITCH
PHANTOM TELESCOPE OFF
DESK
ROTATING DOME OBSERVING STATIONS & DESK
PORT

TRACKING DRIVE ON OFF
R.A. OIL PUMP ON OFF
DEC. OIL PUMP ON OFF
DOME M.G. SET ON OFF
SELSYN SUPPLY ON OFF
CONTROL MASTER ON OFF

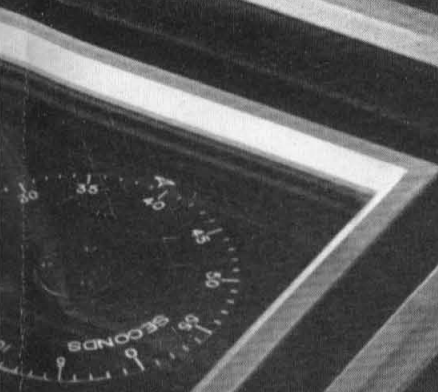
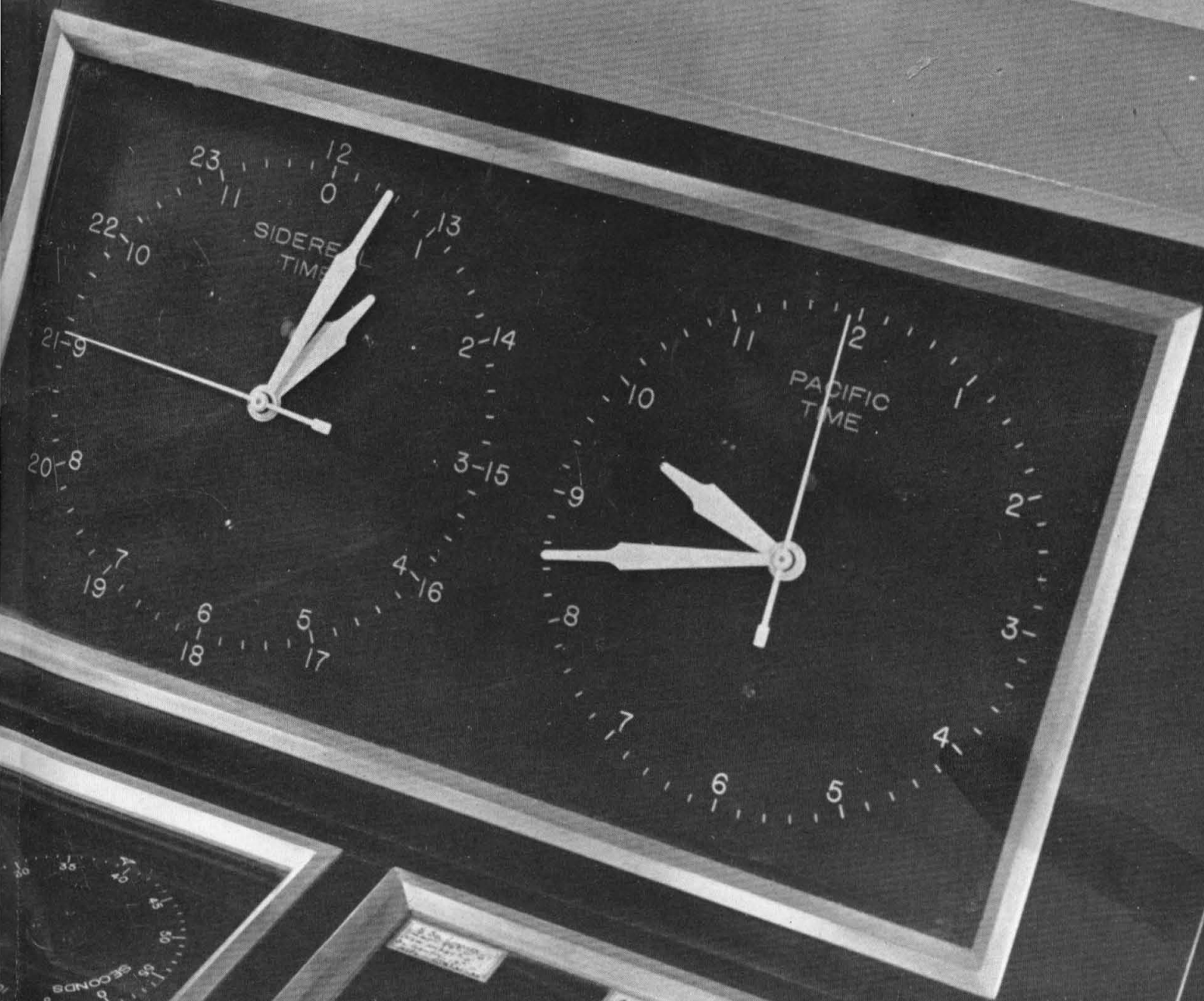


HOURS
MINUTES
RIGHT ASCENSION
MINUTES
SECONDS

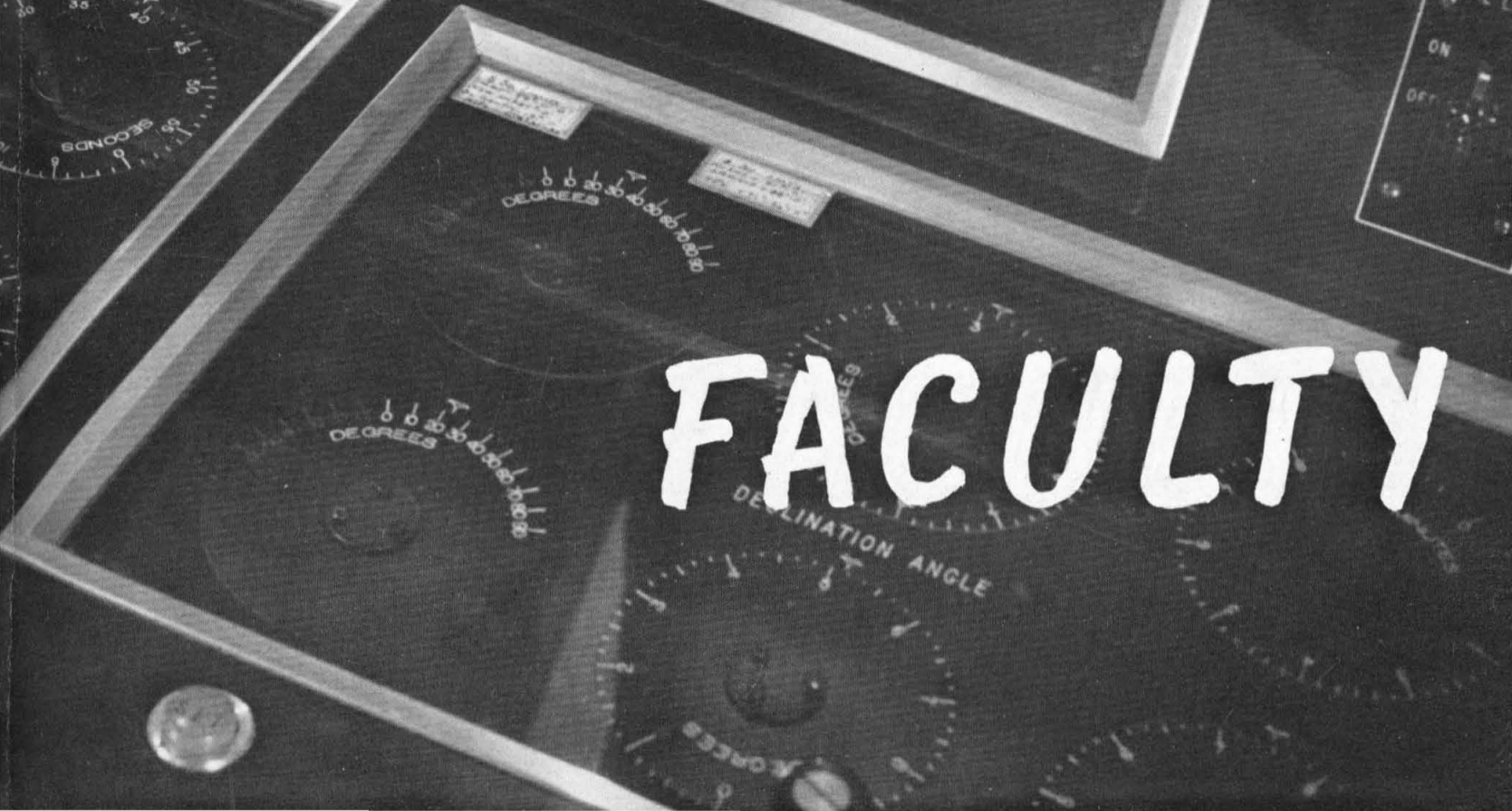
WIND SCREEN UP DOWN

DOME ROTATION LEFT RIGHT

R.A. SETTING



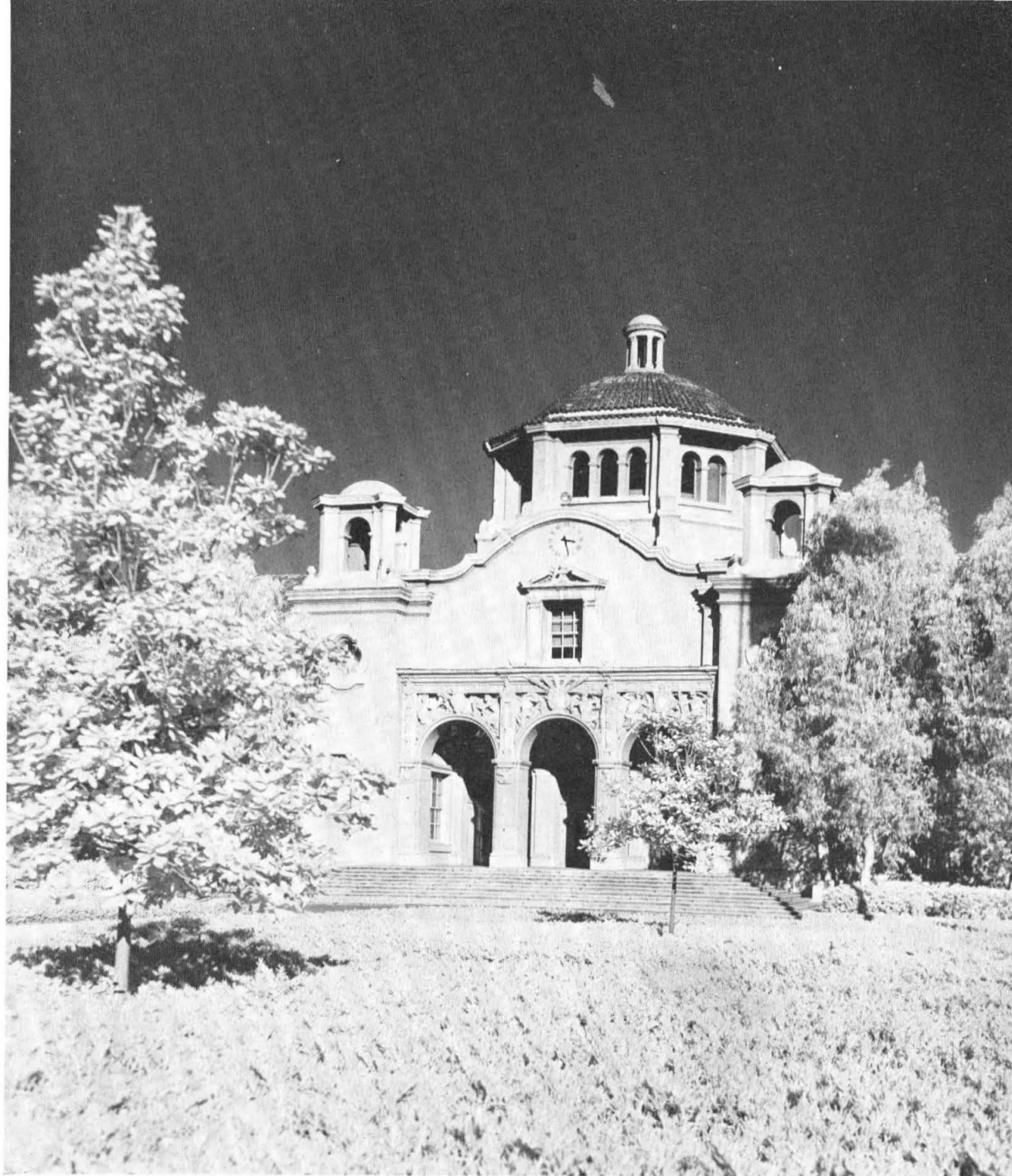
DIAL LIGHT
ON
OFF

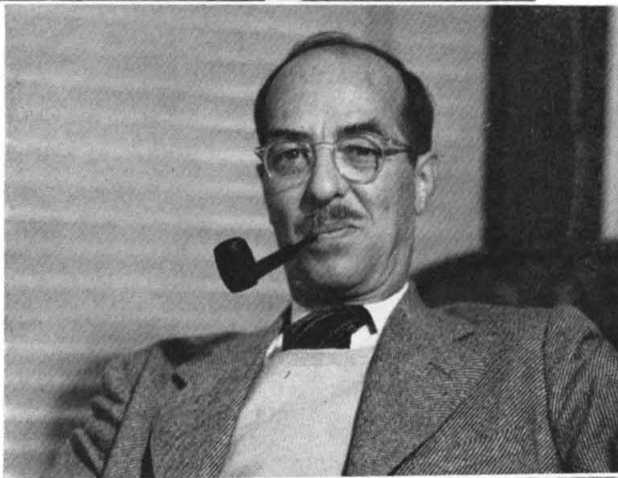
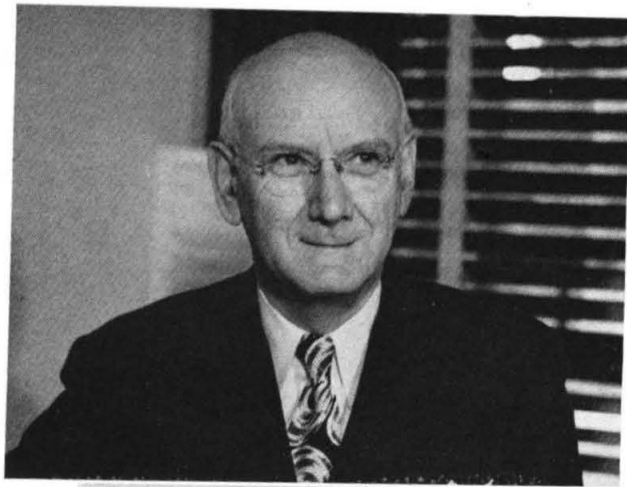


FACULTY

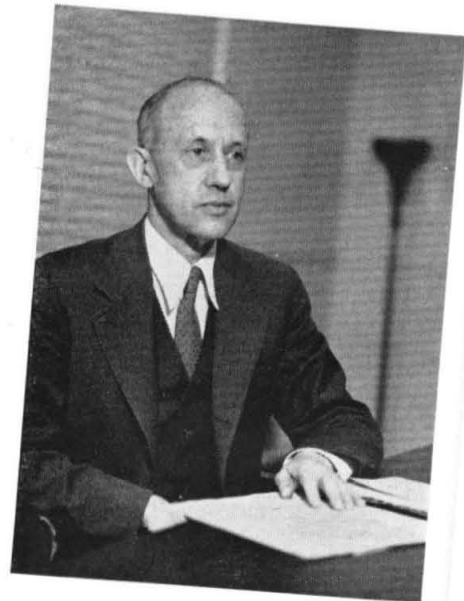


LEE A. DUBRIDGE
President





DEANS



WILLIAM LACEY

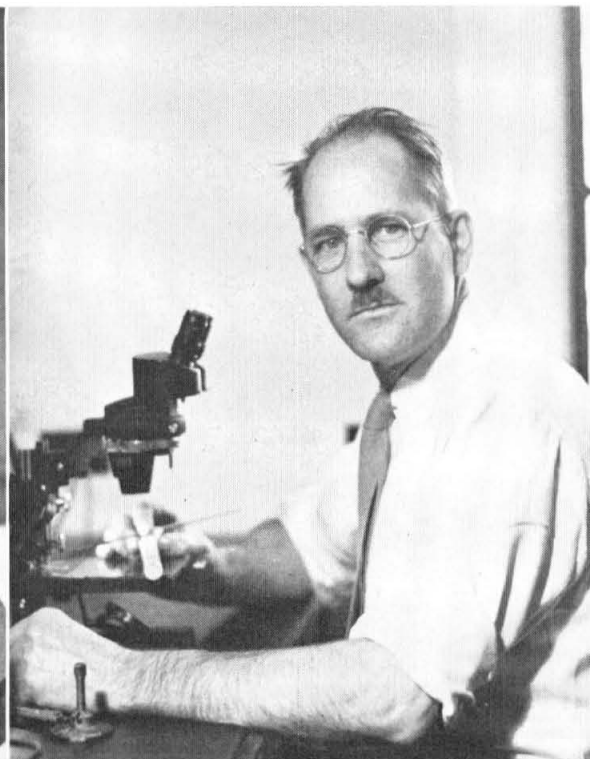
FRANKLIN THOMAS
PAUL EATON
FOSTER STRONG
EARNEST WATSON



LINUS PAULING, CLINTON JUDY, ROYAL SORENSON

DEPARTMENT HEADS

FREDERICK LINDVALL, GEORGE BEADLE, CHESTER STOCK



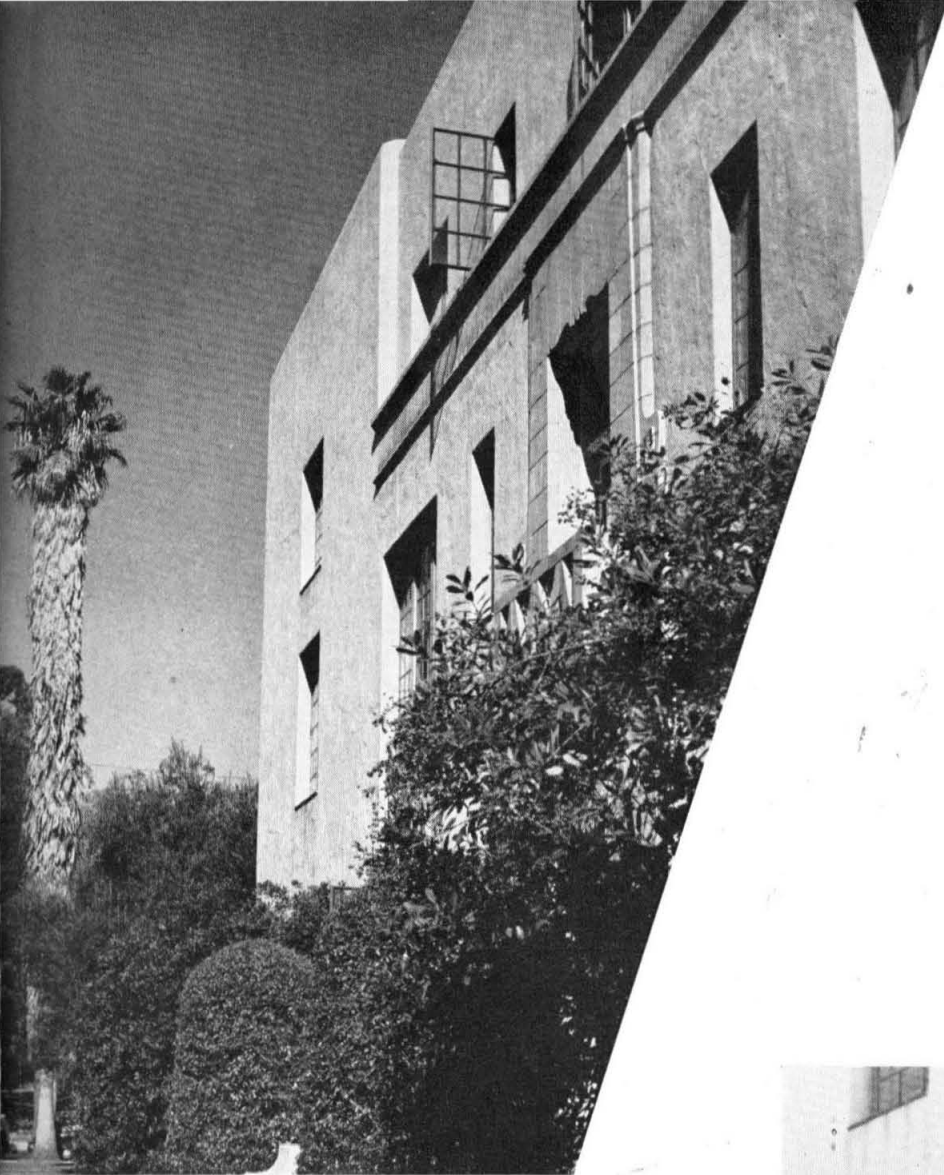


VICTOR NEHER, WILLIAM SMYTHE, CARL ANDERSON,
PAUL EPSTEIN, CHARLES LAURITSEN

PHYSICS



WILLIAM FOWLER, LEVERETT DAVIS,
FOSTER STRONG, SAMUEL BARNETT
HOWARD ROBERTSON, THOMAS
LAURITSEN, JESSE DUMOND, R. F.
CHRISTY, ROBERT A. MILLIKAN



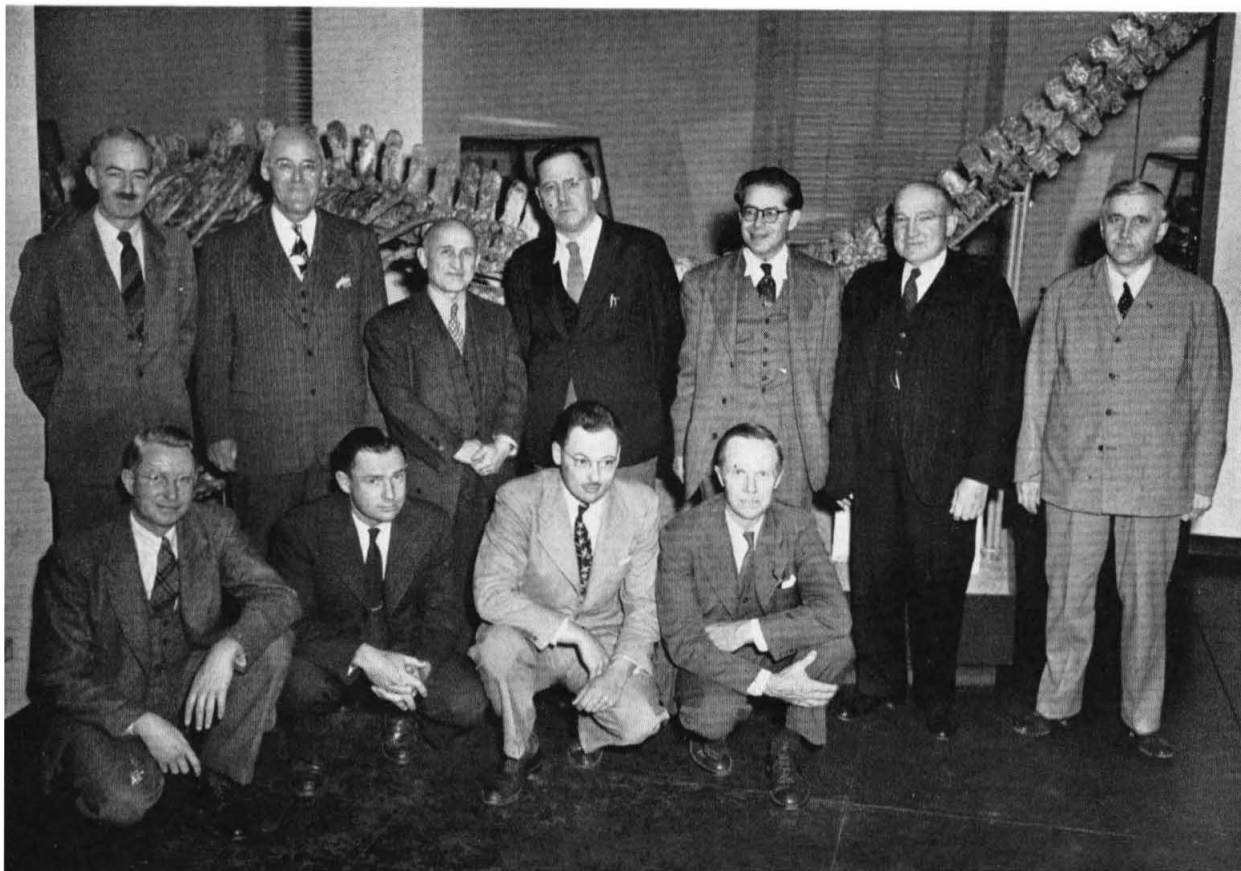
HUMANITIES



STANDING: RAY UNTEREINER, GEORGE MacMINN, BEACH LANGSTON, PAUL BOWERMAN, HUNTER MEAD, HORACE GILBERT, CLINTON JUDY, RICHARD SENSOR, ALFRED STERN, ROGER STANTON, HENRY McCREERY, PAUL EATON, GEORGE TANHAM, RODMAN PAUL, WINCHESTER JONES, WILLIAM HUSE, RALSTON HOLMES, GODFREY DAVIES, HARVEY EAGLESON, WALLACE STERLING

SEATED: MELVIN BROCKIE, KENT CLARK, ROBERT GRAY, JOHN SCHUTZ

GEOLOGY



IAN CAMPBELL, JOHN BUWALDA, BENO GUTENBERG, CHESTER STOCK, CHARLES RICHTER, CLINTON STAUFFER, GENNADY POTAPENKO
 DANA RUSSELL, ROBERT SHARP, RICHARD JAHNS, JAMES NOBLE

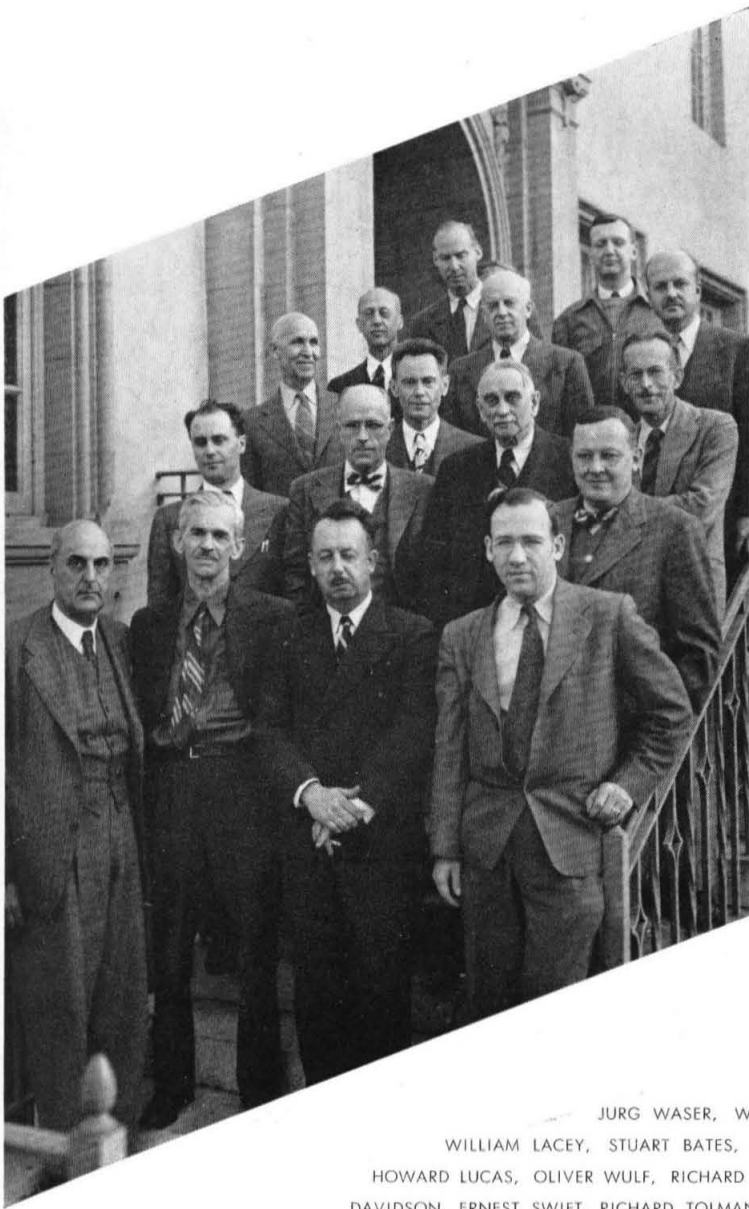
BIOLOGY

JACOB DUBNOFF, ARTHUR GALSTON, ANTHONIE VAN HARREVELD, ERNEST ANDERSON, EDWARD LEWIS, STERLING EMERSON, SAMUEL WILDMAN, HERSCHEL MITCHELL, HENRY BORSOOK, MAX DELBRÜCK, CORNELIS WIERSMA, RAY OWEN, NORMAN HOROWITZ

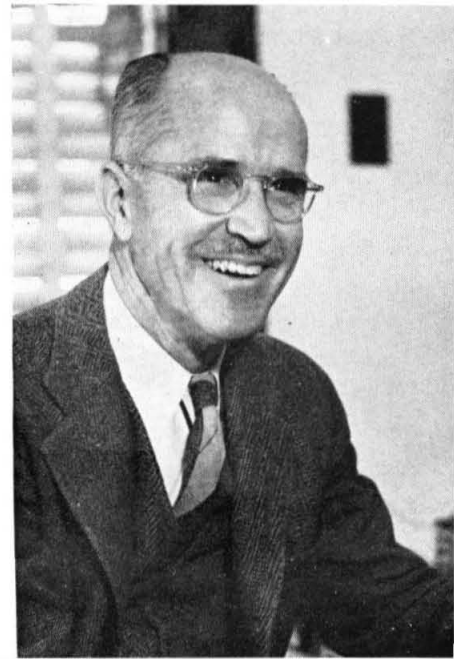
FRITS WENT, ARIE HAAGEN-SMIT, GEORGE BEADLE, ALFRED STURTEVANT, GEORGE MACGINITIE, ALBERT TYLER



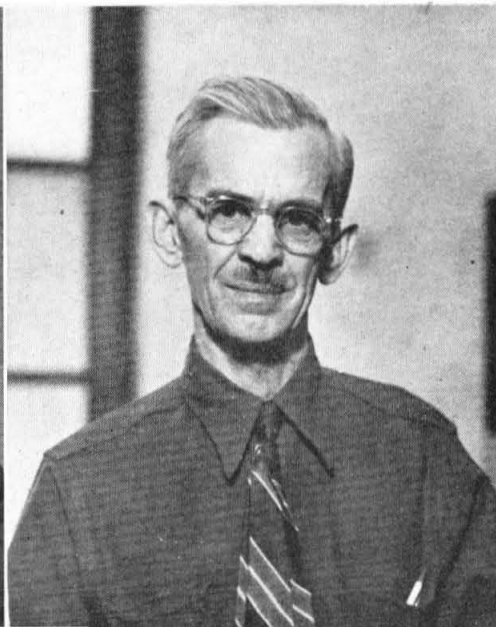
CHEMISTRY



JURG WASER, WALTER SCHROEDER,
WILLIAM LACEY, STUART BATES, JOHN KIRKWOOD,
HOWARD LUCAS, OLIVER WULF, RICHARD BADGER, NORMAN
DAVIDSON, ERNEST SWIFT, RICHARD TOLMAN, CARL NIEMANN,
LASZLO ZECHMEISTER, DON YOST, DAN CAMPBELL, EDWARD HUGHES



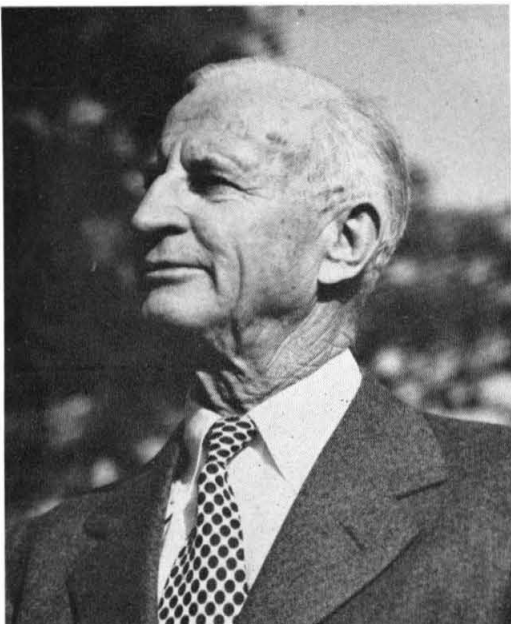
ERNEST SWIFT
WILLIAM LACEY, DON YOST, HOWARD LUCAS



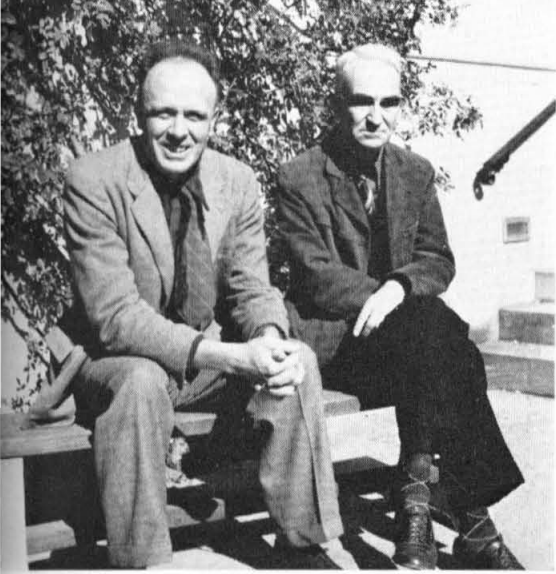
ASTROPHYSICS



MAX MASON, FRITZ ZWICKY, RICHARD TOLMAN



MATHEMATICS



MORGAN WARD, ERIC BELL.



ARISTOTLE MICHAL, FREDERICK BOHNENBLUST



ROBERT DILWORTH, ERIC BELL, FREDERIC BOHNENBLUST
SAMUEL KARLIN, ARISTOTLE MICHAL, A. ERDELYI, MORGAN WARD

CIVIL ENGINEERING



ROMEO MARTEL



WILLIAM MICHAEL



ROMEO MARTEL, WILLIAM MICHAEL, PERRY BANTA, WILLIAM BOBISCH, FREDERICK CONVERSE



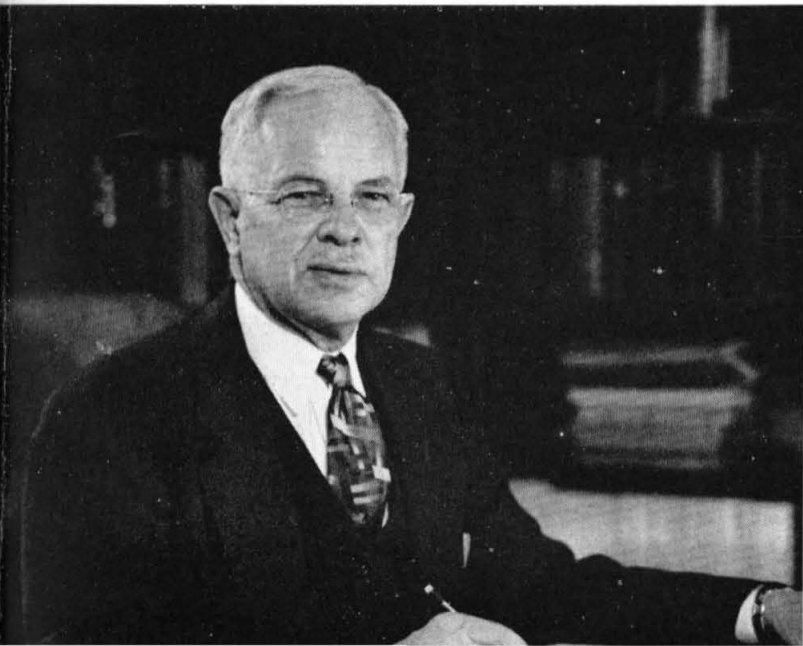
VITO VANONI, DONALD HUDSON, ROBERT KNAPP, PETER KYROPOULOS, ROBERT DAUGHERTY, WILBUR VARNEY, ALADAR HOLLANDER, DUNCAN RANNIE, WARREN WAGNER

MECHANICAL ENGINEERING

DONALD CLARK



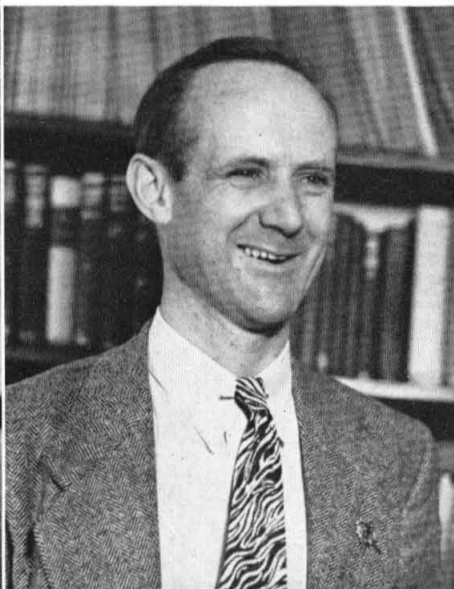
ROBERT DAUGHERTY





ELECTRICAL ENGINEERING

FRANCIS MAXSTADT
STUART MACKEOWN, WILLIAM PICKERING, GILBERT McCANN



STUDENT-FACULTY RELATIONS



HARVEY EAGLESON

The Student-Faculty Relations Committee hears and generally solves problems affecting as one the undergraduate body and the Institute. This year's group, under Chairman Eagleson, discovered unusual harmony of the minds, operated both wisely and well.







CLASSES

SENIORS



LOTHROP MITTENTHAL

The Class of 1948, still much larger than the pre-war classes, made a successful effort to have a particularly active senior year. In addition to the usual Class Day and Junior-Senior Prom, the latter being a formal dinner dance at the Oakmont Club, the old Junior-Senior Garden Party was revived on Sunday, May 9th, after an absence of several years.

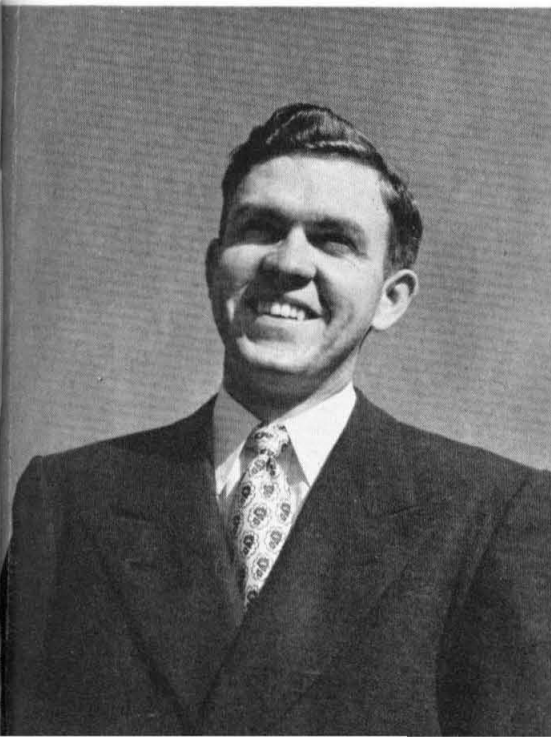
In addition the seniors were kept rather busy with two other events. The traditional Ditch Day was held in the warm sunshine at the beach with lots of basking and beering. Feeling that there was no need to end festivities at sunset, a barn dance was held at Mt. Oaks that night and the remaining beer was consumed. It almost became a ditch week. The Senior Faculty baseball game went off quite well with the better men winning. The other innovation and the last event before graduation was a big beer bust to get the boys braced for the ceremony. It was quite a year, all in all.

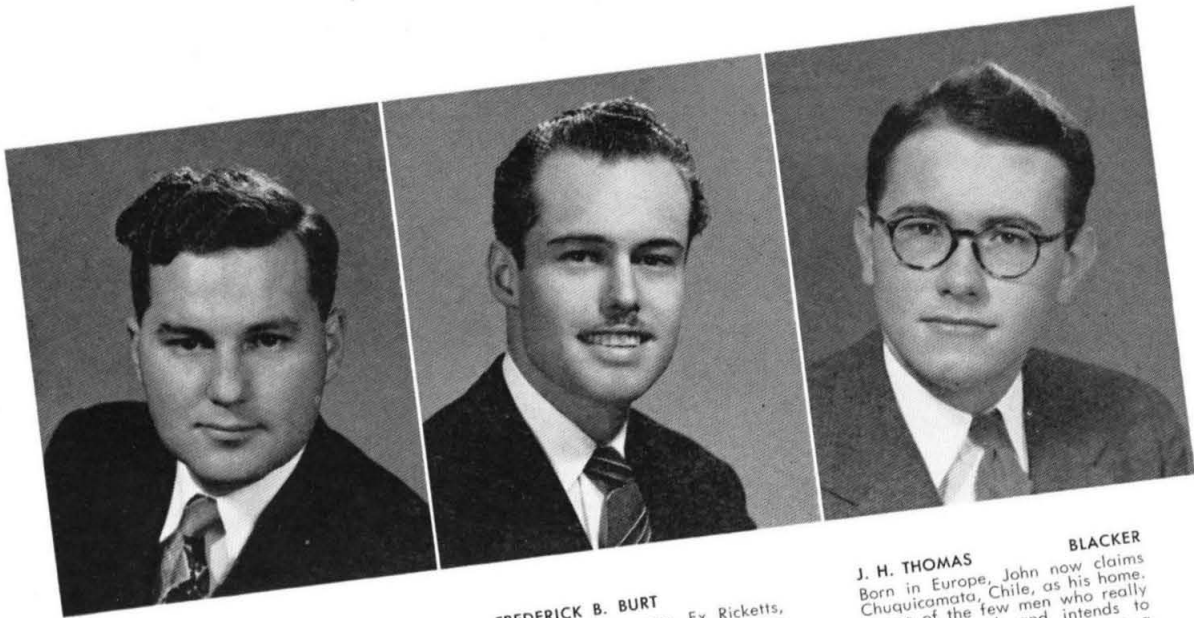
BOB WINCHESTER





BOB DAVIS, BILL SEIDEN





GRIFFITH BARLOW
 From Glendale, Griffith won his frosh football numeral back in 39, has divided the last 12 years between Tech and being a Lockheed tool engineer. Has served as a member of the Board of Control and as Biology club Prexy. He is gratified to have finished school before either of his two children.

THROOP

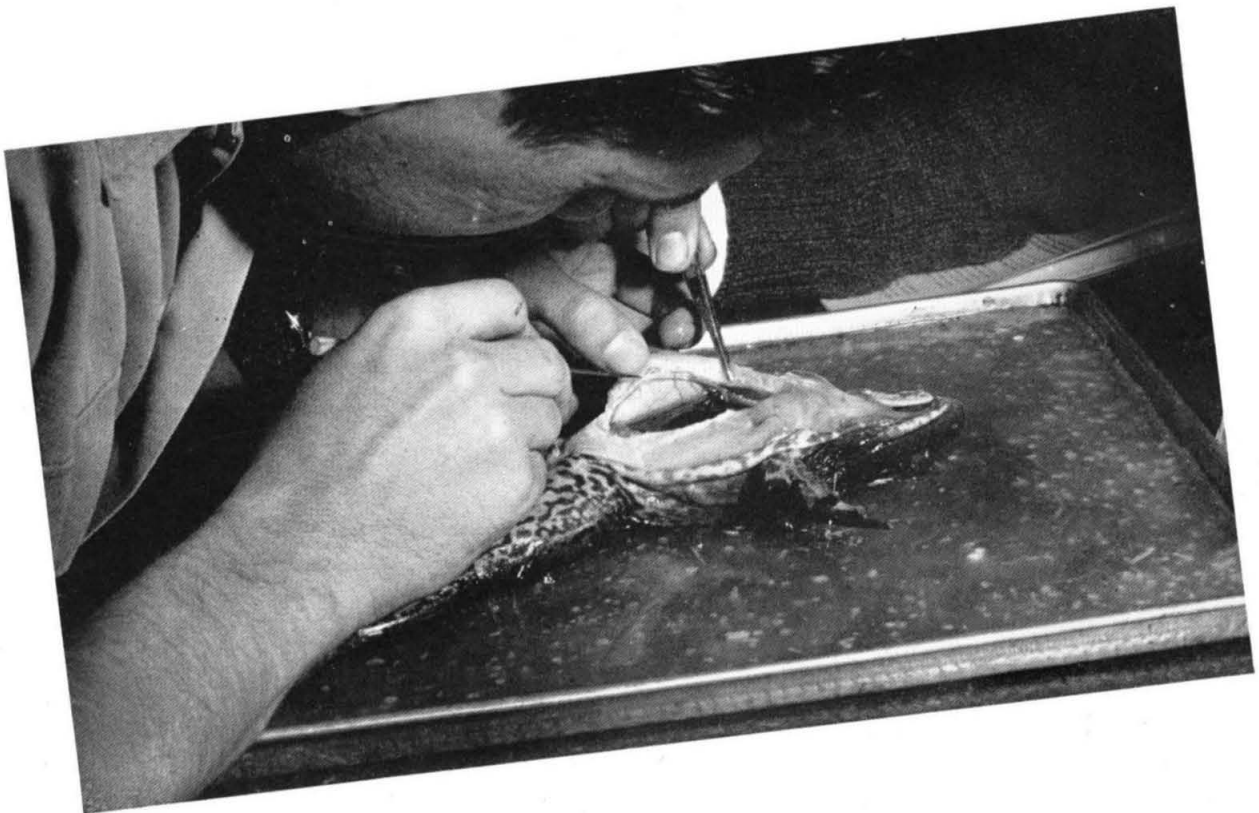
FREDERICK B. BURT
 Local Pasadena man, Ex Ricketts, Secretary of Biology club, Debater in Frosh year, Yell leader in 44, Submariner in USN, married, now settled down to routine between home and the Bio. Dept.

J. H. THOMAS

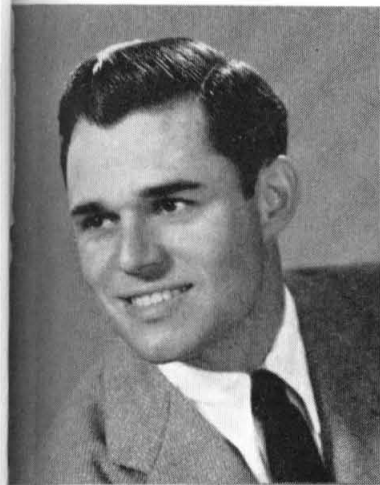
BLACKER

Born in Europe, John now claims Chuquicamata, Chile, as his home. Is one of the few men who really enjoys his work and intends to return and make his mark as a botanist. Noted for his elaborate and efficient filing system; innocent frosh are led to believe he has filed every scholastic effort from Kindergarten on.

BIOLOGY



GEOLOGY



JOHN W. ALLINGHAM
Spends most of his time at the Cal Tech housing unit, in the company of his ever-loving wife and two children. Enjoyed no less than five years of low-brow amusement in the USNR, and has been known to play badminton when under external compulsion.



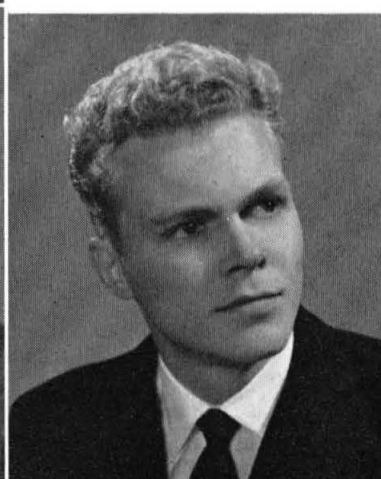
PAT GLOVER FLEMING
An Englishman from Los Angeles, spent five long years in the RAF. Numeralled in Frosh Tennis, he plays interhouse tennis, also indulges in a spot of golf or badminton for exercise. He is the secretary of the Newman Club, chairman Upperclass YMCA Luncheon Group, Ski Club member, and the suave Social Chairman of Fleming.



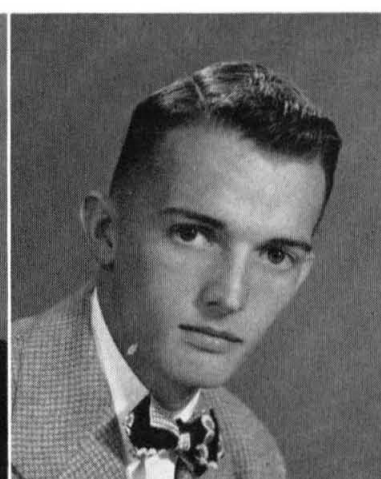
LEN HERZOG DABNEY, ASCE, HONOR KEY
"California Tech" editor for two years. Len was also Mng. Editor and Sports Editor, 2 Honor Keys, in "Who's Who," in Beavers, headed Constitution com. Varsity basketball, Softball, Track, Football. Plays Banjo in Warren's hot jazz combo. Press Club, Geology Club, Glee Club, Drama Club, Big T, "Y." Noted for his "dates" and a beautiful sister.



BILL MUEHLBERGER DABNEY, HONOR KEY, T
"Das Muehl" lettered two years as fullback; Secretary of the ASCIT, Wilhelm also found time to be VP of the "Y," VP of the Geology Club and Musicales, and to write a column for the "California Tech." Awarded an honor key. Bill also made "Who's Who" in 48.



FRED H. NICOLAI FLEMING
House Service specialist: Head-waiter, Cleaning and Laundry, Bedmaking, etc. made Nick financially solvent. Claims his Navy Service was a pleasant vacation. For relaxation he fills his after hours with industrious field work in geology, and indulges in phono records, swimming and the malt brew.

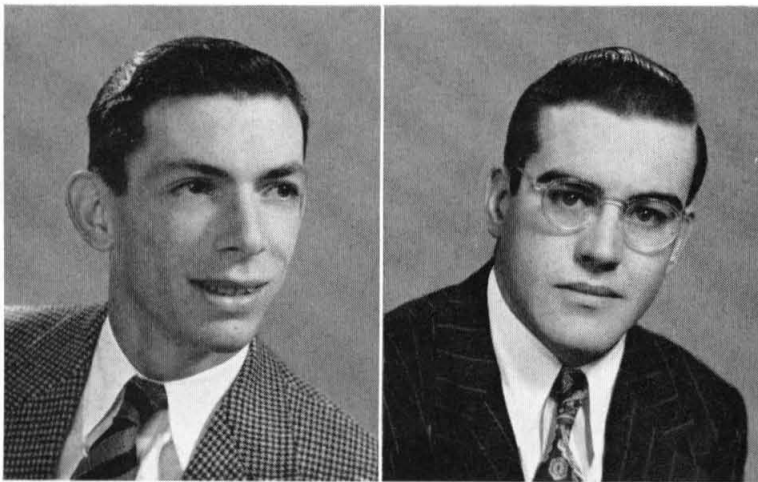


LARRY NOBLES BLACKER, T
Blacker house fireball and mainstay of all house teams, Dean of College of Cardinals. Hits a wicked serve and a mean volley- result; three letters in tennis. When not promoting some big deal, is found either on the tennis court or on a geology field trip. Will return next year for grad work.



GEORGE P. RIGSBY TBPI
Did time around the U. of New Mexico before the war as a CE, switched to Tech and Geology. This ex-Navy pilot plays baseball and tennis for recreation, can lick either of his two sons at badminton. Special interest: guns and hunting.





JUSTIN L. BLOOM TBPI

Entered in 42, but traded sliderule for an infantryman's rifle for three years; frosh baseball and basketball, basketball manager, plays badminton and makes furniture as a hobby. Pounded the skins in the Band for four years, sings the praises of his wife Robbie.

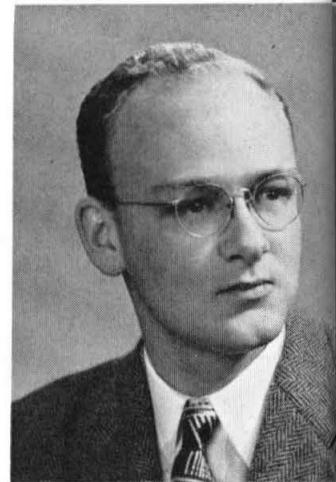
PAUL FULLERTON DABNEY, ACS

Dabney Prexy Fullerton is from Denver, was VP of the house previously; is a house saint; in Beavers, Senior Ditch Day com. ACS. Participated sporadically in house football, softball, volleyball; likes to swim, go skiing, and play tennis. Service with AAF Paul considers long but not painful; was on debate team, and is still good talker.

APPLIED CHEMISTRY

STAN HOLDITCH FLEMING, T, HONOR KEY

A hometown boy—almost. Returned from the AAF, married; played Varsity football and basketball when single, but now enjoys fishing for relaxation. Holds an honor key, and is a member of the Beavers, Varsity Club. He was ASCIT Publicity Manager and on the Big T and Tech staff.



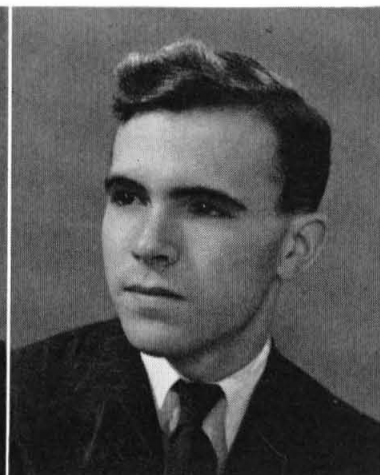
LARRY NOON DABNEY, ACS

Before the war Larry managed waterpolo, and was active in the band and orchestra, then spent two years in the Navy. Is now a member of the Chem Club and the student shop, also photographs. The Noon Munitions Factory turns out a high grade of target ammunition, for which he is his own best customer.



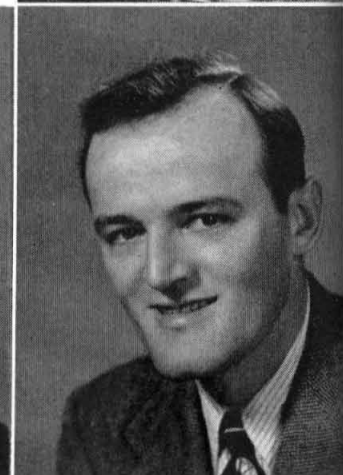
BILL SHIPPEE RICKETTS

Bill has been quite active at Tech. He has been Vice President of Ricketts House, a First Rep., and a Beaver. A high point man on the Ricketts Bowling Team, Bill also enjoys hunting, fishing and photography for recreation.



RICHARD SPELLMANN DABNEY

Dick is 19, single, plans to remain so for some time; is Dabney Librarian; participated in inter-house track and cross-country; in YMCA, Chem Club; loves classical music, bridge, sleep; likes swimming, diplomatic and political history. "Y" Treasurer in 45-46; violently anti-New Deal.



FERDINAND SUHRER

Answers to the name of Jim; spent five years flying for the Navy. After this soft living, reformed and took on Physics and his dear friend Smythe. In spite of it, played Varsity tennis three years. In what little time there is left, plays golf and still flies.

WILBUR HALL **THROOP**

Another of the pre-war "Old Gang", Wilbur graduated once in V-12, in mechanical engineering but after a few years in the Navy and marriage, changed his mind and came back a second time and took up applied chemistry.

TOM HAMILTON **DABNEY, T, HONOR KEY**

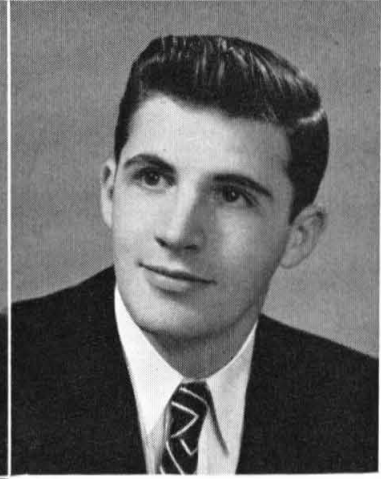
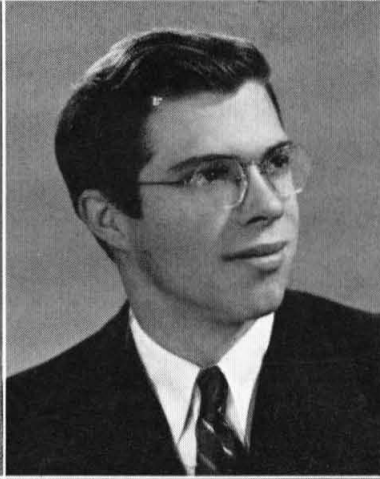
Goleta's contribution to the Tech scene lettered 3 years in Tennis. Now 24, he has retired from a strenuous schedule including 2nd Rep (45), ASB Secretary (46), Beavers, Varsity Club, Board of Control, and two Honor Keys. Tom bounds to the piano immediately after meals, for his exercise.

ORVAL HAMMERMEISTER

An avowed bachelor who claims to prefer test tubes to women. Was one of Nerrie's pride and joys, being one of the few PE majors at Tech. When not in Tournament park playing baseball or basketball, could be found in the lab catching up. Member of the Chem Club and likes to listen to music a la records.

ROBERT HENIGSON **DABNEY, TBPI**

Bob spent two years in the Navy helping things along to the best of his abilities. Is now installed in his house room surrounded by radio equipment. A member of the chemistry club, he amuses himself by swimming and sailing.

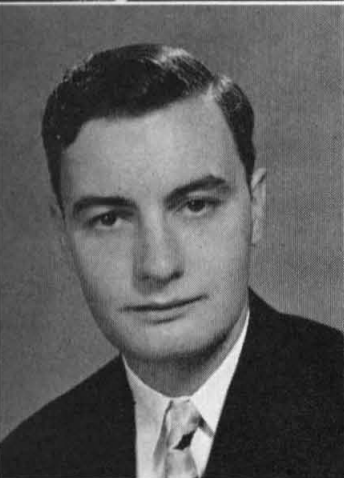


FRANK ROCK **BLACKER**

Frank was treasurer of his Sophomore Class, Treasurer and President of the YMCA, and Prexy of the Chem Club. Also a member of the Beavers, plans grad work but hasn't decided where. Swimming, photography, and ham radio fill his spare time.

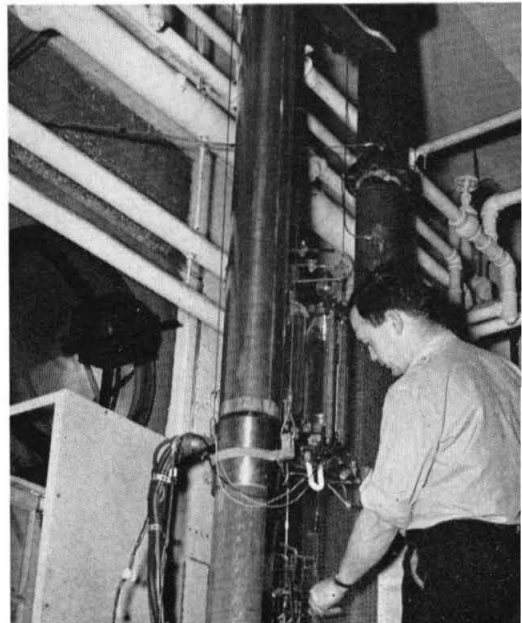
RON RUDDICK **BLACKER**

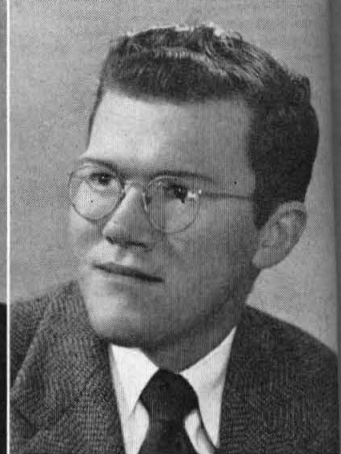
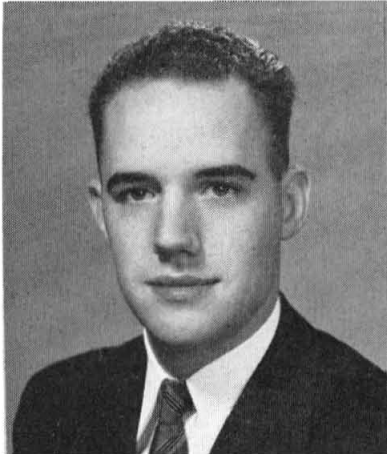
Blacker's most jovial and likable senior, enjoys an occasional game of tennis and listens to classical music for relaxation. After a few years in the cold world, intends to return for more punishment in grad school. Active member in Chem Club, a philatelist and a piano player of no mean ability.



FRANK VALLE-RIESTRA **BLACKER, TBPI**

Suave member of Blacker social committee; chief inspiration behind their dance decorations. Active in house sports, inter-house debating, and the Musicales, of which he is record chairman. Occupied the position of Music Editor of the Tech and author of Musical Baedeker.





DAVE BANKS THROOP, IRE, AIEE

An engineer-scientist from Altadena; just another EE turned chemist, Dave is now getting his second BS. He still likes fixing radios, will be long remembered for the big benzene blaze in organic lab, though it was not his benzene or his burner that touched it off (he says).

DANIEL H. DEUTSCH

An ex-Army man from Los Angeles, Dan is a member of the Chemistry club; he likes swimming for recreation, but claims his wife occupies most of his spare time.

GEORGE T. FELBECK BLACKER

When George went to college he didn't wander far, Tech grabbed him before he left Pasadena. Seen at all the social functions, and main promoter of the bowling league. Upon separation from his Alma Mater he hopes to work as an industrial chemist or live the clean life of a farmer.

BOB FOSTER DABNEY

Robert J. is another of the Dabney Chem contingent. Active in Chem Club and the Band, Bob also served on the Ditch Day committee. A San Berdoe product, the redhead spent 3 pleasant years meteorologizing for Uncle. Now 24, he likes to dance, ski, and swim, and is active in house sports.

CHEMISTRY

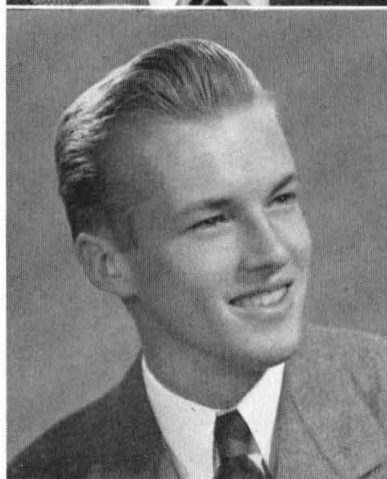


ROBERT PEELER FLEMING

Spent two years here at Tech in Navy V-12 as an ME, went wrong and switched to Chem. After this second senior year emerges, clutching his BS and thanking the Almighty that such things don't happen in threes.

BOB PHILLIPS THROOP

An EE graduate by Navy Decree, Bob, a glutton for punishment, came back for another degree in Chemistry. He won frosh numeral on the now defunct soccer team. His hobby is raising orchids on scientific principles, no less.

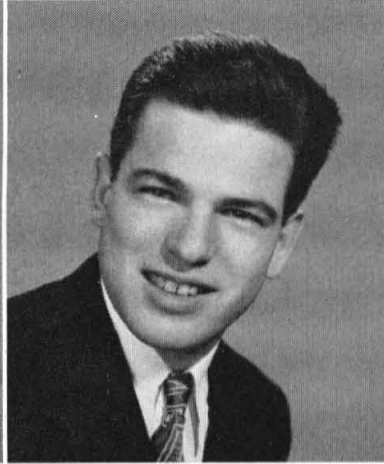
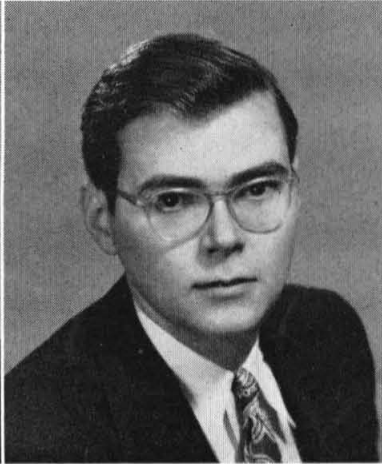


JOHN O. RASMUSSEN THROOP, TBPI

Corresponding Sec. of TBPI. Radio Club, and Chem Club, plays flute in Orchestra and has a ham radio station. Escaped from Navy on points after two years. Likes electrons, atoms, fish, basketballs and plans grad work in nuclear chem.

BILL TRIMBLE

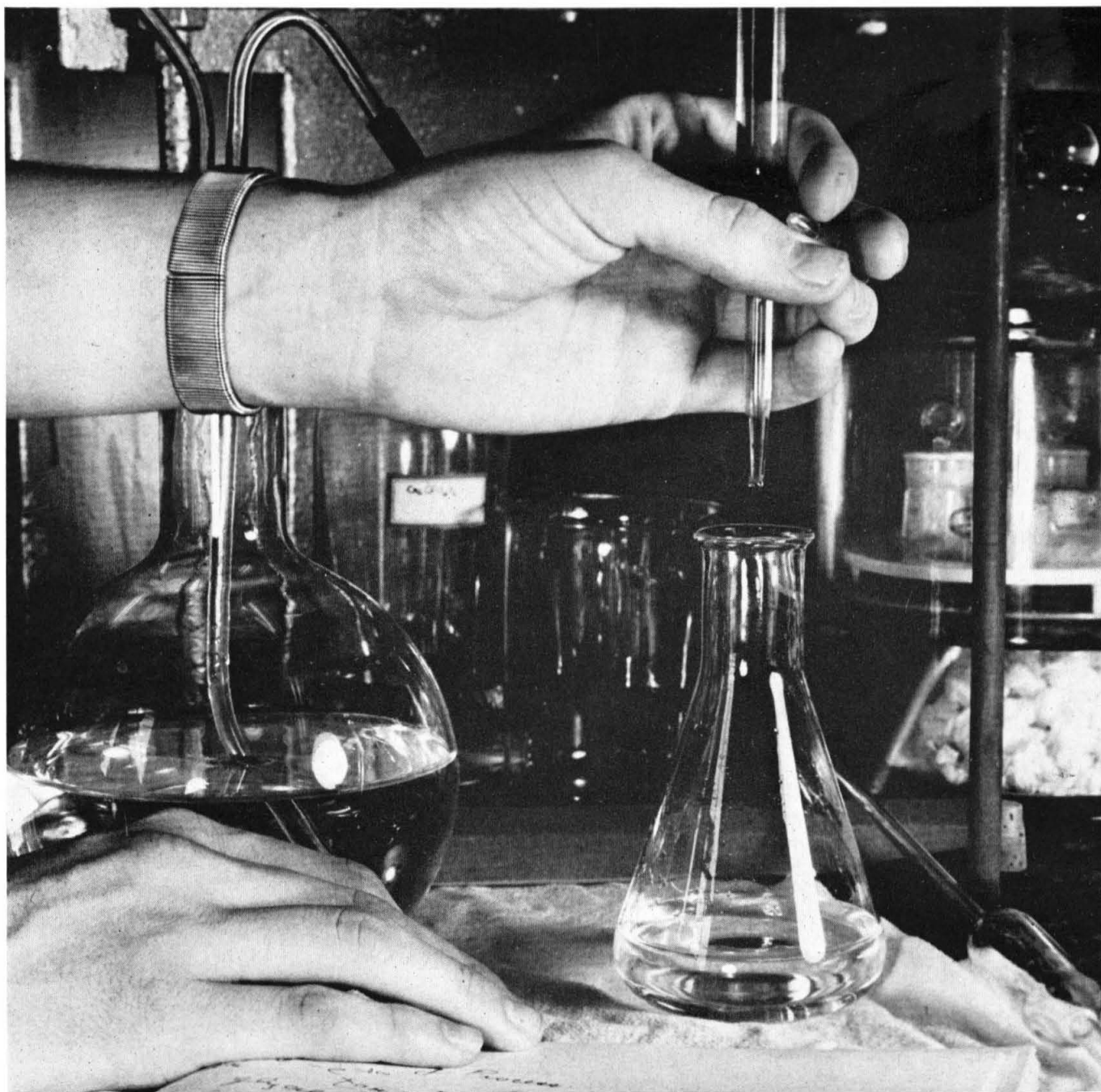
Bill spent three unhappy years in the US Signal Corps, including one dismal year in Japan. Was a pre-war Ricketts man but now camps in the Old Dorm, while in the process of adding a Chemistry degree to his BS in Physics. He "recreates" with color camera and jeep.



HOWARD GREEN ACS
Spent four years in B-17 group doing photo work, of which two years were spent in Italy. Apparently he didn't get enough pictures there because photography is one of his hobbies. Owns his own home in Pasadena.

ARTHUR KOCH THROOP
When a peculiar smell covers the campus look for Art in the organic lab; he's probably the cause. Favorite pastime besides producing odors is causing grey hair by heckling the profs. When not doing either is trying to support a family or playing the long-haired game called chess.

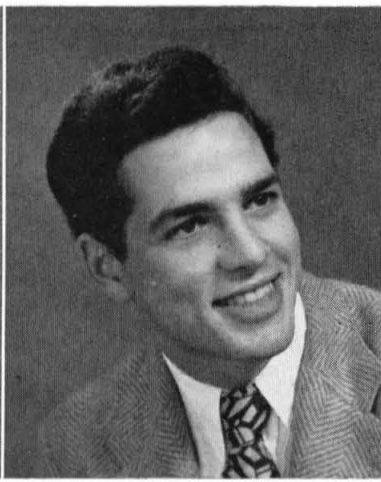
DAVID METZLER
Dave was quite annoyed when his athletic career culminated in his position as basketball bench warmer. Undaunted, he turned his talents to good use by becoming a singer in the Pasadena Civic Chorus. He works off remaining energy by folk dancing and YMCA activity.





WILLIAM DREW RICKETTS

The only senior mathematician in Ricketts, he will indulge in tennis or swimming, but prefers chess or stamp collecting, noted in his house as having the softest program, due to the credits he piled up before 2½ years in the Signal Corps.



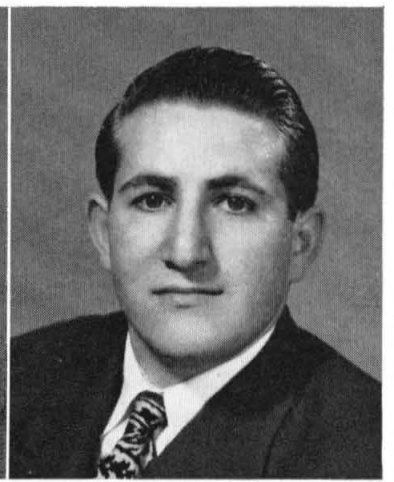
SOL FEFFERMAN BLACKER

By the definition of a math major, intends to get his PhD, but do it elsewhere. Expert on Art, as a collector and artist, music from jazz to the classics, and philosophy. Inaccessible on weekends, as he disappears to Hollywood for more extra-curricular activities. Was program manager of the Musicale.



RICHARD FERRELL BLACKER, TBPI

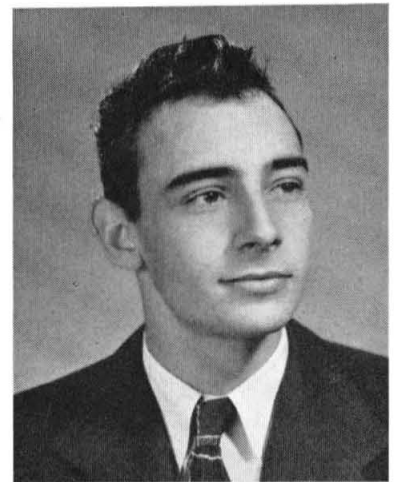
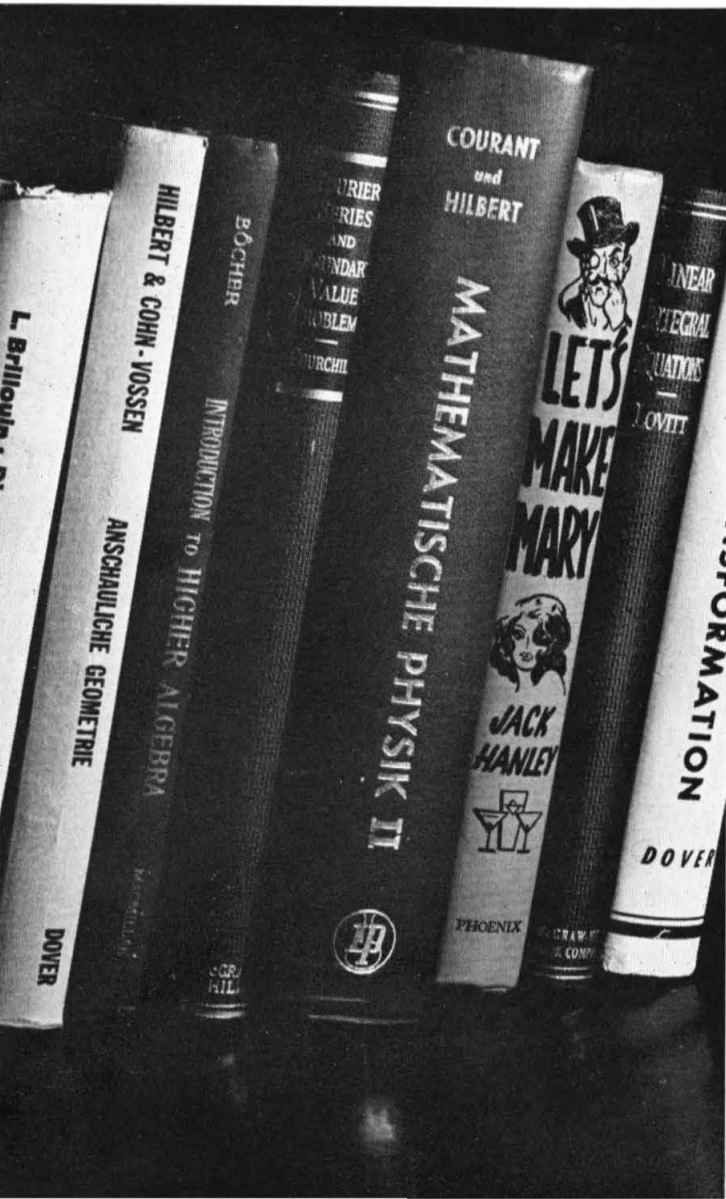
Another returnee after a brief stint in the Navy, Dick's first love is physics, in which he intends to do graduate work. Famous as the Blacker House brain trust. He managed, with the help of considerable acumen, to affect an admirable blend of science, religion, and the fairer sex.



MYRON LIPOW

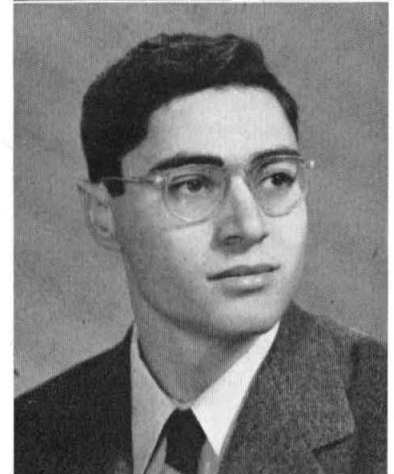
Myron is hometown Pasadena boy. He is a member of the CIT Band, and librarian of that noble organization. Is also active in local Pasadena affairs, and has been known to bowl in local tournaments in the area.

MATHEMATICS



RICHARD TALMADGE TBPI

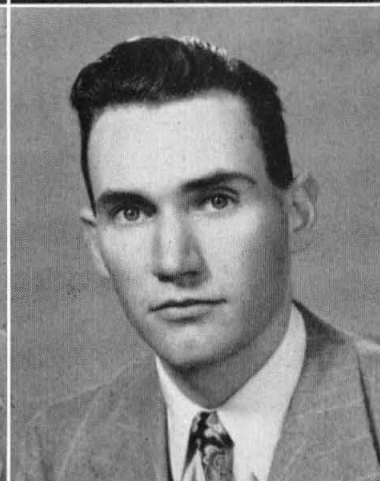
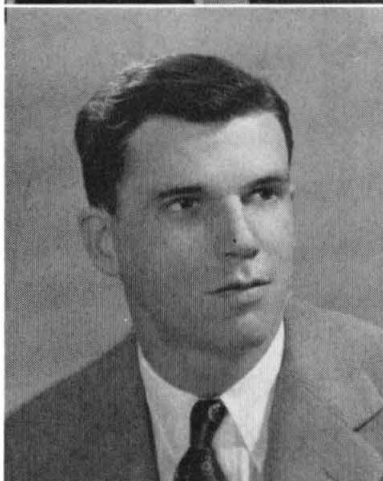
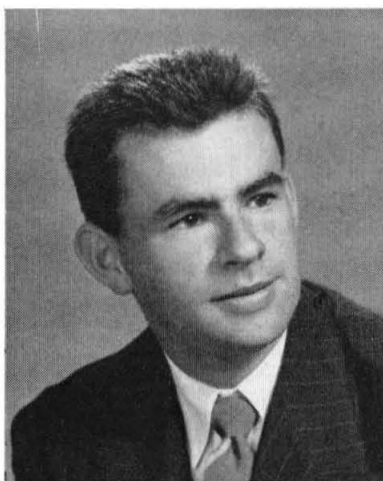
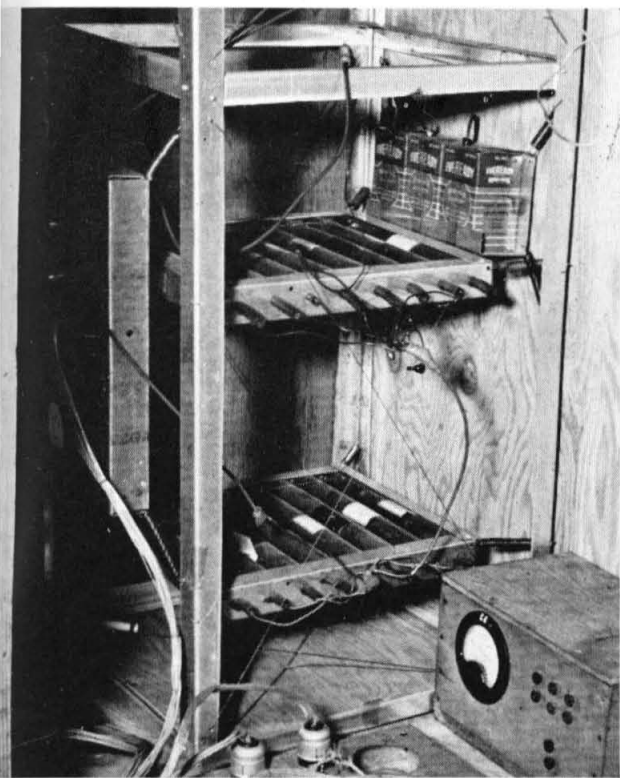
Another perennial bachelor who learned how in the Air Corps. Came to Tech and did well enough to make Tau Beta. His diversified recreational activities included golf, tennis, bridge, the Musicale, and bending the elbow at a local "institution."



LEONARD ZABLOW

Came to us from the Bronx High School of Science and therefore has had not four but eight years of the Cal Tech spirit. Feels that the Zablow-US Army relationship was mutually devoid of value. Spent most of his free time and energy as President of the Musicale.

APPLIED PHYSICS



HAROLD W. BAUGH RICKETTS

Vice President of his junior class, and photographer for the Big T and the Tech, Harold has been active throughout his career at Tech. He spent 2 1/2 years in the Air Corps, but succeeded in finishing off the remaining years without any trouble.

JIM ELMS

Jim claims something of a record; he began school here at Tech 13 years ago. Since his return from a 4-year tour of duty in the Air Corps, things have been easier, though; his wife handled the typing and current history, whereas Junior worried about physics problems.

JOHN W. HEDENBERG

A resident of Altadena, this handsome ex-fighter pilot looks back on four long years in the service of his benign Uncle. Family life takes up most of his spare time, but as a true Tech man, he relaxes inexpensively by loafing.

HERMAN MASON

An Applied Physicist who did not get his fill of electronics, after three years of radar work in the AAF, Herman still uses the few moments he has free from family responsibilities to tinker with surplus radar equipment.

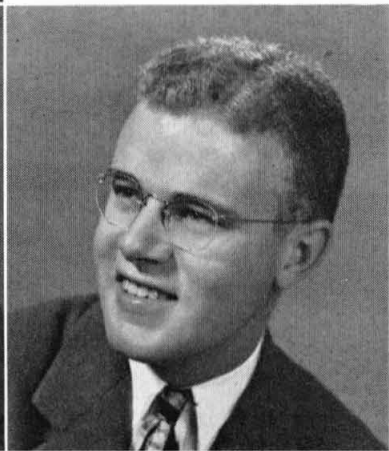
**LOTHROP MITTENTHAL
BLACKER, HONOR KEY, AIEE**

One of the most unusual members of the Senior class; droll of tongue, deft of wit, Pope Mitten-thal was usually to be found surrounded by a group of student raconteurs who hung intently on his every word. When not offering worldly advice, Bud found time to be Senior Prexy, 1st Rep. and Secretary of the IHC.



STEVE MORRISON BLACKER

Member of the "old school" who came back for more, and is therefore fazed by nothing, absolutely nothing; finds escape from the grind in the field of fencing and snowshoeing (picked up during his year in Calcutta). Member of Musicale and class treasurer in Junior year.



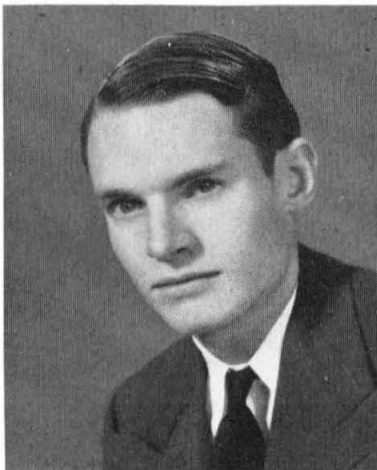
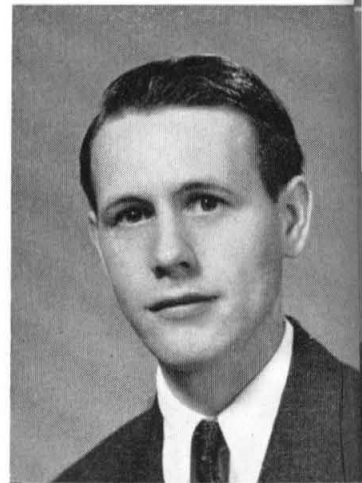
**TOM TRACY
RICKETTS, HONOR KEY**

Tom, under whose editorship this issue of the Big T appears, was one of the more active men on campus; he was a member of the Beavers, in "Who's Who", and ran the very successful Y Sunday Fireside gatherings. Past Pres. of the Glee Club and the senior gift committee chairman, sang in a quartet and is an enthusiastic photographer.

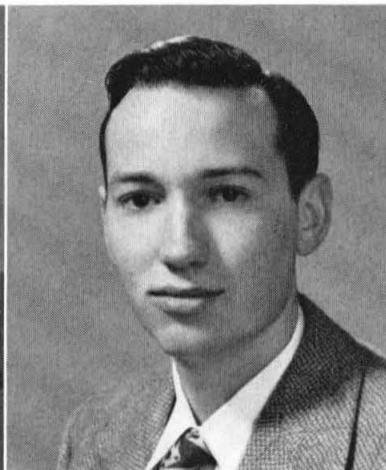
PHYSICS



JOHN HARRIS IRE
An active member of the IRE, John in his spare time rules over the tiny but mighty Instrument Lab, has won a prize for his paper on the design of an ohm meter. If he returns for grad work, it will be as an EE.



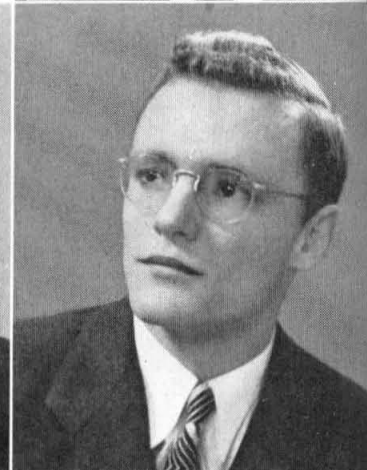
HUGH F. JOHNSTON
During his residence in Fleming, "Jug" was known as the everlasting dissenter. Spent unhappy years in the Navy as an RT, now employs his mechanical talents in attempts to persuade a rebellious Ford to haul him around.



ROBERT S. MACMILLAN
Tech was an obvious choice for this Air Corps veteran; he comes from La Canada. His favorite mode of relaxing from the rigors of physics work is swimming. Photography is his major hobby.



ALBERT McEUEEN THROOP, TBPI, AIEE
An Angeleno, Al collects maps and phonograph records with equal fervor. He is active both in the AIEE and in TBPI. He looks back on his three years Army service as a "painful experience."



ED (BOB) MITCHELL DABNEY, T
One of the Honolulu boys, Ed naturally lettered in swimming. He is 20, likes swimming, skiing, volleyball and tennis. Is active in Musicales and Ski Club, and is a hotshot in Dabney bridge games. He plans grad work in EE.

ROBERT J. BROWN BLACKER

His tall, dark and quiet attitude lends an atmosphere of awe to his secret wartime pursuits at Los Alamos. Is frequently seen at the Blacker piano carelessly whipping off a complicated cadenza, his mind lost in a cloud of vectors. Member of Ski Club and Musicale and active mountain climber.

ART COX BLACKER

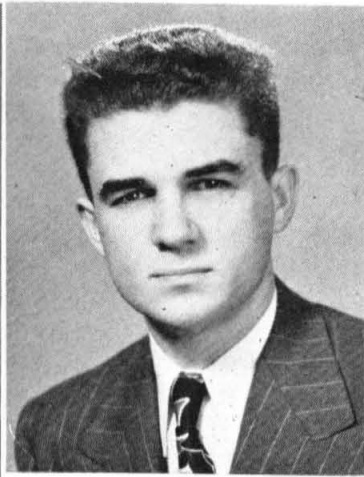
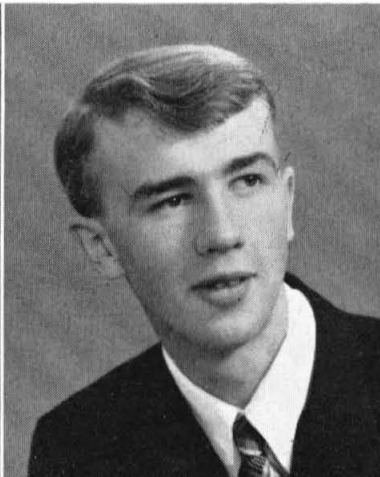
His shaggy mop of blonde hair is always there, gliding about a darkened dance floor or darting about the playing field; basketball, softball, and Varsity track. Member of the Musicale, YMCA, and "Stargazers" club. Hopes that some day he will be a famous astronomer at Palomar.

WALTER EATHERLY THROOP

Walt returned to Tech after Army Service at Columbia University for the Manhattan Project. Before the war, he was news editor of the Tech and on the Rally Committee, but now has other interests—his wife and children. He participated in house volleyball and bowling, and likes tennis, bridge, and collecting stamps.

PATRICK DOHERTY RICKETTS

A local boy from La Canada, Pat came to Tech expecting to work hard, though not to slave. An undaunted optimist, he now says that he enjoyed every minute of it. One of the nonresident Ricketts house members.



ALEXANDER F. HOLSER RICKETTS

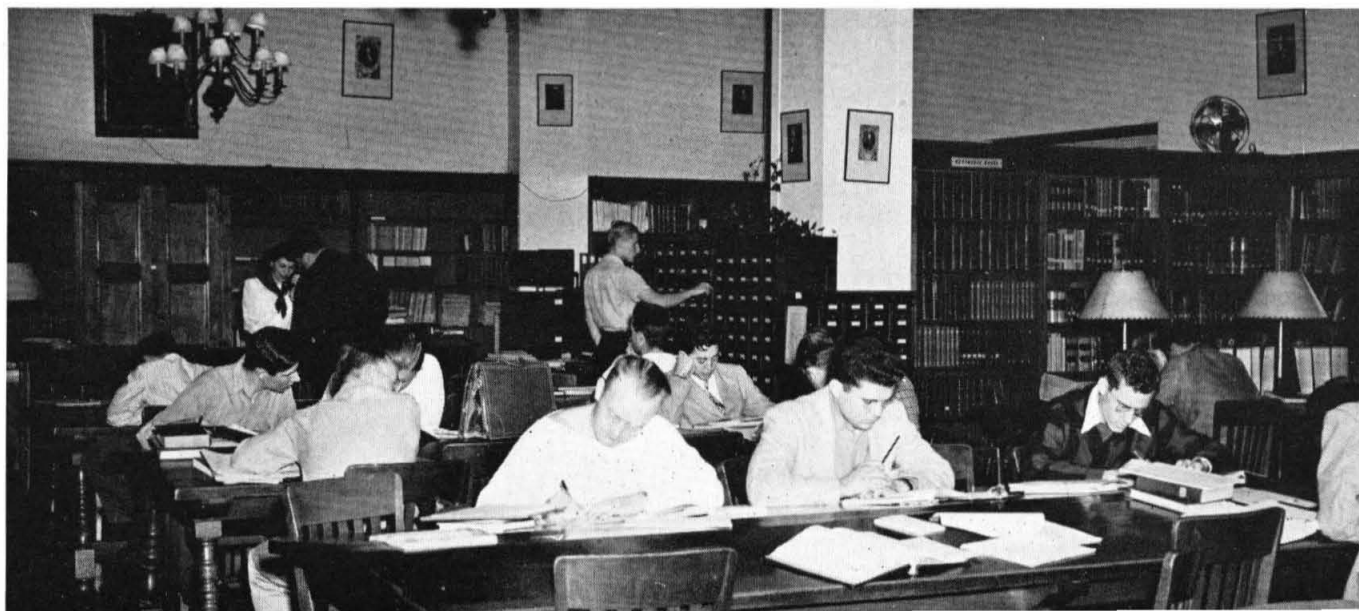
Alex comes from Moorpark, Cal. His only major outside interest is sailing. Distinguished by his fine bushy beard, he is easily recognized. He spends a great deal of time working on a research program on campus.

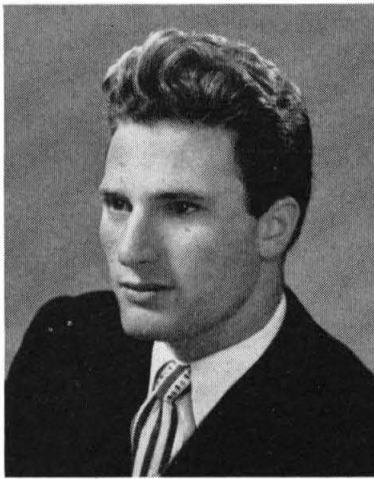
VINCE HONNOLD FLEMING

Entered in 1941 from LA High, returned in 1946 after unhappy years and years in India, courtesy AUS. Plays tennis and house baseball. Belongs to the Radio club, Newman Club, Glee Club, Orchestra, and Big T. Is an expert amateur radio operator. Was social chairman of Fleming House.

BILL JARMIE DABNEY, TBPI; T

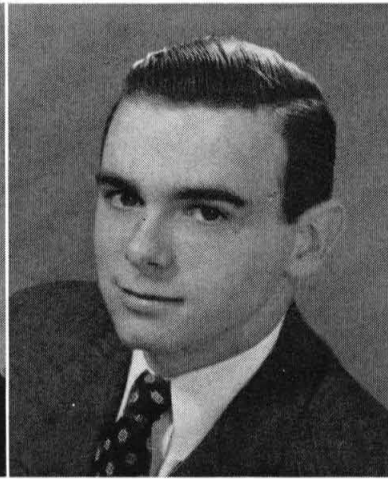
Bill is 19, from LA, and Tau Beta. Lettered in Baseball, and is in the varsity club; played house baseball, football, softball, basketball, and bowled. Likes to ski, golf, and dance; other activities include the Y, Glee Club, and Musicale.





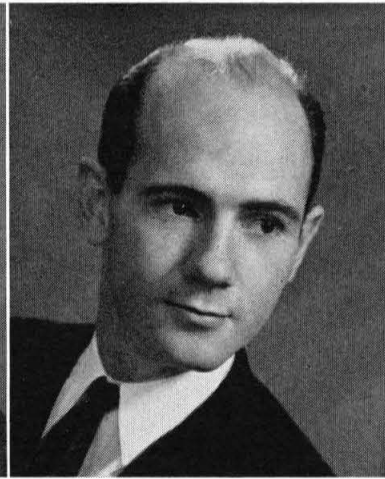
CARL OBERMAN THROOP

Carl came to Tech full of energy, making his frosh numerals in basketball and then Uncle took care of him for a few years. When he returned, he found physics enough, and gave up vigorous activities, finding the Musicales and ice skating more to his taste.



RICHARD M. ROEHM FLEMING, TBP

Joined us in his Jr. year from Long Beach, claims to have enjoyed every golden minute of his Navy career. Dabbled in house sports, was seen at all the football games leading yells and entertaining the song leaders. Likes to swim, play golf and pingpong, and compose one-finger piano nocturnes.



ROBERT E. SCOTT RICKETTS

Bob is well known as one of Ricketts' more aggressive waiters. Enjoys ice skating and swimming and is a member of the Ricketts "Crew." In the mornings, if not sleeping through an eight o'clock, he could be found in the lounge sweating out his government check.



LEIGH SHERIFFS DABNEY

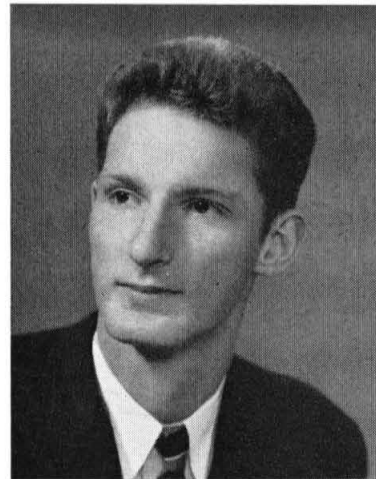
Known as "Turtle," from the vicinity of Chicago, he is a very active man on campus. Beaver, co-editor of 46 Big T, Manager of Baseball and Football teams in 47. Was also chairman of the election committee in 47. Known for frantic driving of a variety of automobiles.

ROBERT G. STOKELY FLEMING, T

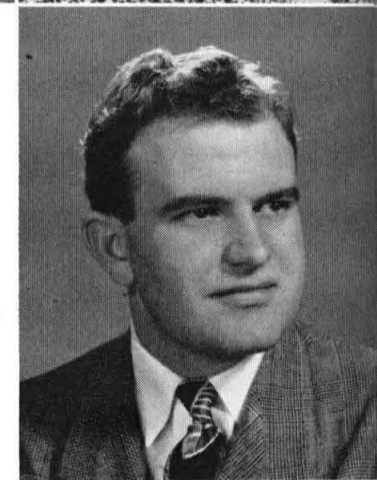
Lanky Bob has stretched for many a basket in his three years of varsity basketball competition; he has also participated in inter-house volleyball, tennis, and badminton. He was VP of Fleming house, Treas. of Beavers, Scty. of Varsity Club. Served in Army Signal Corps—doesn't expect to remain single long.

BOB STONE RICKETTS

The influence of "Blackie" Stone will probably never die. His effect on the religious life of his fellow Ricketts house members will long be remembered. A veteran of Fresh track, soph football, and junior track, Blackie spends his time on photography and building electrical gadgets he never uses.

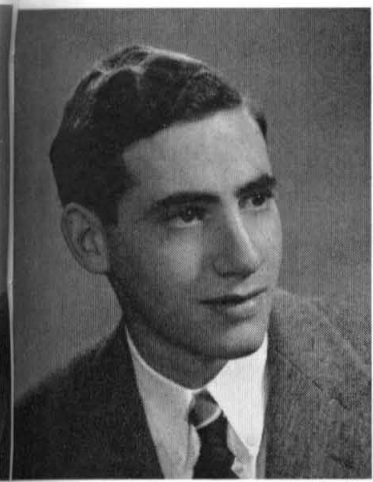


PHYSICS



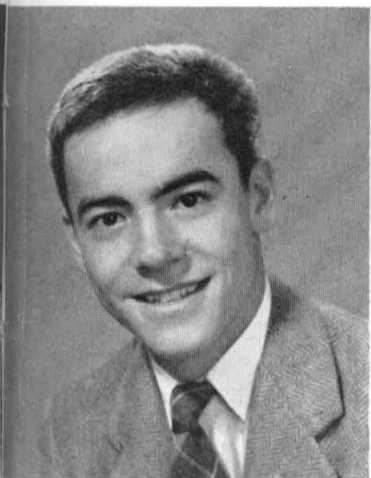
S. D. WANLASS DABNEY, TBPI, AIEE, IRE

Dean plans grad work in Physics. From El Monte, he racked up 3 years as a Marine. Lettering in tennis, he's also fond of the casaba sport. The Dabneyite's activities include IRE, AIEE, TBPI, the Musicales, Debate, and Radio as a hobby.



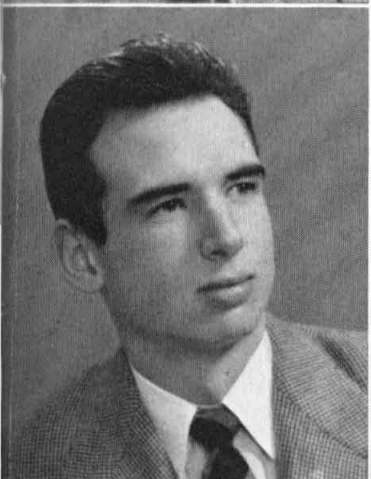
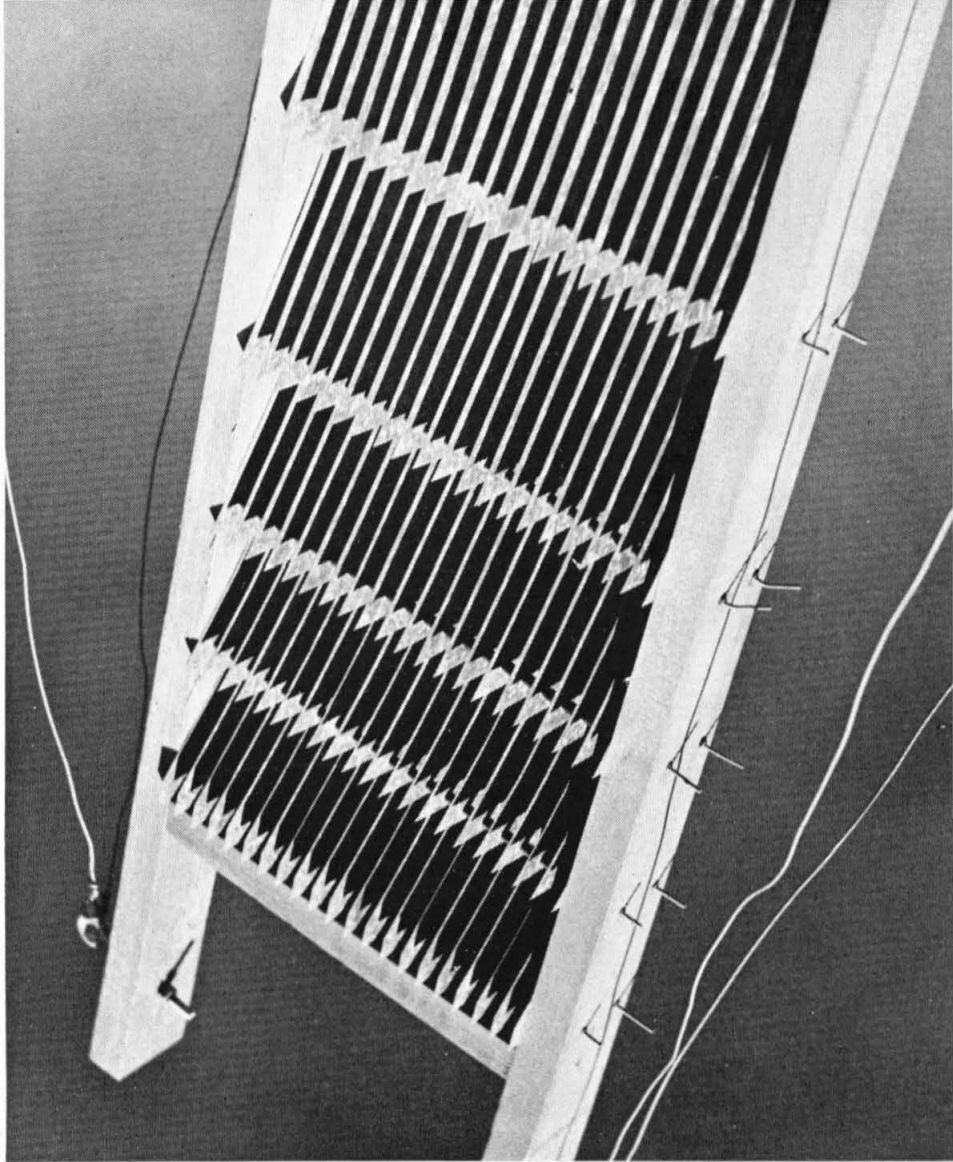
THOMAS H. STIX
FLEMING, TBPI, HONOR KEY

Tom was awarded the Honor Key. Is chiefly noted for piloting a long, drawn-out, bewickered, 1935 Duesenberg. Elected President of Fleming House, Vice President of TBPI, Chairman Interhouse Committee. Edited faculty and activities section of Big T, was co-author and co-director of Greek Play. Plans to continue in Physics.



DALE VRABEC **DABNEY**

Though 21, Arundale is rather well preserved, and gives credit for his youth to stargazing. Dale was a Beaver, and on the Board of Control, likes sailing and hiking and will try any sport for ol' Dabney if needed. From San Francisco, Dale got the Astro bug when he came to Tech and first saw the sky.



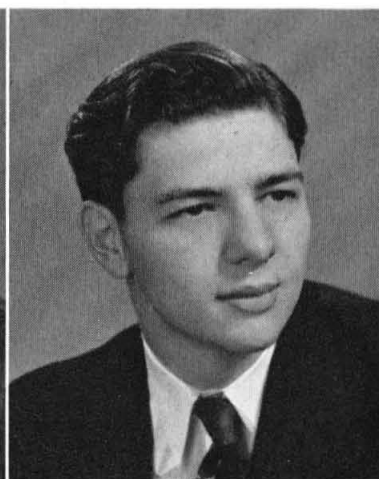
JOHN WHITTLESEY
DABNEY, TBPI

"Dirty" John crowned a crowded career by being chosen Dabney DMSH. Active in Tau Beta, the Musicale, and Ski Club, as an officer; also grinds out fine columns on "Your Campus" for the Tech. Lettering in Water Polo, also likes swimming, skiing, and hiking. Plans grad work in the field of Astronomy.



BYRON L. YOUTZ
BLACKER, TBPI

Served a short but painful term in the Navy as an RT but recovered sufficiently to participate in house tennis and baseball. Indulges in wild two man volleyball and more sedentary bridge and pinocle. Slides trombone in band and sings in Blacker Quartet.



EUGENE ZWICK

His first year at Tech was enough to drive him into the arms of his everloving wife. Was pretty sharp as far as grade points went until he hit Smythe (or to be more exact, Smythe hit him). Managed the band in his Jr. year. Active in forensics and member of the Musicale.

CIVIL ENGINEERING

MARVIN BLAIR
RICKETTS, TBPI, ASCE

Marv comes from Hollywood. He is athletic enough to be on the ski team and active in interhouse bowling, even after a stretch as a tripewriter jockey with the Corps of Engineers. He lists lapidary and his long, blue car as his hobbies.

MAC BOTTS DABNEY, ASCE

"Hogan" is Dabney's foremost participant in the Light Car Club, vibrating between 12 and 16. Hates even to walk between classes, but can be lured into volleyball or ice skating. Is in ASCE and CITPBAA, served in the Infantry. "It was horrible." 23 and from LA.

STU BUTLER RICKETTS, T, ASCE

Came to CIT in '42 but left on a 2 1/2 year "See the world" tour with the Air Corps. Returned in '45 to help revive Ricketts. Played house softball, basketball and three years of Varsity baseball (Capt. '47). House VP in '47 and Sec. of his original Fresh class. Stu will be remembered as the sparkplug of every team he played on.

WILLIAM CARROLL ASCE, T

Another old timer, Ex-Dabney. Now married and progenitor of one daughter. Bud hails from Escondido, Calif. Track, Cross Country, Cross Country coach in '47. Bud relaxes with weight lifting and has the Body Beautiful embellished with horn rimmed glasses.

BOB DALTON
RICKETTS, TBPI, ASCE

A Tau Bete and a Beaver, Bob came from Oakland to become President of Ricketts House. Bob is a member of the ASCE and has played on the Tech JV Basketball team.

BOB DAVIS FLEMING, ASCE

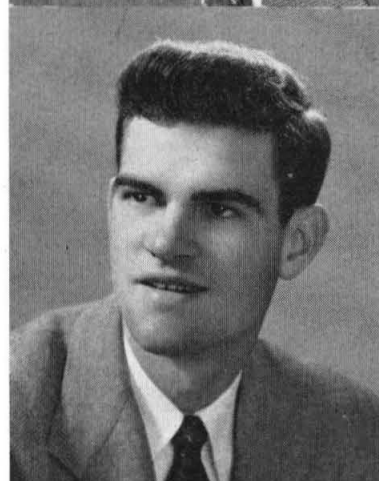
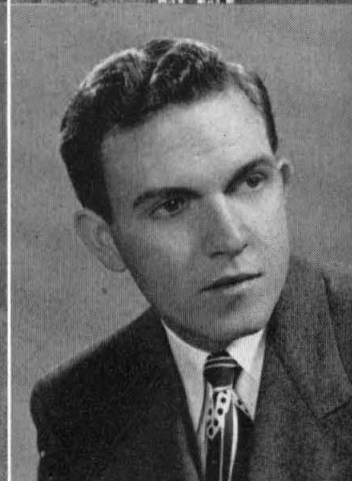
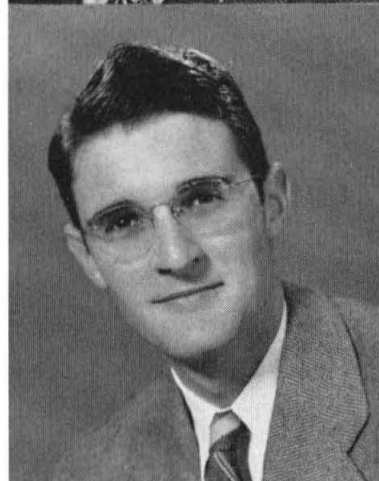
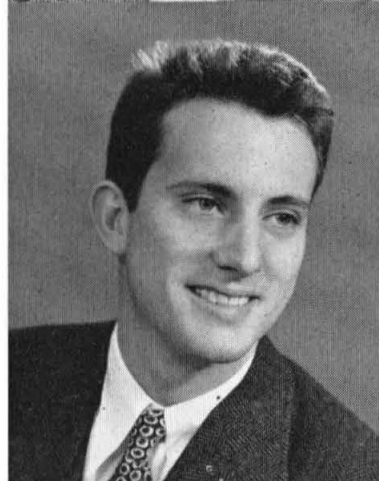
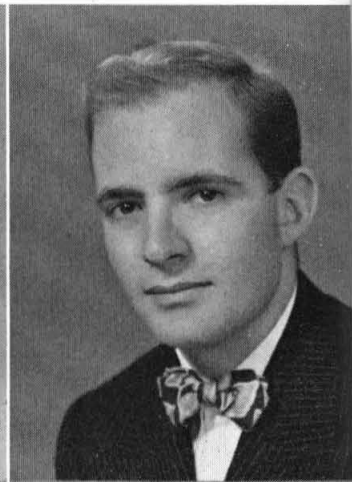
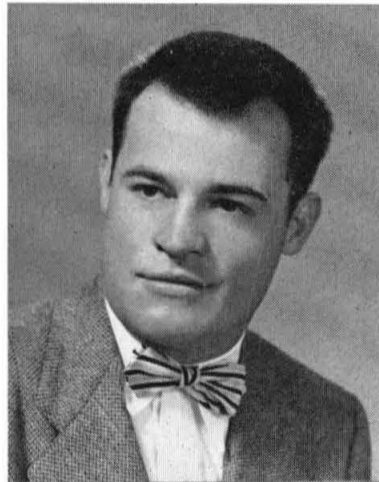
This Oregon lad was a Navy Weather guesser, cross country, and was out for interhouse basketball and baseball, with tennis, swimming, and dancing for fun. He's Senior Class Scribe, VP of the ASCE yodels for the Glee Club, and is on the Big T Staff. Has visions of plucking a guitar with a wife and swarms of kiddies for an audience.

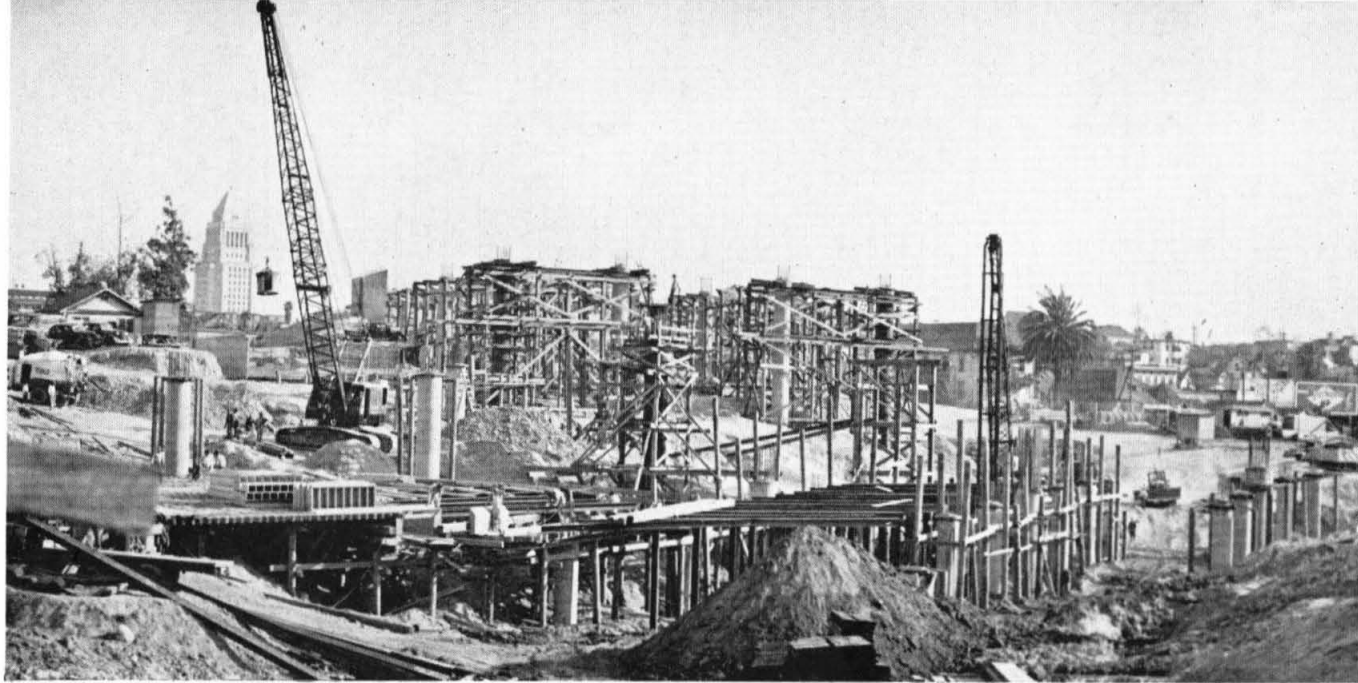
RUSSELL L. DAVIS
THROOP, ASCE

Served in Army, was seen at Texas A&M ASTP where he received the A for agitating. Hails from Modesto where he spends his time ice skating and bowling. Spark Plug of his lab team and an eager mind in industrial organizations.

BOB GASKELL ASCE

Another veteran of 5 years in the Air Force, Bob hails from nearby Los Angeles. He is an active member of ASCE. His favorite sports are golf and swimming; his major interest, Mrs. Gaskell.





WARREN D. HARRISON ASCE

This ex-Navy throttle jockey still counts flying as one of his main interests; the other is a burning desire to finish his education. Baseball, golf, and poker occupy what is left of his spare time.

MARTIN HYBERTSON ASCE

Another former Navy pilot here in the ranks with us. Color photography is his main hobby, with his daughter as the principal subject. Martin hails from Portland, Oregon.

JAMES E. MARTIN THROOP, ASCE

Attains his BS at the tender age of 28, is married, and for recreation plays tennis, basketball, and volleyball; also carves, swims and photographs.

DEL HAUSMAN THROOP, TBPI, ASCE

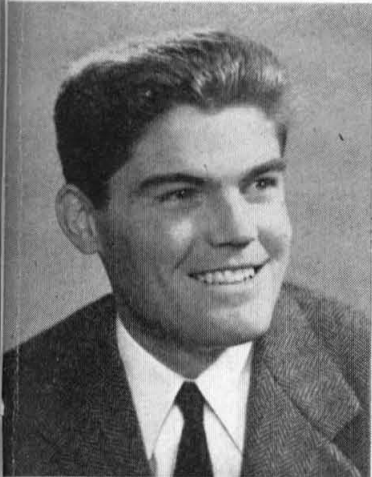
Del is a commuter from Glendale, active on campus; spent 3½ years with the Army Engineers; swims, fishes, and rides horseback for sport.

BOB LYNN RICKETTS, ASCE

Bob has aided Ricketts House in almost every phase of Interhouse athletics; bowling, tennis, basketball, volleyball, and a member of the famous Ricketts House "Crew." Bob is also a member of the ASCE and the Drama Club.

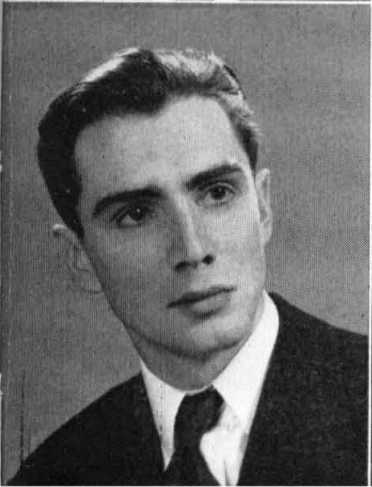
HARRY MOORE FLEMING, T, HONOR KEY

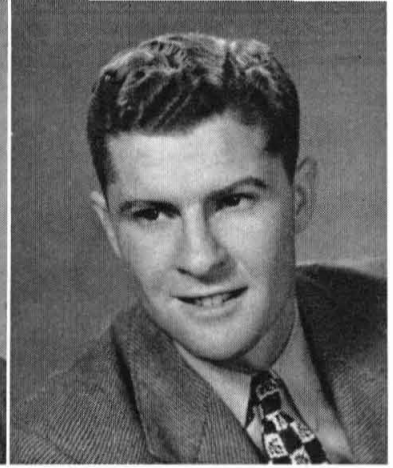
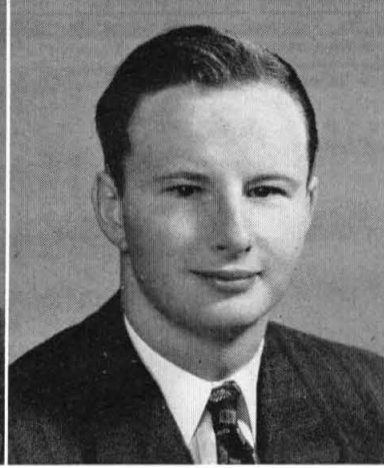
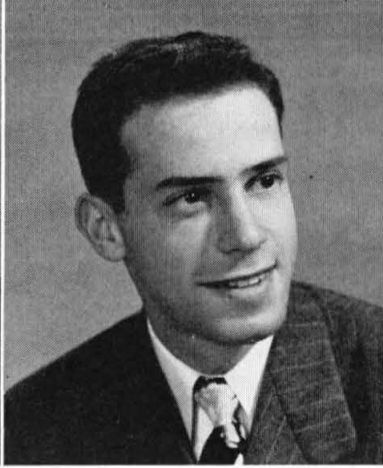
"Pinky" is another great Fleming muscle man; frosh basketball, baseball, golf; varsity football, basketball and golf; house softball; now coaches a high school basketball team. Varsity club member, Beavers, and Publicity Manager. Showed up married after 3½ years in the Air Corps.



MARSHALL POND THROOP

Ex-Treasurer of the ASCIT and of Throop Club, both in '43. Member of ASCE. Married and mighty proud of his daughter. Marshall seems to be one of the perpetual students 'cause he received his degree in Business Ad. way back in '39. However, it looks like he'll finally make it this year, barring catastrophe.





GEORGE W. ROE RICKETTS

His sweet, cherubic face earned George an election to the post of Ricketts House Mother. George comes from Oakland and has been active in the band, Glee Club, and contributed to the California Tech. He has been active in the battle of Blacker along with his affiliates in Crud Alley.

IRVING I. SULMEYER PKD, ASCE

President of PKD (Debating Society). Hobbies—Swimming, Sailing, Physics, Math, Chemistry, and "Truth." Well known for his oratorical prowess. His Aristotelian attitude indicates that he should have been a Math Major rather than a CE, but plans grad work in CE.

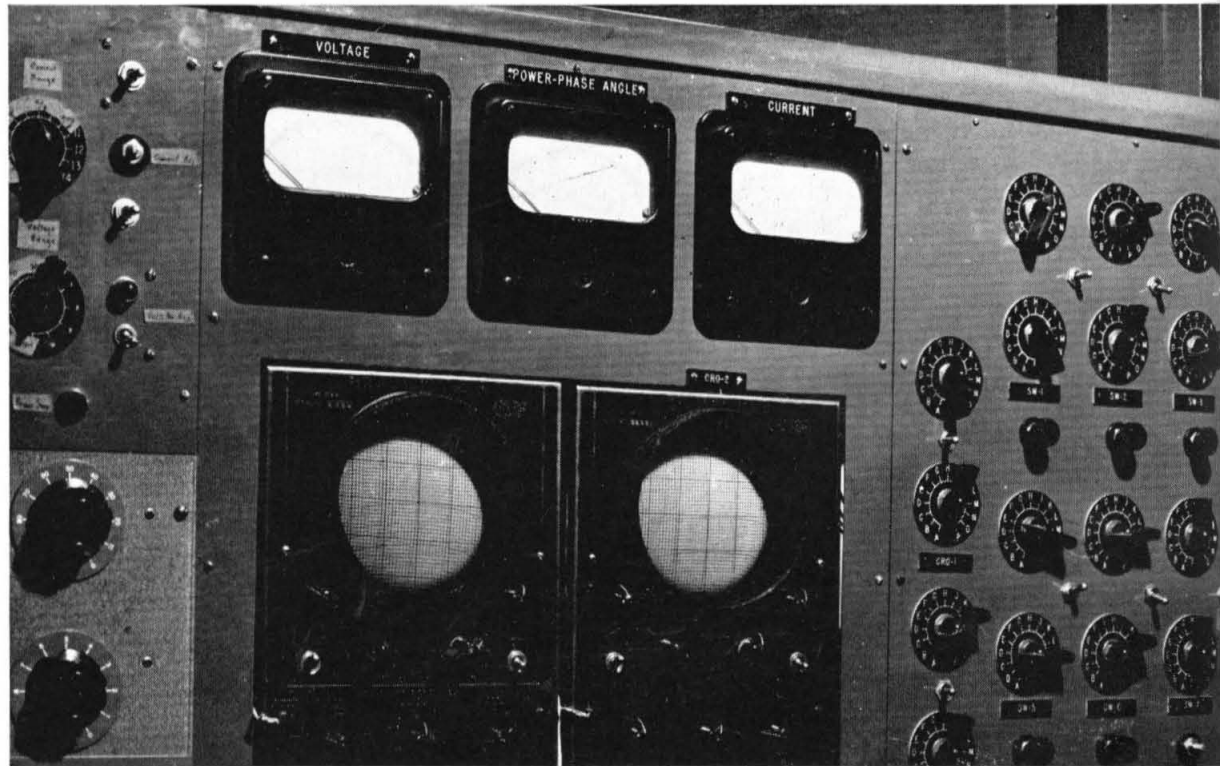
ALFRED E. WATERS DABNEY, TBPI, ASCE

Won prize in McKinney English Contest in Junior year. Competed in soccer, swimming, and water polo. Spent three years in Corps of Engineers. Likes to ride, swim, tennis, and photograph. Plans grad work in CE.

JOE WILLIAMS THROOP, ASCE

From Lubbock, Texas, Joe is a married man who looks back on 3½ years of Air Corps service as a Meteorologist. An enthusiastic baseball and basketball player, he is also a member of the ASCE.

CIVIL ENGINEERS



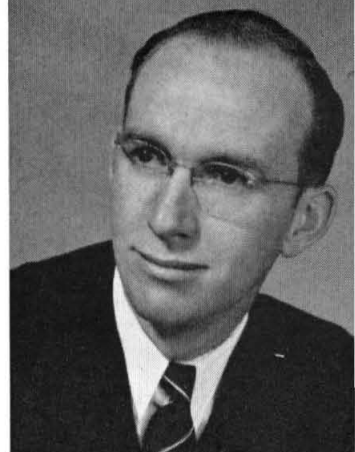
ALBERT K. WONG ASCE

Hailing all the way from Honolulu, Bin is a confirmed bachelor and ex-Infantry man whose favorite form of relaxation is day dreaming. He also wrestles, plays handball, and takes part in ASCE activities.

ELECTRICAL ENGINEERS

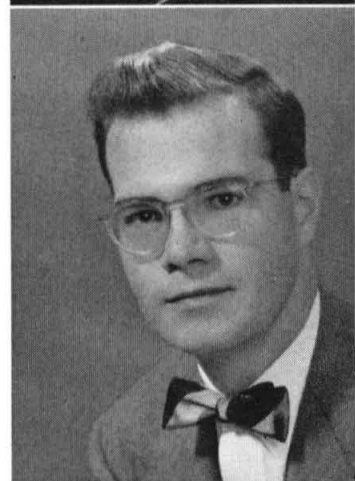
RUPERT M. BAYLEY
THROOP, AIEE

Rupe claims absolutely the longest enrollment at Tech; he started as a freshman in 1928, and has been in continuous attendance ever since, except for a short leave of absence (1929-1946). In the meantime he operated power stations, joined lodges, married and had three children.



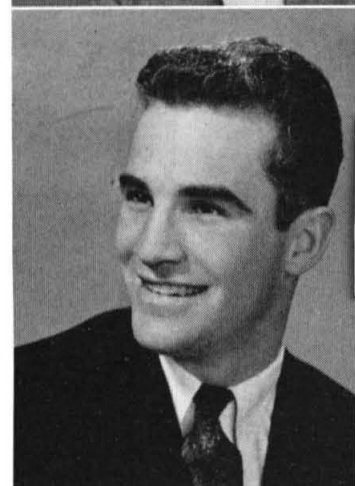
J. C. BEAR BLACKER

A frosh in '41, JC took the easy way out and returned in '46. Elected House social chairman, he promoted a vigorous and varied program that took its toll as the year passed. Noted for his intellectual syntheses of the "General Theory of Irrelevance." Made frosh numerals in golf and tennis and now is a bulwark of the Varsity tennis squad.



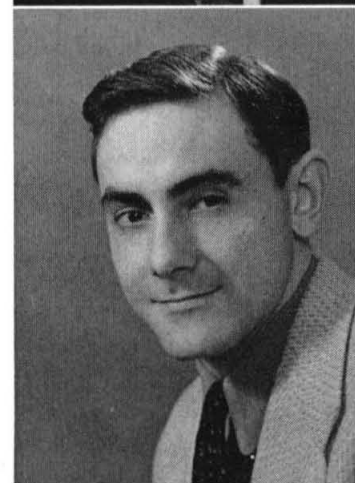
GLENN CHAFFEE SAE, T

A star halfback since his first season, this Alhambra athlete returned to Tech after a short and sweet stint in the Air Force. Besides being a football double letterman, Glenn is an ardent family man.



ROGER CHAMBERS
BLACKER, AIEE, IRE

Goes to Tech, but his heart is in the sky; didn't get enough as a Navy fighter pilot for 4 years, so is still found flat on his back at 30,000 ft. Spends all his weekends flying in the reserves. At Tech runs an amateur radio station, prexies the Radio Club, and works in the student shop.



DICK ALEXANDER
DABNEY, HONOR KEY, IRE

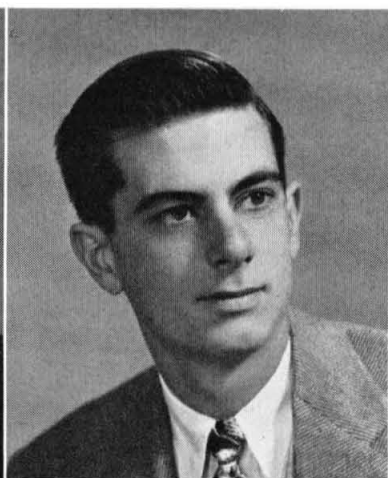
Prexy of YMCA, VP of Dabney, Beaver, Band, ex-treas. of student body. Made "Who's Who" for his many activities. Found time occasionally for golf, tennis and "Singing." Will be remembered in years to come for the "efficient" manner in which he ran Dabney's social program.

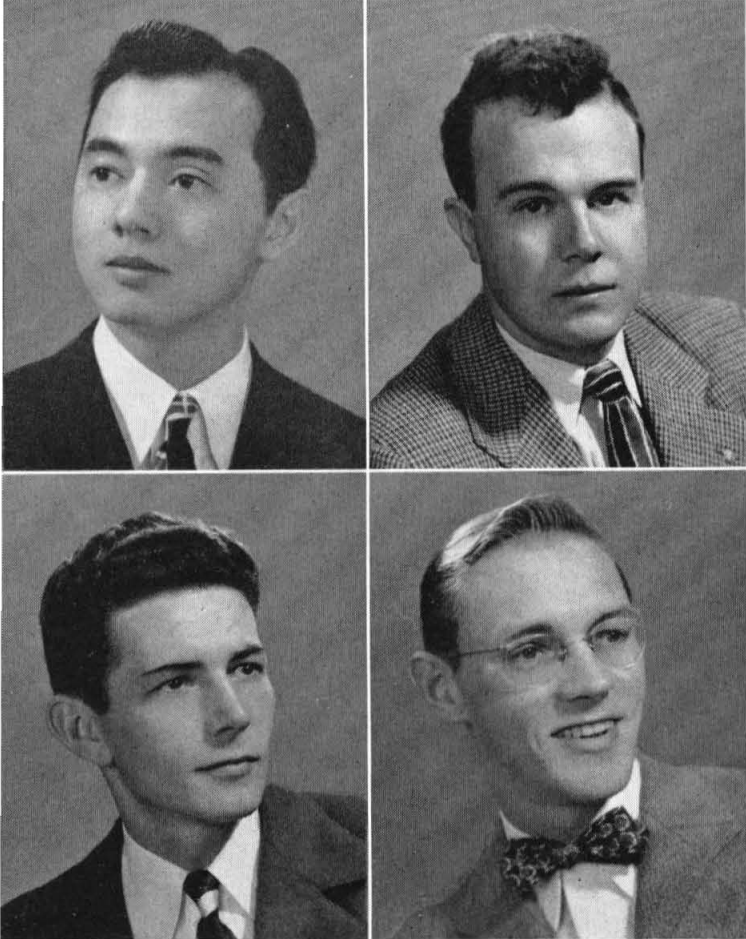
ALAN S. BAGLEY
THROOP, AIEE, IRE

Amateur radio and photography are hobbies of this earnest young engineer. Swimming, football, and a growing family absorb what is left of his spare time. An active AIEE and IRE member.

BOB BARRACLOUGH DABNEY

"The Major" has decided to be an educated beachcomber. Active in ASCIT doings, Bob served as 1st Rep. last year. He was a Beaver, and on the Stu-Fac Relations committee. Spent two years at the U. of Arizona before Tech. Mildly house sports minded. He enjoys bowling, riding, and telling Carlitos bedtime stories.





ELROY KUI CHON CHINN
FLEMING, T, AIEE

Elroy hails from Honolulu, survived a hitch in the Navy, is quite an athlete; three years trackman and participant in no less than eight interhouse sports, he is the enthusiastic secretary of the Cal Tech YMCA. Likes swimming and bridge. Professes no immediate plans.

WARREN A. CHRISTOPHERSON
THROOP, TBPI, AIEE

A pillar of Throop Club, Chris succeeds Vadhanapanich, '47, as the man with the longest and most difficult name in the senior class. He relaxes from his duties as secretary of both TBPI and AIEE by playing tennis, skiing, and swimming. He plans to get an MS at "an Eastern University."

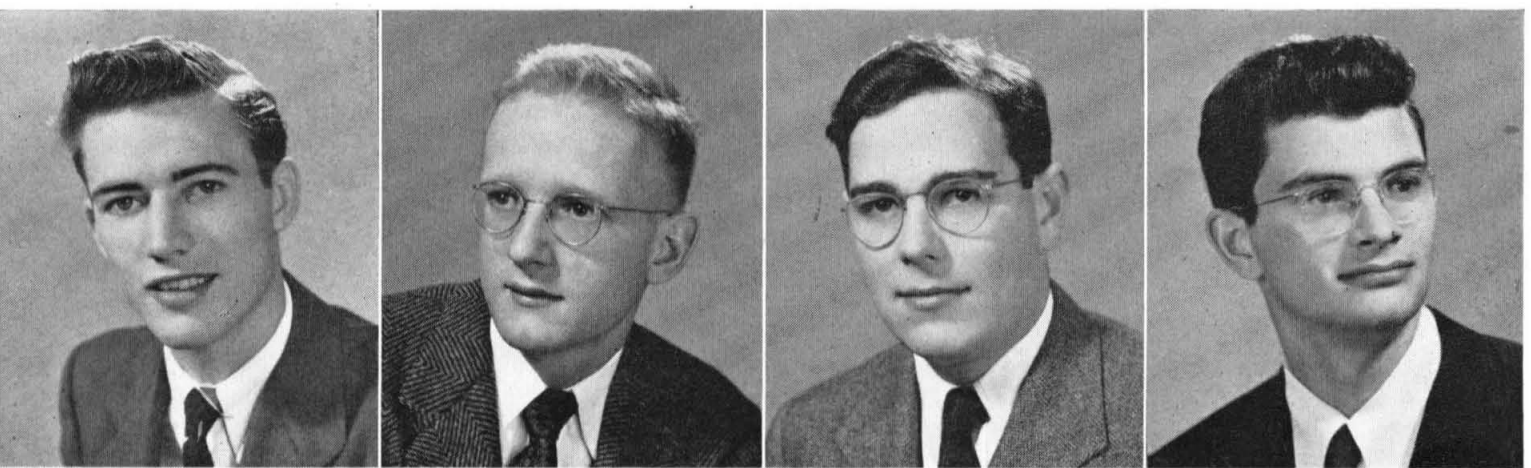
WILLIAM M. CONNER AIEE

Already a successful representative of an Eastern electrical manufacturer, Bill, an ex-Navy man, is now working on his second million (having abandoned hope of making the first). An active AIEE worker, he likes swimming for recreation.

MITCH COTTON BLACKER

Entered Tech in 41, made the mistake of joining ERC, returned in '46. Co-owner of "U", the gathering place of bon vivant philosophers, Bohemian Blacker Social Chairman and elder statesman, ex-varsity debater, Feature Editor California Tech and one-time author of a nefarious column. Active in the Greek Play, proud of a long Duesenberg named Daphne.

ELECTRICAL ENGINEERS



WAYNE K. DAVIS

Hometown in Burbank; Wayne amuses himself with swimming, and photography, combining the two when possible. Spent some time in the Navy as an RT as have most of the EE's. Hopes to remain single but is fascinated by the thought of beautiful women.

BILL DIXON THROOP, TBPI, AIEE

Migrated from Milwaukee, lettered in varsity swimming and water polo, took two years off to repair radios for the Navy. Plays clarinet in the band and orchestra, and is a member of the Musicale. Avocations: hiking, bicycling, tennis, swimming, sketching, and three dimensional tick-tack-toe.

FRANK EMERSON THROOP, TBPI, AIEE

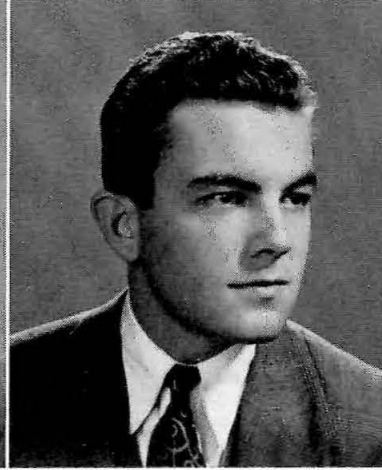
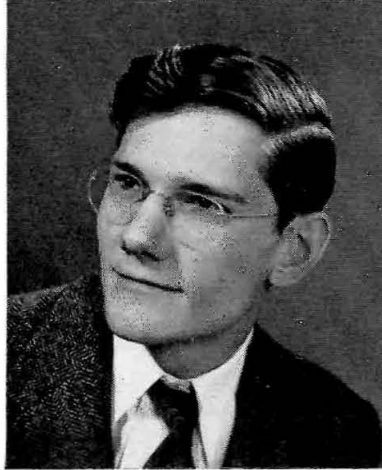
Frank is from Los Angeles; transferred into Tech in '47 from UCLA. Spent two years in the Army sending up weather balloons and then making undocumented guesses about the future of the climate. Frank plans to be married in July, culminating college, as it were.

FRED FLAM THROOP, ASME

A crack bridge player, Fred is a local boy who likes horses, both for riding and betting. His FDR-like cigaret holder is visible for miles around when he stands still, which seldom happens.



TAYLOR FLETCHER TBPI, AIEE, IRE
 At Tech after a sojourn at San Diego State and NYU; Chairman of AIEE, member CES Board. When not engaged in scholastic activities, swims, plays tennis, and messes with radio.



JOHN P. FRANCIS FLEMING
 John has come nearest to regarding Tech as an Extension University; he shows up in class so seldom that some instructors do not believe he exists except in the imagination of Fleming men. His picture should go a long way toward disproving this myth. He professes an ambition to become a writer and/or marry money.

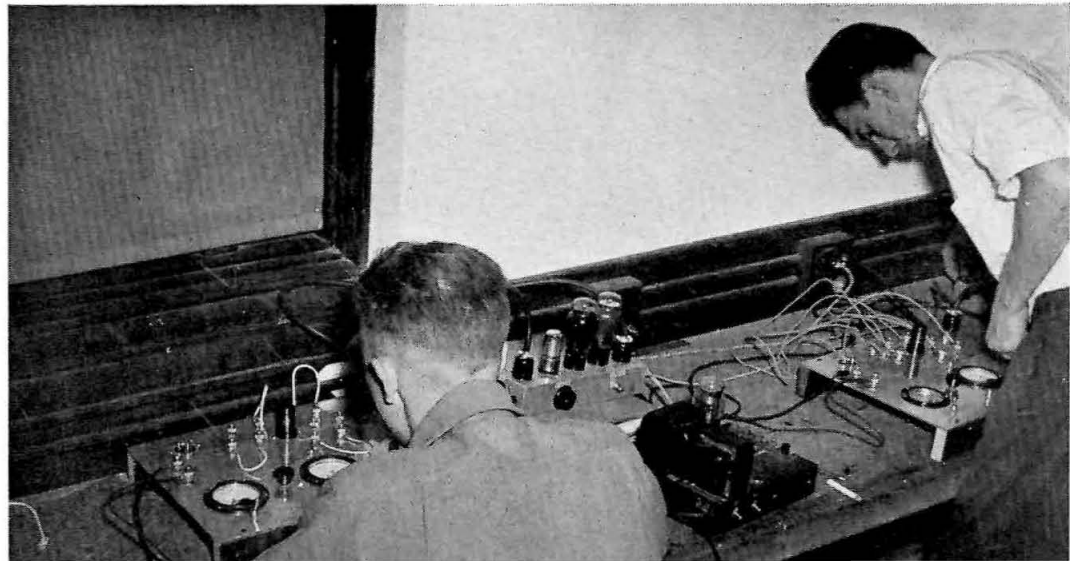
KEITH W. HENDERSON RICKETTS, AIEE
 Keith came to Tech from Ogden, Utah, in '41. Lived in Ricketts, and played in band. Spent three years in Army and came back married. Hobbies: Piano, folk dancing, and ham radio.

ROBERT HEPPE BLACKER, AIEE, TBPI, IRE
 A victim of California's indolent climate, joined us from New York in his Soph. year, worked hard at Tech, ending up as editor. Attended all the forums, faculty firesides, and Blacker Social functions. His attitude: "School interferes with education," is resented by some, but he enjoys life.

FRED KRASIN BLACKER, AIEE, IRE
 Spent some rough years riding a half track but now prefers ice skating, or perhaps he preferred ice skating then. Likes to draw, collect stamps, play with radio; his exercise is tennis.

DON LILLIENTHAL AIEE
 Possessed of a relatively mild nature for an ex-Marine sergeant, Don betrays an essentially ferocious character by his love of hunting and fishing. A married man, he is an active member of the AIEE.

GLENN H. MITCHELL, JR. AIEE
 Glen entered Tech in 1943, then left for the Army. He looks back upon a glorious semester at UCLA between his discharge and re-entry at Tech, during which time he became a member of Delta Tau Delta and had a perfectly lovely time. A member of the Ski Club, his special interest is petroleum engineering.



JACK MULLEN AIEE

Over his vociferous complaints is called "Moon" by his friends. Has the distinction of being the oldest man in the conference, playing varsity basketball and winning his letter for two years. When not going to school, Jack works as an officer for a wealthy Building and Loan Association.

DICK PLATZEK TBPI, AIEE

Like many another engineering student, Dick was logically assigned by the Army to the Corps of Engineers. Spent three years overseas, constructing. Hobbies: Photography, family life.

MARTIN ROBINSON
RICKETTS, TBPI, IRE

A native son who saw no reason to leave home when Tech was in his back yard, so Tech got another Tau Beta, an active member in AIEE and IRE, and the Rowdies got a good man for their football team. Bridge and a wicked pair of "Boogie" hands at the piano occupy his spare time.

CHAN RYPINSKI, JR.
THROOP, IRE

An ex-Marine and avid enthusiast of radio (W6RDR) specializing in high power and long distance (DXCC). Relaxes with symphonic music and beautiful women. Held chairmanship of the Musicales, was social chairman of Throop Club before the war, and more recently chairman of the IRE and Senior Prom Committee.

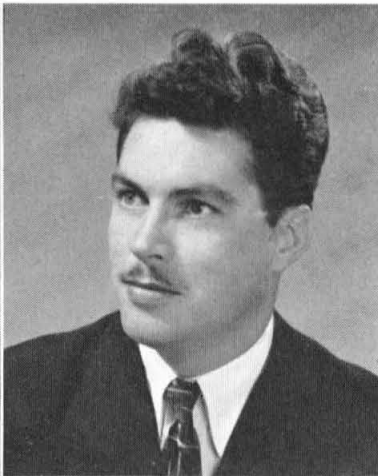
WAYNE SEFTON AIEE

Wayne spent so long in the Army that he was almost tempted to shoot his big toe off, but he weakened and waited for enough points instead. Being a little older than the rest, he confined his activities to his wife and spectator sports, owning, morally, a part interest in Santa Anita. For relaxation collects and listens to records, races motorcycles.

BILL SMYTH DABNEY, AIEE

"Smitty" finds Skippios' the best place to study, all else failing. "Else" includes swimming, sailing, bowling, bridge, Dabney Sec, the band, AIEE, and Varsity Club. Bill lettered in water polo and swimming, Dabney baseball; was Beaver, wrote for the Tech, and served part-term as 1st Rep.

ELECTRICAL ENGINEERING



HECTOR A. SCHETNE AIEE

Hector spent forty long months in the USMC, participated in most Frosh sports, but a bad knee put him on the bench; a fine all-round athlete, he enjoys swimming and tennis for exercise, likes to collect stamps and read, has a wife and is a proud papa.



DONALD SPAULDING
BLACKER, AIEE, IRE

After spending entirely too many years working for Sam, blessed Tech and Blacker house in particular with an Apache war call that he calls a laugh. Eager participant at all social functions and House Bowling, swimming and volleyball. Another photo fiend who snaps pictures hither and thither.



ENGINEERS

DOUG STRAIN **THROOP, AIEE, IRE**
 Married, two children, well spaced. Spent four years in Civilian Public Service Program assigned to OSRD and Dept. of Agriculture. Dabbles in photography, assorted electronic gadgets, and tennis and basketball, and also salutes General Semantics.

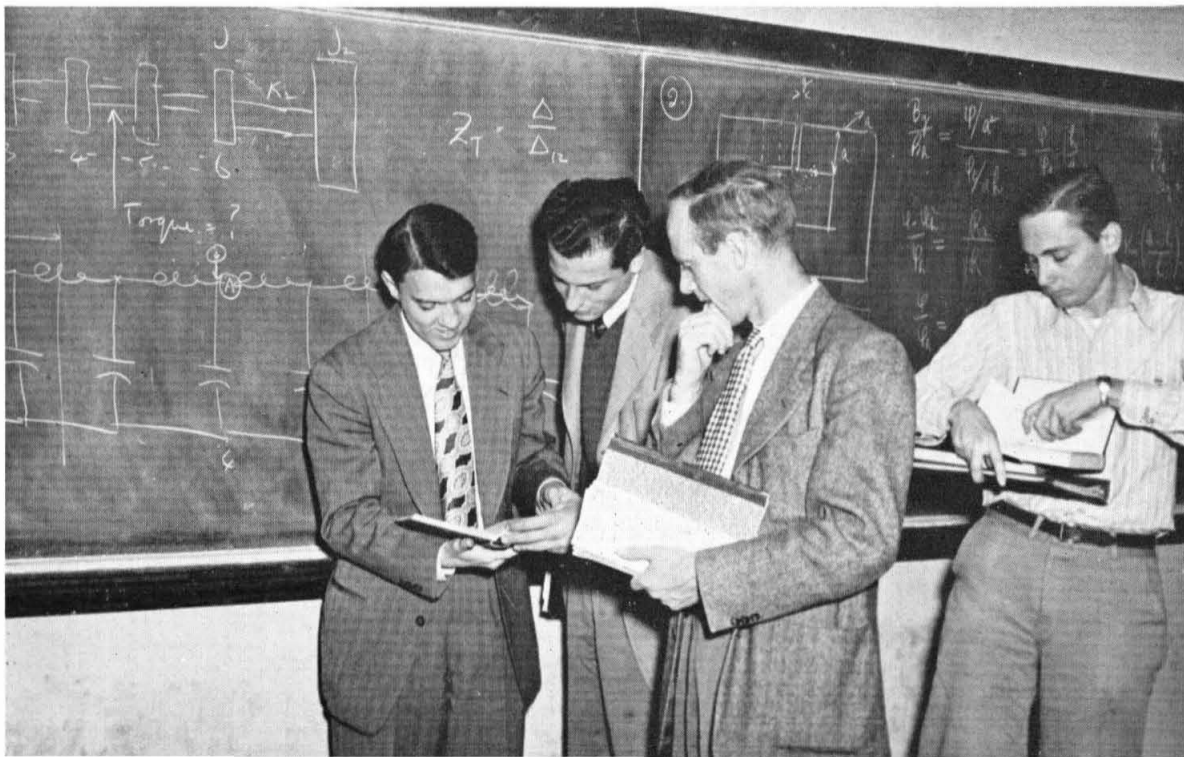
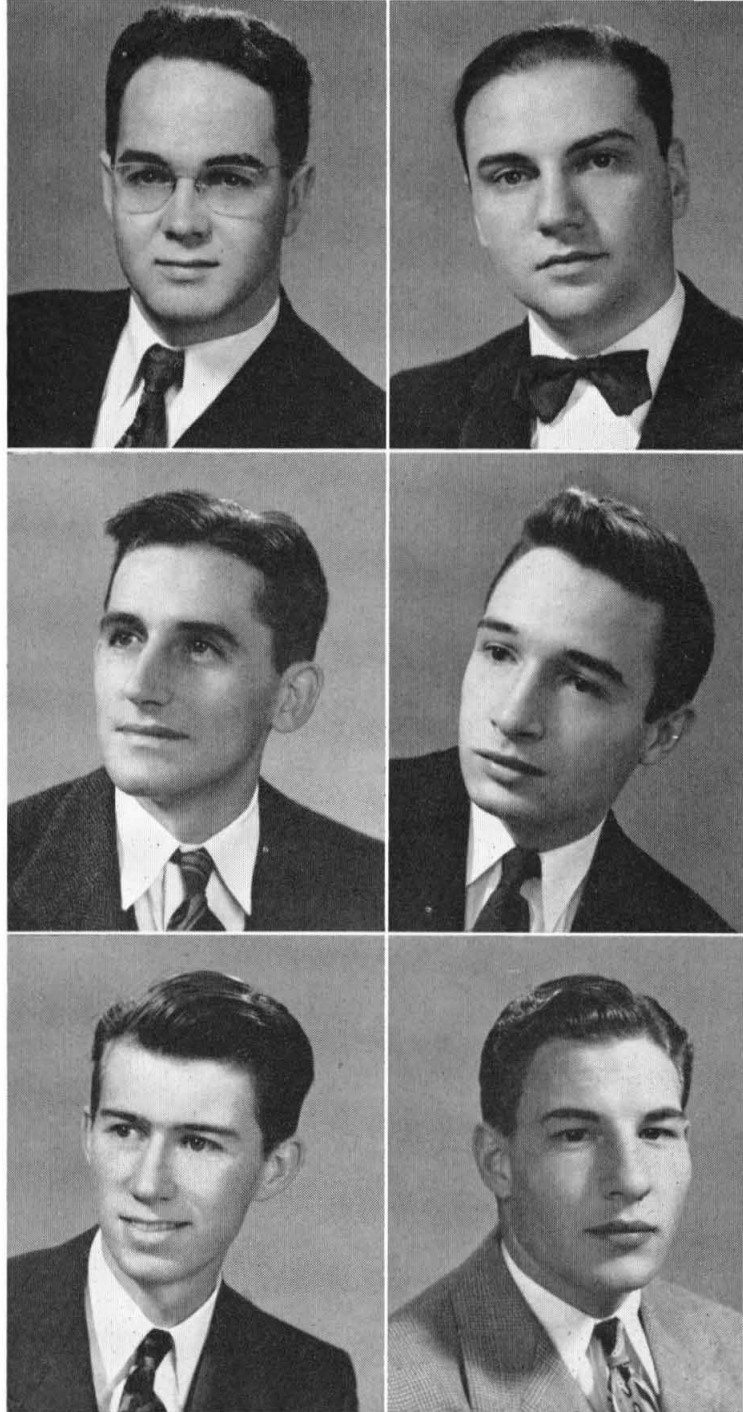
CHARLES SUSSKIND **IRE**
 Entered Tech after three years in the Air Forces; school orchestra and Ski Club member, IRE Secretary, Musicale VP, won first prize in McKinney Essay Contest. A self-styled *arbiter elegantiarum*, he relaxes by playing chamber music, wants to become science editor of a national magazine.

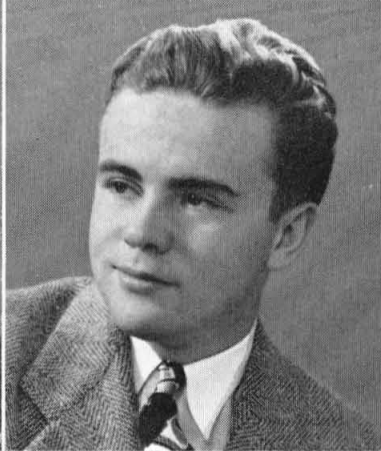
JOHN S. SWAIN **TBPi, AIEE, IRE**
 An ex-Air Force major, John is famous for his dexterity in "rolling his own" with one hand. He won a JV letter in basketball, has recently become increasingly absorbed in his growing family.

ROBERT L. WINCHESTER **RICKETTS, TBPi, AIEE**
 Coming from St. Louis, "Winch" has been able to give his school a hand. Tau Beta Pi, member of the AIEE, and Class Day committee, he still has found time enough for JV and interhouse basketball and varsity baseball.

WILLIAM L. WOODSON **DABNEY, TBPi**
 Married, no children as yet. Spent two years in the Navy. Hobbies: Tennis, photography, tinkering with Packard. Now living in a trailer but is still faithful to his first love, Dabney, often seen at the Skip with the Boys.

JERRY WOZNIAK **T, HONOR KEY**
 An all-around sportsman, Jerry is a three-letter football player; a list of his activities would fill two pages, includes two honor keys, participation in countless student committees and publications, V-12 honors; he is interested in music, painting, and writing.





JAMES S. ALLEN ASME

Married, and therefore busy. Communications Officer in AAF. Ex-Dabney, ex-Class of '43. Bowls, golfs, and plays with radio, wood-working and photography. Was famous before the war as part owner and operator of Caltech's own radiator radio station, DBNY.

ROGER ANDERSON
RICKETTS, TBPI

A Tau Bate and a member of the ski club, Andy is a native son, coming from Bishop, Calif. He spent three years in Texas with the Air Corps. He can usually be seen any weekend during the winter, leaving Ricketts with a pair of skis over his shoulder.

JOHN J. ATTIAS
BLACKER, ASME, SAE

Pride of Flatbush, transplanted to Pasadena after two years at CCNY, found Tech a refreshing change. Enjoys both Blacker's social functions and working in the engineering societies. Helped run the house in '46 and '47 as Vice President, retired in his senior year to concentrate his efforts in contemplation of life in the arms of Morpheus.

MECHANICAL



YING CHING AU

Came to the US from China in 1941. Then the war came along, so Au stayed with us and eventually ended up at Tech and now that he's through, is looking forward to going home. When not playing tennis, likes to take pictures of this amazing country.



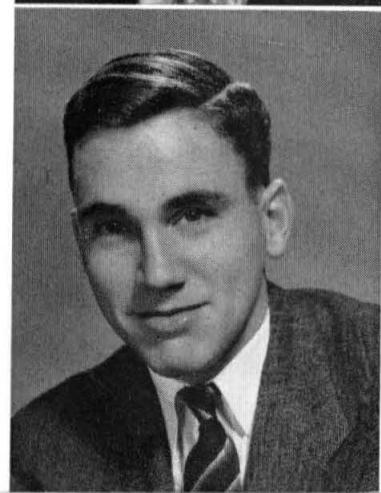
EARL BEDER TBPI, ASME

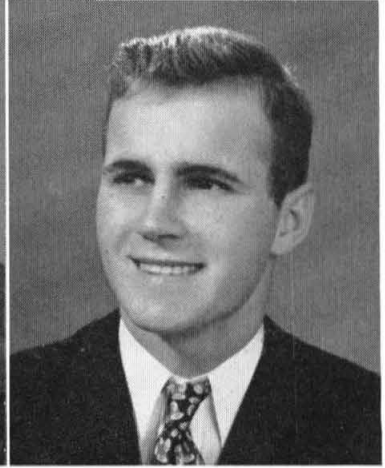
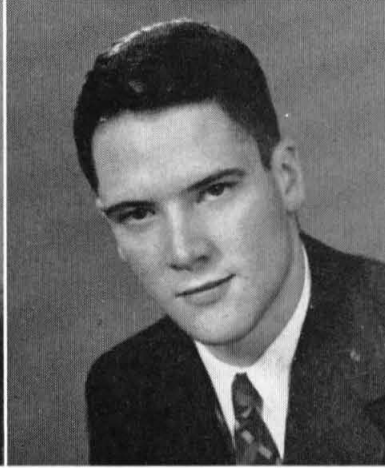
Spent 3 1/2 years in Army and 6 years in Palestine working for the Zionist movement. Has seen "Life." Came to Tech from South Bend, Ind. A quiet but quick fish in our pond; intends to swim on through the narrows to grad school in Applied Mech.



GEORGE W. BOUTELLE
FLEMING, T, ASME, HONOR KEY

The fabulous "Willie" participated in varsity and house football and baseball for three years. Is VP of Fleming, Social Chairman of YMCA, Senior Editor of the Big T, covert correspondent for the Tech, fall guy for Greek Play, member of the Varsity Club, Glee Club and Drama Group, and charter member of the Mt. Wilson Safari Assoc. Will remain single until married. His get-rich-quick schemes will probably result in ultimate fame (of one kind or another).





JOSEPH BURKHOLDER
DABNEY, ASME

Joe modestly admits spending years and years as a dogface. He arrived here after his adventures, and has since played baseball, slept, and studied. In off time tries to promote the appreciation of Le Jazz Hot.

SAGE BURROWS **DABNEY**

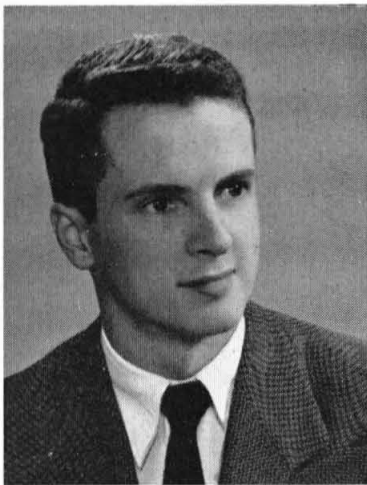
Mainstay of Dabney's skiing supremacy. When not speeding for the snow, found time to be a member of the Varsity Golf and Ski teams. President of Beavers, Jr. Class Prexy, Pres. of Ski Club, member of debating team, and charter member of the CITPBAA.

PHILIP R. CONRATH **RICKETTS**

He comes from St. Louis where he spent some time in the undergraduate school at Washington University. He is noted for being very quiet and unobtrusive.

LARRY DAHM **RICKETTS, T**

Larry comes from Brawley, Calif. He belongs to Ricketts, or more correctly, to Crud Alley. He was on the varsity football squad for two years and has been active in house sports. He is a member of the varsity club and spends his spare time playing bridge.



SEBA ELDRIDGE JR.
THROOP, ASME

Tiger comes to us from Kansas complete with wife and daughter. AAF pilot with many stories of the life the sky boys led in the ETO. Has badminton and baseball as hobbies and beer as a recreation. Also a right good man for one on the ME Profs here.



ALFRED P. FAY
RICKETTS, ASME

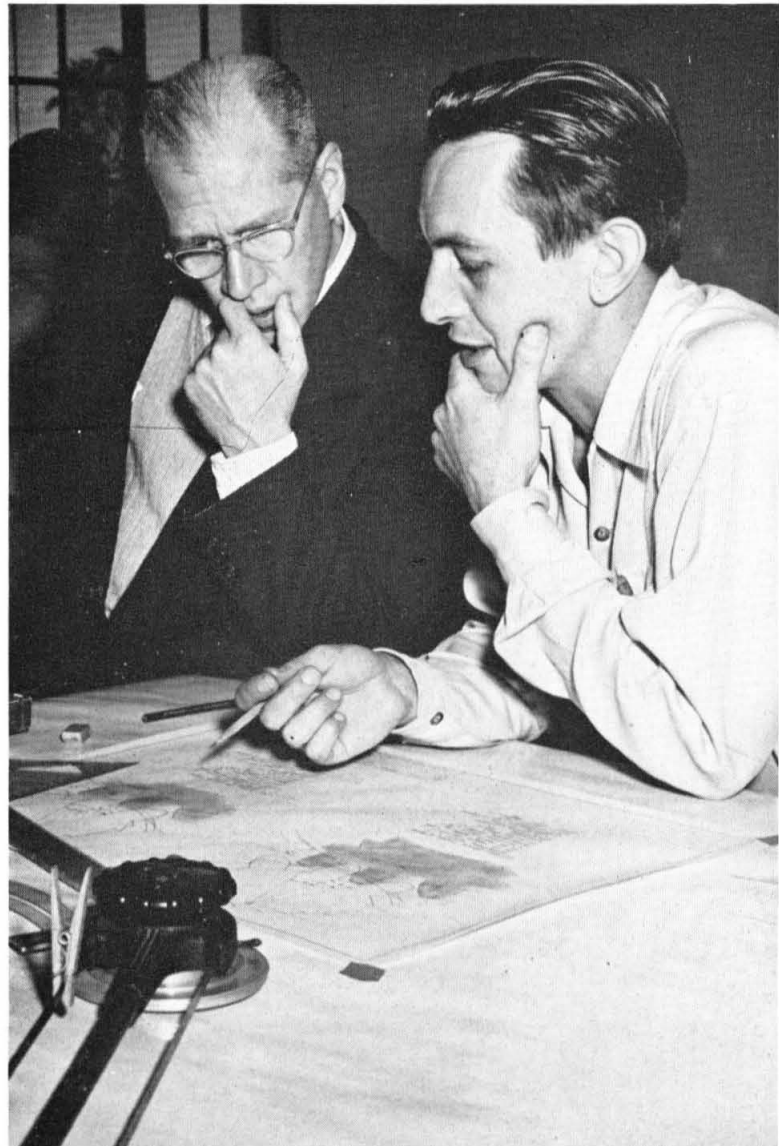
He came to Tech from Ventura with the hope of becoming a machine designer in the manufacturing field. He is a member of the ASME and enjoys baseball and basketball; in fact, he has played in intramural and house baseball, basketball, and football.

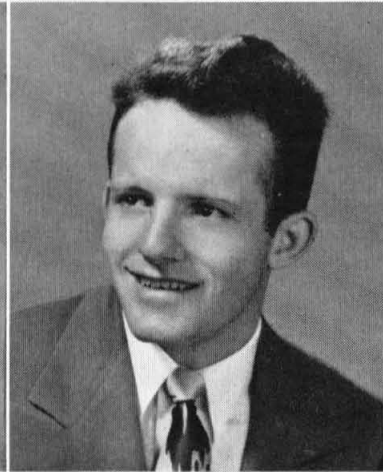


BRUCE D. GAVRILL
RICKETTS, TBPI, ASME

Bruce comes from Sand Springs, Okla. (suburb of Tulsa). He is devoted to classical music and spends his spare time blowing through a cornet. A Tau Beta, Secretary of the ASME, and in the band, Bruce plans to go to MIT next year for grad work.

ENGINEERING





JIM HOLDITCH FLEMING, ASME
 Jim is active in Fleming house, a dignified constable; participates in interhouse sports, varsity basketball and golf teams, and is the proud holder of the coveted Harrison Price Trophy. Left school for a while for a visit to the Pacific Playland. Plans grad work next year.

FRED GUNTHER TBPI, ASME
 From a hidden city near San Diego, is a member of the Skiing and Tennis teams; other favorite sports include swimming and mild tipping; he's married and has a young son. Enjoys discussing the fast automobiles and get-rich-quick schemes, but expects to end up as a gas turbine engineer.

JAMES A. HARDER TBPI
 Past President of the Cal Tech YMCA, and chairman of the Y's Atomic Forum in connection with which he runs a twice-weekly radio program. Married, he spends his time hiking and folk dancing with his better half.

STAN HARRISON FLEMING, TBPI, HONOR KEY, ASME
 Came to us from Georgia Tech after doffing his RR tracks earned during four years in the AAF. Likes to play volleyball, badminton, bridge, build model airplanes and can quaff beer with the best. Is on Ditch Day Committee, Tech Staff, Glee Club, is House Editor of the Big T, and manager of the swimming team.

HARVEY HOLM RICKETTS, TBPI, SAE
 A Tau Beta Pi and in SAE, Harvey served a year as Ricketts house secretary. He left Ricketts last year when he was married. When there he worked as a waiter, and helped with the laundry concession.

PAUL HOWARD RICKETTS, TBPI, SAE
 A member of the Tau Beta Pi and once business manager for Pi Kappa Delta, Paul came to Ricketts house after three years as a pilot in the AAF. He can usually be seen out on the golf links or on the tennis courts during his off hours.

BRUCE C. JONES
 Letter in swimming; a practical man with experience as chief cook of the "American Concrete Products Co."; married and has one child. Navigated a B-29 for Sam and thus gained a working knowledge of aircraft for those famous flat on your back stories at the Greasy. Amazingly combines accomplishment and lassitude.



ABNER KAPLAN BLACKER, TBPI, SAE
 Another pre-war student who strayed into the Engineer Corps for a few years. Worked hard as circulation manager of the Tech and played tennis for Blacker. Takes ME seriously, was always seen just emerging from Kyro's lab covered with grease and oil after rebuilding IC engines for "fun."

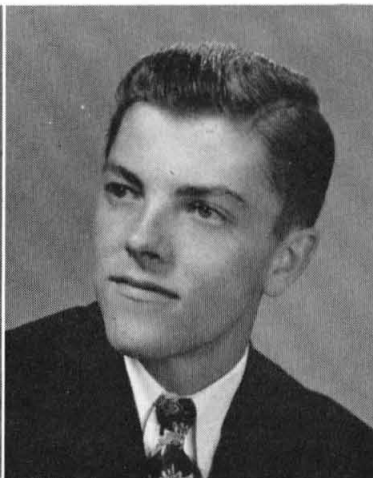
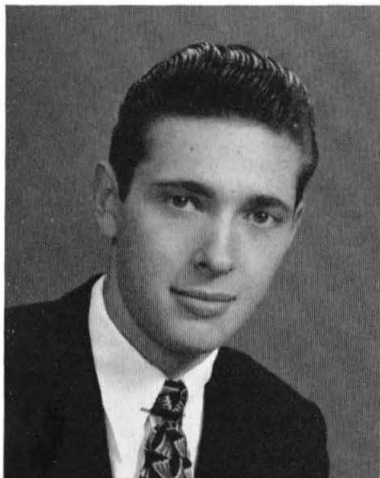
SAUL KAPLUN DABNEY, SAE
 "Kap" comes to Tech from The City—New York. Ping pong is his most strenuous sport, though he professes a liking for tiddly-winks. In the SAE, Kap also worked on the Big T, is another bridge fiend in Dabney.

BOB KING THROOP, ASME
 One of the few Senior Commuters who conscientiously arrive at 8 o'clock classes. Was a walking wonder in the Great White Father's Infantry. Has since recovered from the aftereffects. Is on the Music Committee and plays piano for recreation.

PHIL LAMSON DABNEY, ASME, T
 Phil may never replace Kramer or Riggs, but was good enough for Tech's varsity tennis team for 2 years. Played baseball for Dabney, likes to ski, golf, and swim, also lift weights. Phil is another San Bernardino product, and piloted P-47's in the recent altercation.



MECHANICAL ENGINEERING



TOM LANG BLACKER, SAE
 Possessor of an imperturbable good humor and a big smile for everyone, Tom is a stalwart at all house functions and rarely misses an IH athletic contest. Active in SAE, Ski Club, and Y Luncheon group.

DOUG LEAVENWORTH
 Transferred to Tech as a Soph. from Illinois Tech. Spent some carefree time as a pilot in the USAAF. Favors tennis, swimming, and models (kind not specified) but avers that he has the most beautiful wife and young daughter in existence.



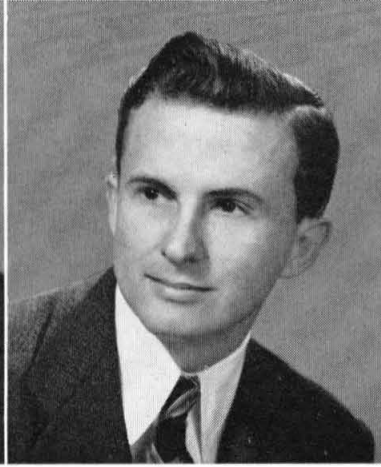
HOWARD LEWIS RICKETTS, T
 Howard has strong leanings toward interhouse sports, playing tennis, volleyball, football, baseball, soccer, and swimming, but he also sports a Varsity tennis letter. He subscribes to the various Ricketts social clubs, likes to debate, photograph, and plans to marry a girl.

DON LOVELACE FLEMING, SAE, HONOR KEY
 Don is Treasurer of Fleming House, President of Orchestra, Manager of Band, Big T Circulation Manager, member of election Committee, and is well known for a mellow trumpet and a still unseen Duesenberg. Spent three years in Army, and as a conclusion to his works lists plans to be married in June.



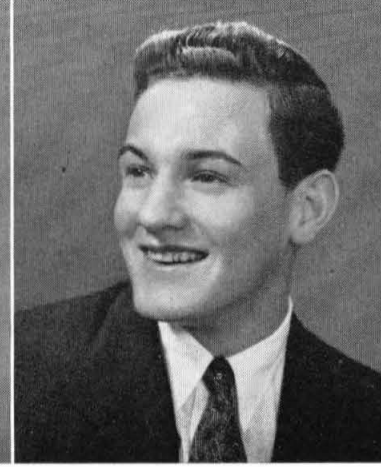
DOUG MacLEAN
BLACKER, TBPI, SAE, T

An outstanding athlete; both varsity track and football for two years. Received the Wheaton award in 1947. President of the Varsity Club and Athletic manager of Blacker. Mack prefers to remain sad and single rather than morose and married. Blacker UCC and father confessor to foolish frosh and wild women.



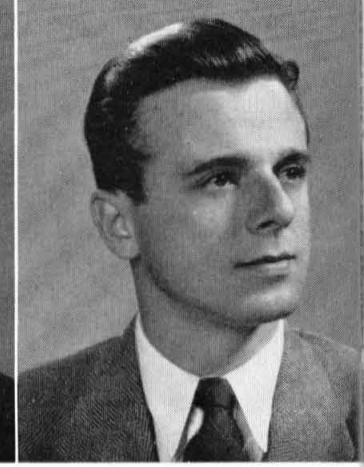
IRWIN MARKOWITZ
RICKETTS, SAE

He comes from Los Angeles and owns a car, thus he is popular with those who need rides. He likes to hike or swim but always claims he is too busy to do much of either. Although he does well enough at dances, he still has no marital plans.



WARREN MARSHALL BLACKER
T, TBPI, HONOR KEY, SAE

Out of Georgia came "Windy" Marshall to make his mark at Tech. He made a name on the Varsity football team as an outstanding guard and end, pledged Tau Bate his Junior year, and elected Prexy of Blacker Senior year. Also Sec. SAE, member Beavers, Ski Club, and recipient of many "droll" jokes on the IHC.



GEORGE MARTINEK
THROOP, ASME

Transfer student from Illinois Tech. After seeing California weather, became an advocate of sunshine, senility and sleep. Worked part time and less at school, still found time for Varsity golf. Most often seen in the Throop Patio playing a rugged game of cribbage.

MECHANICAL ENGINEERING

ROGER MATZDORF SAE

An Iowan, attracted to California after a long tour as an Air Corps pilot, Roger decided that life on a coed campus was not for him now that he is married, so transferred to Tech. Family responsibilities took most of his time, but he still got in on an occasional game of bridge, golf or tennis.

PAUL G. PAYNE THROOP, ASME

Paul has five years to his credit as a buzz boy. Married and has two children. He bowls for the interhouse league and likes to play billiards and cribbage for fun.

ROBERT McCLELLAN

Bob spent 20 months in the Army, part of it in OCS (Over the choppy seas). Primarily known here for his unflinching attention to studies; seen by the brothers only while in class.

ROSS MEHL RICKETTS, ASME

A native of Stockton, Calif. "Chief" spent three years in the AAF. A member of ASME and a Ricketts UCC, he has also helped his house in interhouse sports. For recreation "Chief" enjoys photography and sketching.



CHUCK MOODY DABNEY, ASME

Chuck entered in '43, was sidetracked by the Navy. A Dabney athlete, he participated in basketball, softball, baseball, football, and volleyball. Likes to swim and/or loaf at the beach. His chief hobby is keeping his jalopy purring for constant trips to Westwood, where he keeps his social life.

CHARLES GORDON MURPHY FLEMING, TBPI, T, ASME

Murph was active in sports, particularly in varsity swimming and water polo; also house football, baseball, and soccer. Recently married, he plans to go East to grad school in business. President of Tau Beta Pi.

NORM OLSON DABNEY, ASME

The patriarch of the Dabney seniors, from Hemet, still single. Bowled for Dabney, likes swimming, cards other than bridge; in ASME, was with Convair 5 years in San Diego; likes to tinker quietly; has patent pending.

DON OTTO RICKETTS

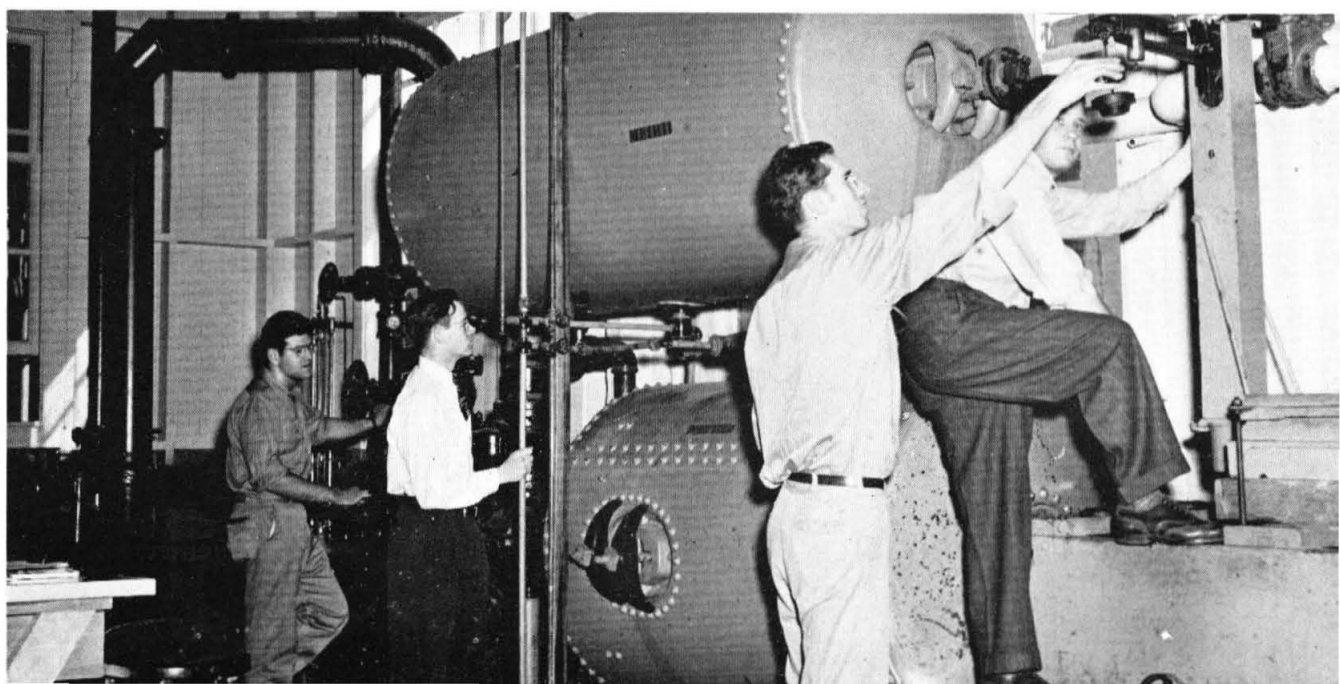
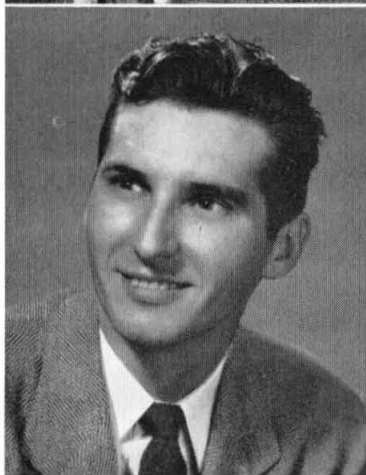
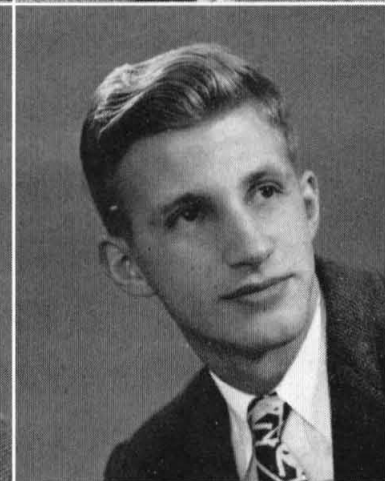
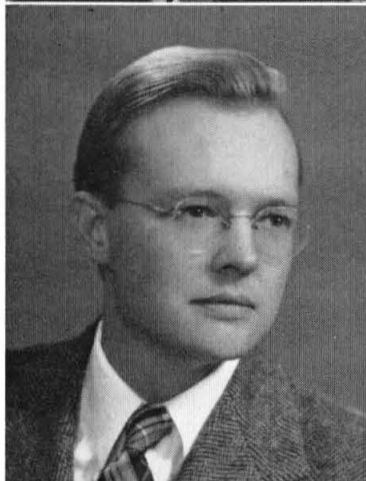
Don came from Berkeley to become a member of Crud Alley; whether this is a part of Ricketts or not is questionable. When the weather is warm, he usually sports a sunburn from happy hours lounging on the beach, but he can become more active in interhouse sports.

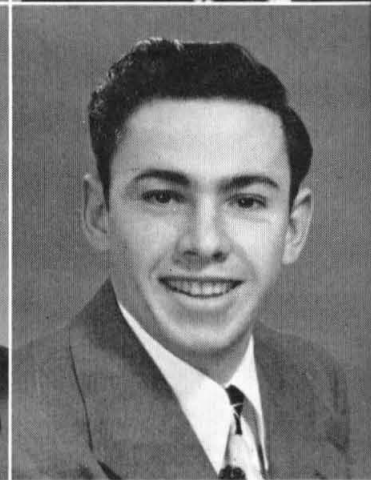
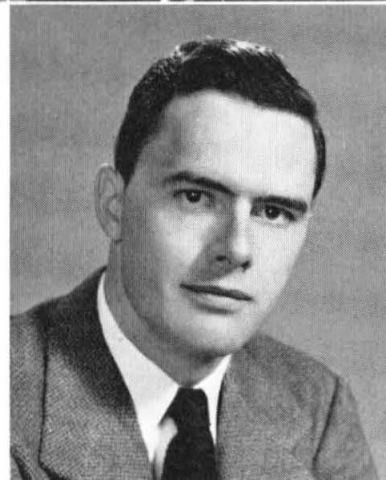
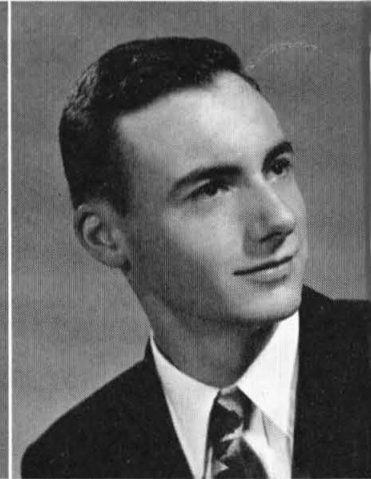
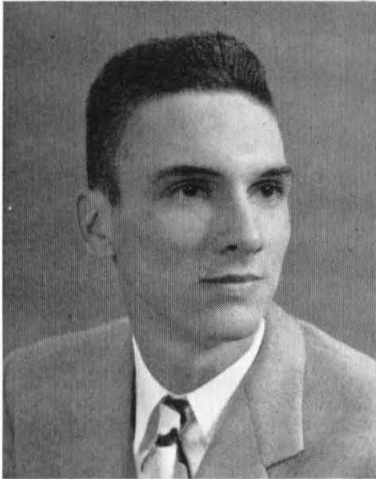
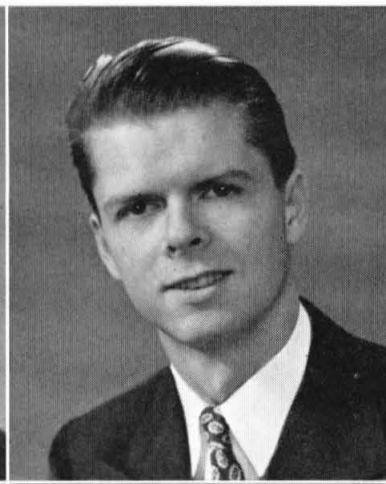
RAY MAURUS THROOP, ASME

Spent two years in Army where he held the unique classification of Parachutist, Infantry, Pacific. Played intramural baseball and likes to ski and golf, is married and spends his spare time agitating his jalopy.

ROBERT M. PEDRAGLIA RICKETTS, SAE

He came to the institute from Saticoy, California. He enjoys sailing and skiing, and has helped Ricketts in the interhouse football. A member of SAE, he lists model airplanes and flying among his hobbies.





HERB PODELL THROOP, ASME, TBPI
Worked hard and long on the Big T Staff. Came to Tech from Carnegie, but prefers Pasadena to the coal dust. Spent two years with Uncle Sam doing almost nothing. Plans to go to the ME grad school here at Tech. Accomplished beer drinker and Honorary member of Fleming House.

DAVE REESE DABNEY, ASME
"It's gotta work—it's supposed to," has been Dave's motto. From LA and 23, Dave is ASME Treasurer, likes basketball, golf, and is prominent in Dabney bridge circles. Service includes some time in the Infantry, Combat Engineers, and Corps Hq. Dave still finds time for airplane models.

BOB POINDEXTER DABNEY, ASME
As ASCIT Treasurer, Robert kept the books balanced and served on the Board of Directors. His Studs was often headed for the snow on weekends loaded with Darbs, etc. Found time for Mexico City, too. Active in ASME, now 25, Bob is listed in "Who's Who."

BRUCE RENNIE ASME
Married, one son, spent some time with the US Coast Guard. Outdoor sportsman, indulging in skiing, hiking, camping, fishing and weightlifting. Attunes an attentive ear to the better symphonic music.

FRANK SCHECK FLEMING, ASME
Somehow his exceedingly happy marriage caused him to desert the big Red Team. In the good old days he played football and handball for Fleming. Spent two years in the CIT Band and Tech staff, but after the Army prefers the more peaceful life, namely marriage and announcing for KUSC.

ALLAN T. PUDER ASME, SAE
Spent 33 months in Air Corps, a pilot, having served in the South Pacific. Works in the high-voltage lab, is in the first year of married life, is building a house, and plans to spend a few years in grad school.

JOHN ROACH RICKETTS, ASME
A real live Texan, he comes from Texarkana. He spent the war as a navigator with the Army Air Corps. For recreation, he likes tennis, skiing, golf. He is active in the ASME and in the student shop.

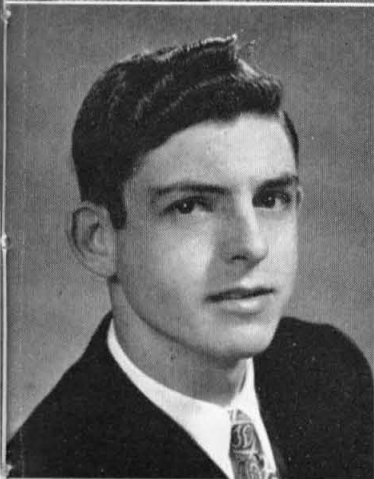
GEORGE R. SCOTT THROOP, DABNEY, ASME, TBPI
Returned after two pleasant years in the AAF. Played interhouse softball, baseball, basketball, and dabbles in tennis, swimming, and skiing, designs gas model airplanes on the side. Asserts that two years of married life have improved his moral and scholastic record.

CHARLES QUIRNBACH THROOP
A native son who never left home and came to Tech to see the light. Takes his major seriously as he spends most of his free time over in the shop producing gadgets that are mechanical marvels.

HARVEY ROBERSON RICKETTS, TBPI
A tall, quiet Oklahoma farmer that came West to get an education, Caltech style. When not taking things apart and then trying to put them together Harvey enjoys a little tennis and swimming. Intends to avoid work by going to grad school for another year.

BILL SEIDEN FLEMING, ASME, HONOR KEY
Left North Hollywood for a short but painful tour of duty in the USAAF, participates enthusiastically in house sports and likes to swim. He is Senior Class dues collector, yell leader, election committee chairman, glee club Big T and Drama. There are rumors of an impending wedding.

MECHANICAL ENGINEERING



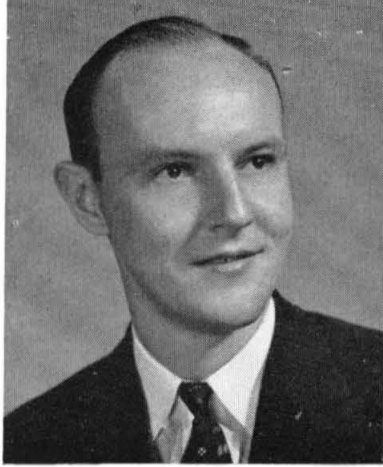
EDWARD ROSKOWSKI **TBPI**

Another married ex-Navy man who came back to Tech for more punishment. An experienced tool maker, the Rock is "THE" authority in Machine Design, and carries on as director of the student shop. When not participating in bull sessions, likes the less strenuous activities like fishing, sleeping, and having a tall cool one.

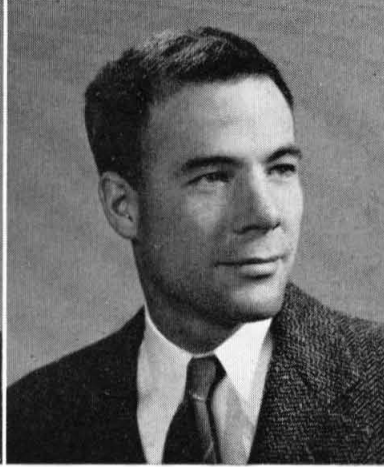
JIM SHIELLS **DABNEY**

Jim's time at Tech was interrupted by two years of Navy RT. A non-resident member of Dabney, he has been known to drive a date in from Fillmore for house dances. Played on the Dabney softball team; likes to swim, hunt, and fish; fool with cars. Jim was in Throop club for his first two years.

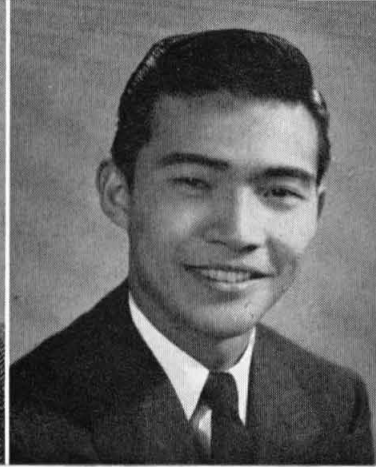




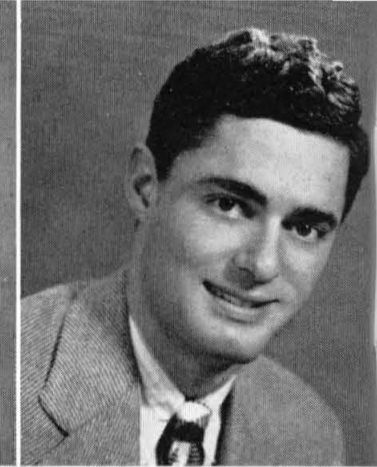
DONALD L. SILLIKER
THROOP, ASME
 Three years Royal Canadian Navy, now stays clear of the ocean, although he enjoys swimming, also tennis, archery, and auto mechanics. Is a confirmed gun bug. Was originally in class of '45 but RCN had "Attractions."



MIKE E. SPOONER **ASME**
 Mike fought the great war with the USMC, is now married and lives in an official campus mansion, devoting his spare time to wife and mansion.



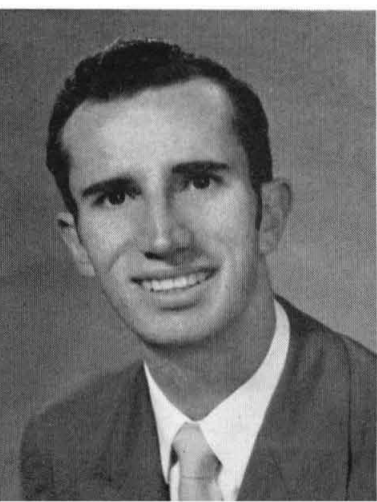
KENNETH TANG
 Another of Pasadena's pride and joys, who never got away from Uncle Bobbie's clutches and ended up spending four years at the monastery. Did get away for a while keeping the Marines company during the war. Relaxes playing tennis, snapping pictures and listening to music.



JAMES R. THORPE **RICKETTS**
 One of the Ricketts Snake Alley "Fly Boys," Jim has divided his time between homework and flying for the California Air National Guard. Always active in inter-house sports, Jim also enjoys skiing.



MECHANICAL ENGINEERING



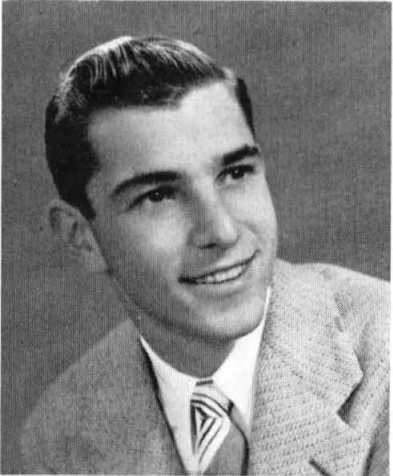
THOMAS VREBOLOVITCH
PKD, SAE, ASME
 A strong man on the debating squad. Started Tech in '44. Joined the Navy and saw the world in easy stages, returning here in '46. Plans to give his services to an aircraft company after a few years at grad school. Is the taller half of the Sulmeyer-Vrebolovitch duo.

JOSEPH W. WECHSLER
RICKETTS, SAE, ASME, TBPI
 A member of Ricketts, a Tau Beta, student chairman of the SAE, on the governing board of the CES, and a member of the ASME, Joe hails from the Bronx but can't convince anyone that it's not Brooklyn. He is one of the fastest waiters the house ever had.



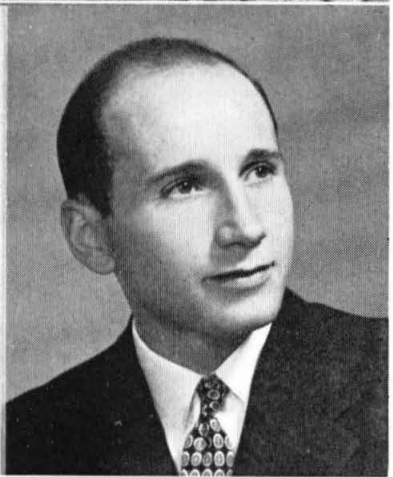
DON WILKINSON TBPI, ASME

A pre-war Dabney man and manager of several athletic teams, Don is a staunch record collector and photographer. He comes from Los Angeles, and spends most of his spare time with his everloving wife.



FRANK WOLF DABNEY, ASME, HONOR KEY

ASCIT VP, FJ has never allowed studies to interfere with extra-curriculars. Frank was also Big T editor, Rally Commissioner, Beaver, a varsity tennis man and in "Who's Who." Although professing to prefer sleeping, FJ intends to continue the grind at Michigan.



BRUCE A. WORCESTER RICKETTS, HONOR KEY

Bruce has brought his political ability from Chicago to add to the glory of Ricketts. ASCIT Pres., ASCIT Sec., co-editor of the Little T, Ricketts House Social Chairman. Bruce reorganized the Glee Club, had a major role in the Greek play, and was a member of the Beavers.

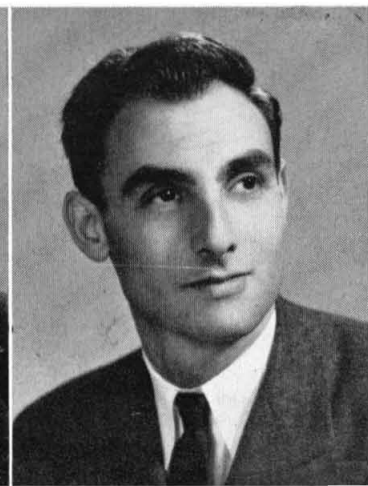
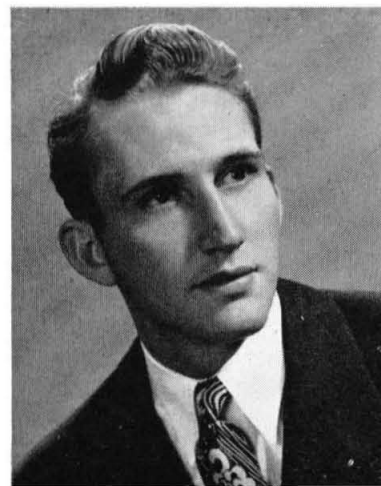


HARVEY WRIGHT RICKETTS, ASME

Another pre-war student who was victimized by the ERC. Returned to help reorganize Ricketts and become star member of Crud Alley, he is noted chiefly as Ricketts Social Chairman and an exceptional man with the fair sex.

ROBERT ZACHARIAS ASME

Married and preoccupied. Spent some time in AAF where he received extensive training in bridge playing. Shows possibility of becoming the famed "Economic Man" often heard of in connection with economics.



JUNIOR CLASS



CHUCK FORESTER



JACK OTTESTAD



BOB WALQUIST



ERLE BROWN





As examinations, grade point averages and just plain fatigue took their toll of the Class of 1949, its numbers dropped from an imposing total of two-sixty to some two-ten. These brave souls not only continued to toil diligently in the mysterious academic vineyards, but, in addition, found time to engage in a few extracurricular activities.

Their first responsibility for the year was the sponsoring of the Frosh-Soph calculated mayhem---the Mudeo. In an effort to bring a reasonable amount of order out of chaos, more Junior judges were used this year than ever before, and nearly one-third of their number achieved that goal rarely reached by the mud-spattered arbiters in this brawl. Jack Ottestad, Class Vice-President, Gene Cook, and Rube Kachadoorian managed to escape the eager claws of the pursuing Frosh and Sophs and missed the traditional ducking in the goo, administered to Class President Chuck Forrester, Bob Benton, Stan Barnes, Pat Dunbar, Bob Pilling, Bob Darrow and Bill Karzas.

The responsibility for keeping the minutes of meetings was in the capable hands of Erle Brown, and Bob Walquist carried out the chores of Treasurer in true J. P. Morgan style.

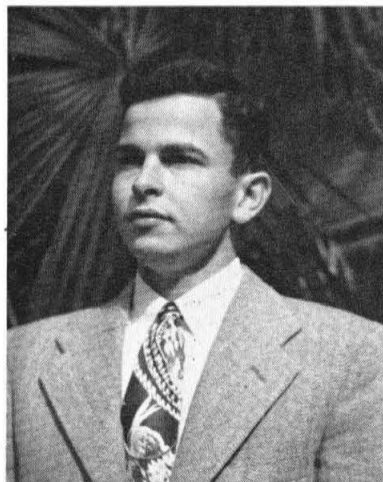
The social program of the class was held entirely in the third term, with the revival of the traditional Garden Party, and the Prom on Graduation night, both glittering events held in collaboration with the graduating Class of 1948.



BILL HAEFLIGER

SOPHOMORES





BRUCE HEDRICK



BURT HOUSMAN



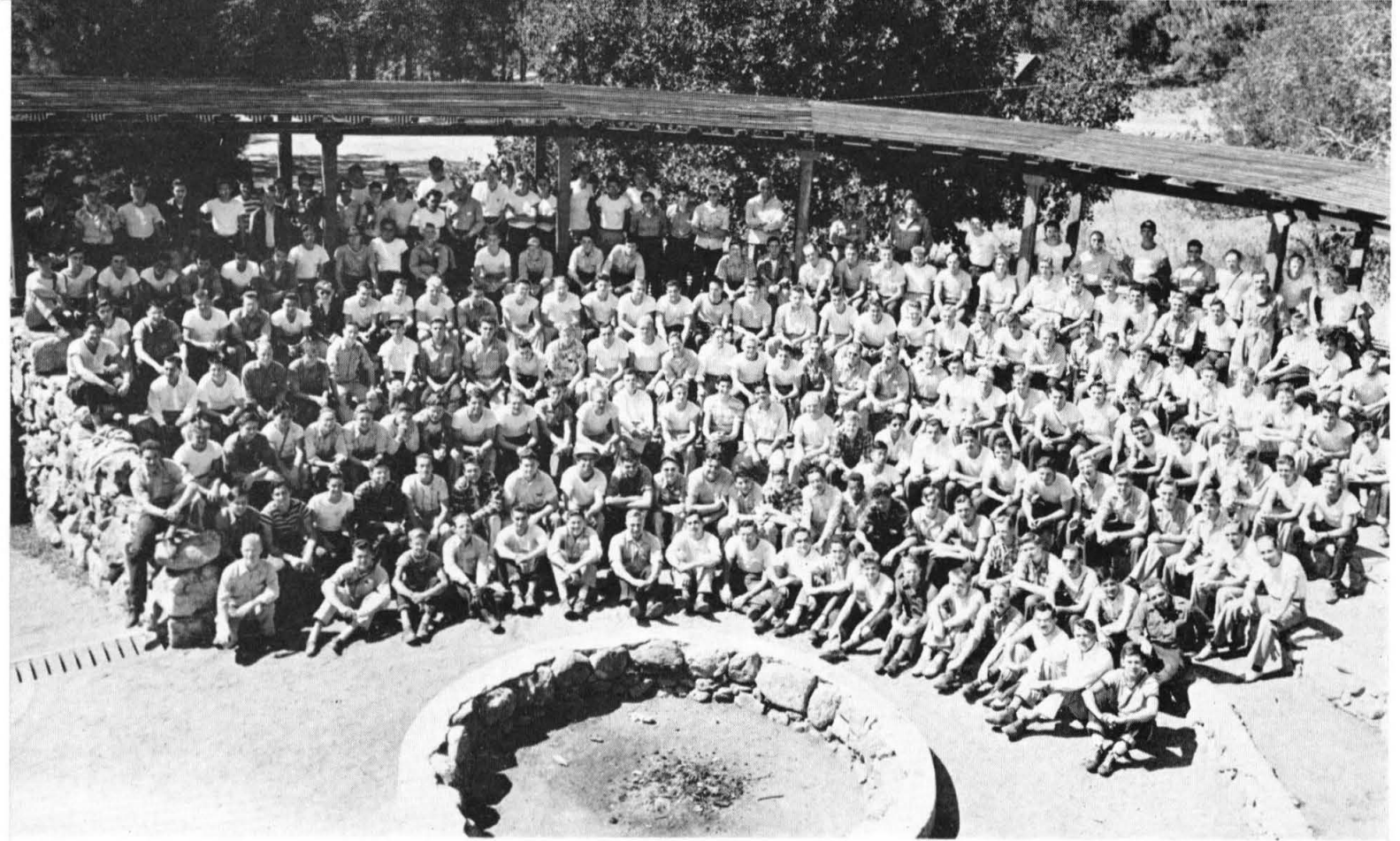
CARL FOX

The first truly postwar class at Tech began its second year as enthusiastically as it had started in 1947. Once again the traditional Mudeo was fought out, and although the Frosh battled grimly, the Sophs, organized by Bud Hauser, fought to final victory.

The two classes were soon reconciled by the Frosh-Soph dance, held at the Pasadena Athletic Club in early November. This highly successful event was engineered by a joint committee of men from both classes, ably headed by Myron Arcand.

In January the Frosh-Sophs organized to see what could be done about the sorry state of the T on the mountains above Altadena. After one inspection trip, a small group of men from both classes seeded the T with yellow mustard seed, which should make the T much more noticeable.

Soph leaders were Bill Haefliger, President; Bruce Hedrick, Vice-President; Burt Housman, Secretary, and Carl Fox, Treasurer.



FRESHMEN

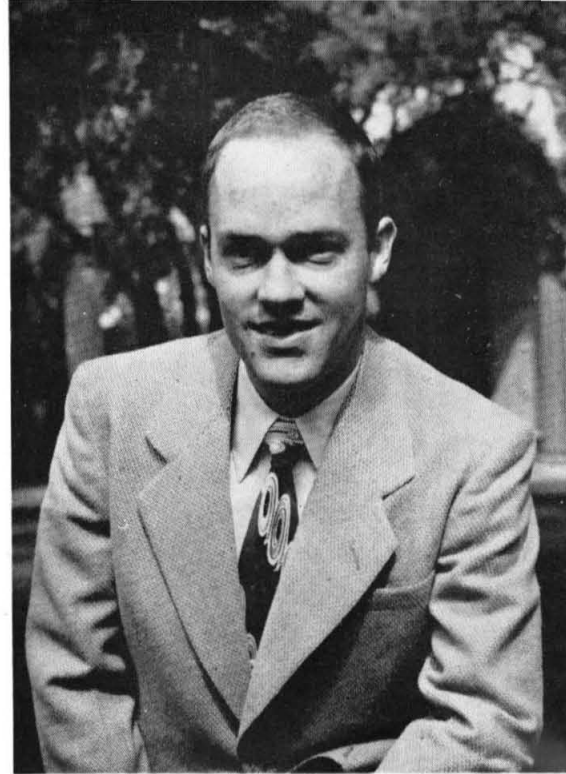


The Class of '51 congregated for the first time at Frosh Camp where fellow classmates were introduced and became acquainted with the policies of Caltech at the many seminars. Officers for the first term were appointed among whom was Jim Luscombe, President, and the class started off as an organized unit.

At the annual Mudeo, the Freshmen put up a fine fight only to lose to the Sophomores by a few points. The Frosh-Soph dance in commemoration of the occasion turned out to be one of the best social events of the year.

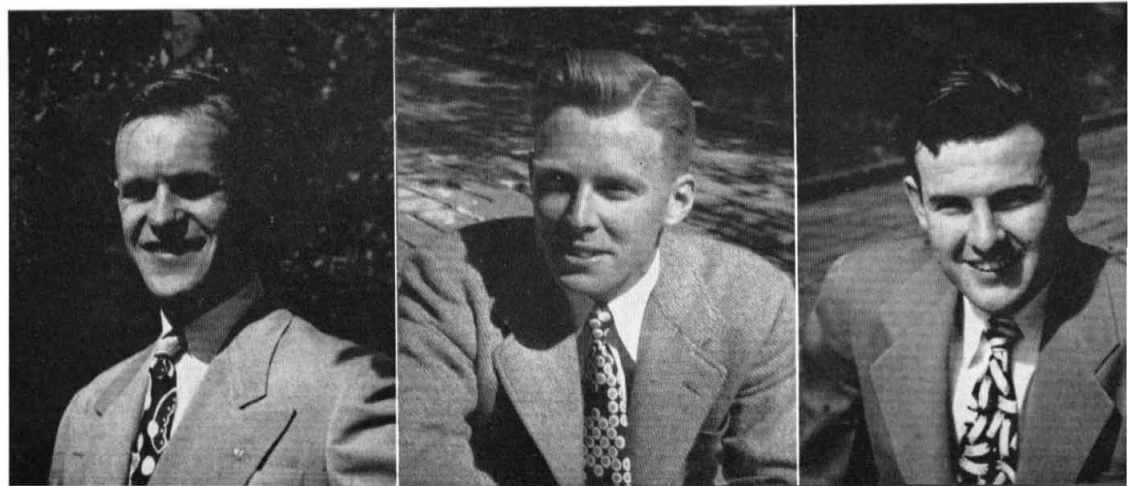
The class athletic teams did very well, the Track team placing first and the Basketball team second in the Southern Cal. Conference.

At the end of the first term, the permanent officers of the class were elected—Fred Wood, Pres.; Harry Begg, Vice-Pres.; Oliver Gardner, Sec-Treas.; Noel Reed, Ath. Manager, and George Suman and Jim Enslow, Board of Control.



FRED WOOD

HARRY BEGG, OLIVER GARDNER, JIM LUSCOMBE







ACTIVITIES

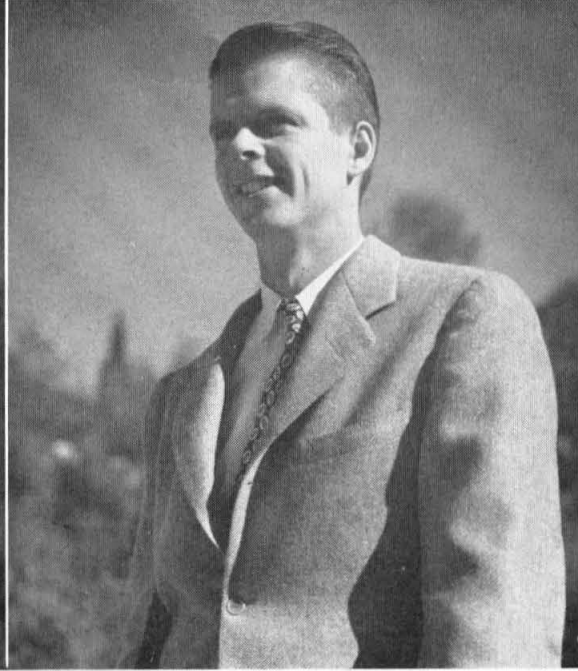


FRANK WOLF, VICE-PRESIDENT

BRUCE WORCESTER, PRESIDENT

BOARD OF DIRECTORS





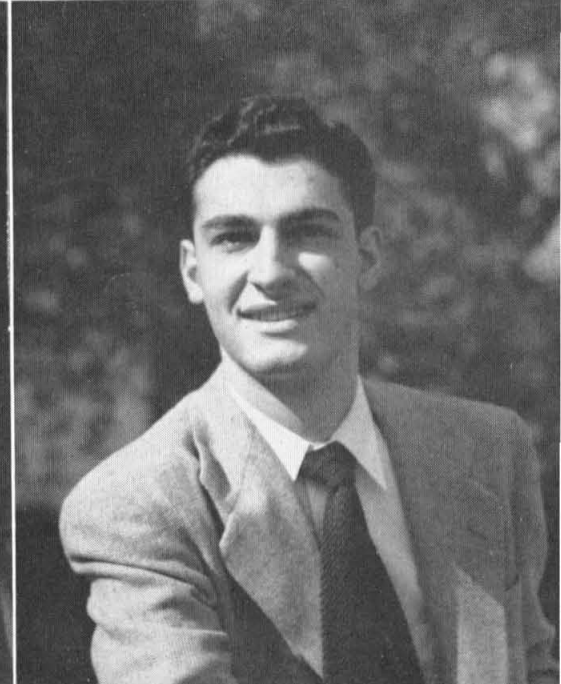
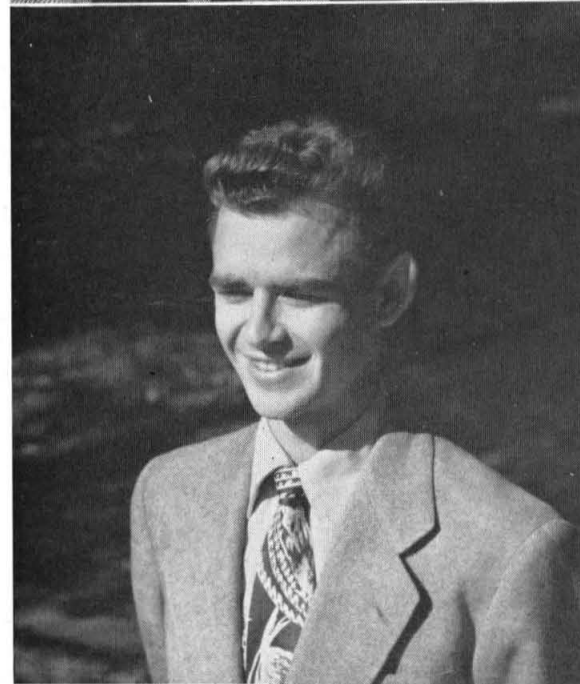
BILL MUEHLBERGER, SECRETARY

BOB POINDEXTER, TREASURER

BUD MITTENTHAL, FIRST REPRESENTATIVE



MIKE SELLEN, SECOND REPRESENTATIVE
STAN BARNES, ATHLETIC MANAGER



JACK OTTESTAD, RALLY COMMISSIONER
BILL KARZAS, PUBLICITY MANAGER

BOARD OF CONTROL

Caltech is one of the largest schools to have a working Honor System. The Board of Control tries violations and helps to keep the system from developing snags. Particularly interesting this year were the trimming of the basic violations to include just cheating, stealing and other non-disputable sins, and the invitation to graduate participation.



DALE VRABEC, SAGE BURROWS,
DENNIS LONG, BILL PALMER

DAVE WARREN, STAN BOICOURT
WALT PFEIFFER, JIM ENSLOW

FRANK WOLF, CHAIRMAN



ELECTIONS



SECOND ROW: DON ROLPH, BOB COBB, BILL SEIDEN, DON LOVELACE
 FIRST ROW: DICK KING, STAN HARRISON, ELROY CHINN
 BILL SEIDEN, CHAIRMAN

PUBLICITY

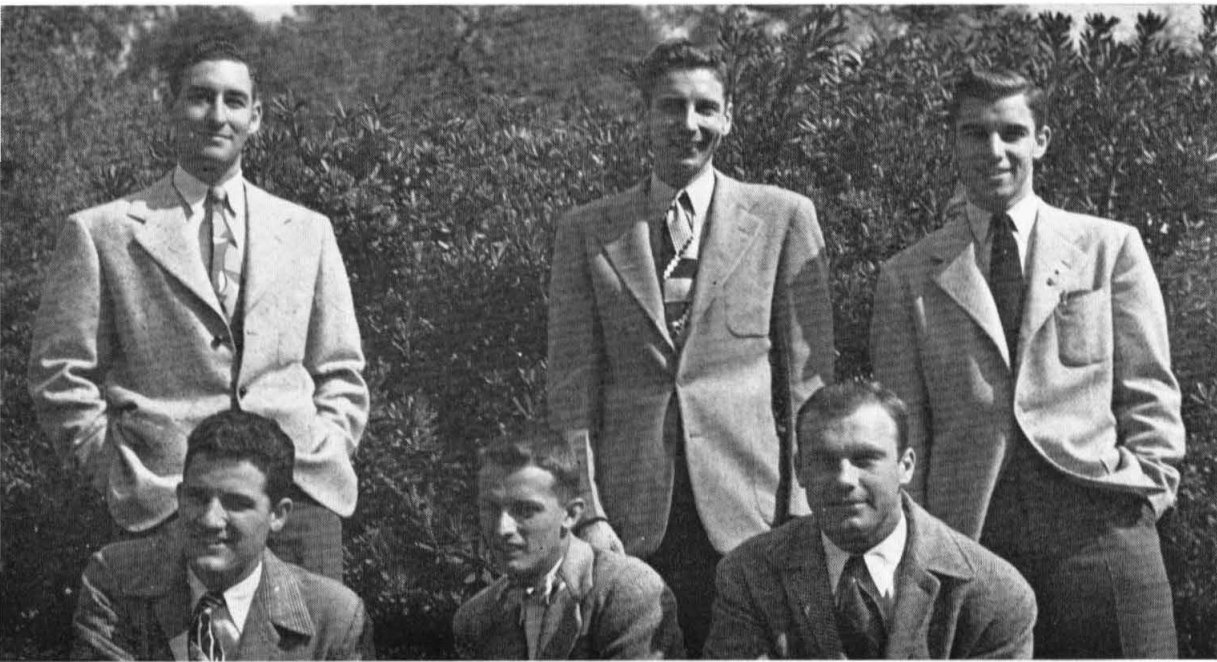


SECOND ROW: BILL KARZAS, LARRY NOBLES, JACK MARSHALL, BILL PALMER, JOE CURRAY
 FIRST ROW: DON PETERSON, BILL WOODS



BILL KARZAS, CHAIRMAN

COURT OF TRADITIONS



SECOND ROW: MONTE MARKS, BILL FREED, FRANK WOLF.

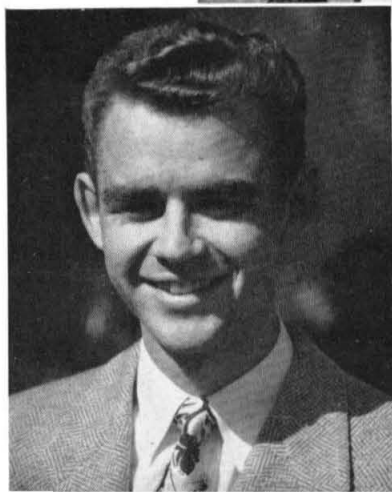
FIRST ROW: GEORGE SUMAN, LARRY NOBLES, DOUG MAC LEAN

RALLY COMMITTEE

PAUL SALTMAN, BUD MITTENTHAL, JACK OTTESTAD, FRED WOOD, DAN MARKOFF.



JACK OTTESTAD, CHAIRMAN



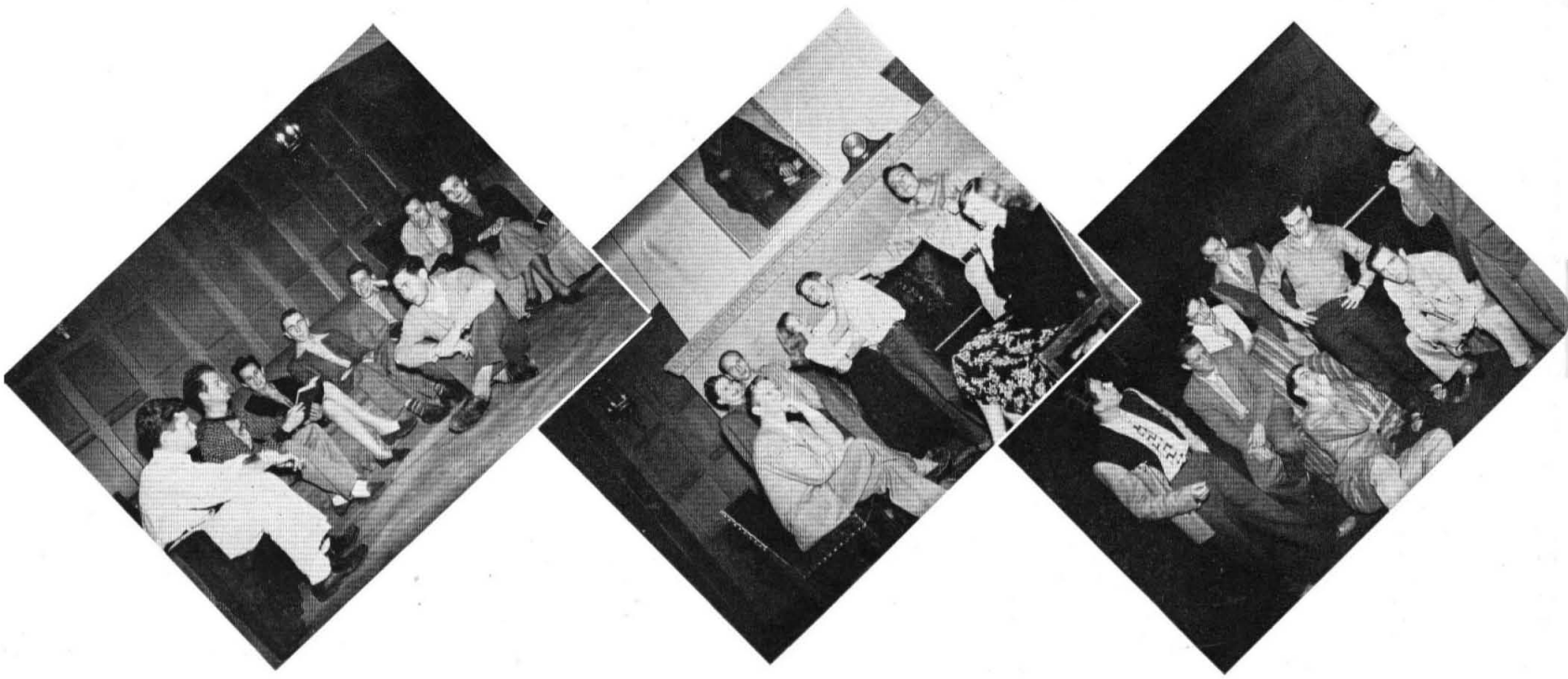
NEW WHEELS



STAN BARNES, ASCIT PRESIDENT

HUGH CARTER, TREASURER; STAN BARNES, PRESIDENT; STAN BOICOURT, SECRETARY; DENNIS LONG, VICE - PRESIDENT; BILL BRADLEY, BUSINESS MANAGER, CALIFORNIA TECH; JIM HUMMEL, EDITOR, CALIFORNIA TECH; BOB HAUFE, EDITOR, BIG T; JACK OTTESTAD, PUBLICITY MANAGER; BILL BARBAT, YELL LEADER; BLOUKE CARUS, BUSINESS MANAGER, BIG T; JOHN KARIOTIS, ATHLETIC MANAGER; CARL PRICE, FIRST REPRESENTATIVE; FRED WOOD, RALLY COMMISSIONER; OLLIE GARDNER, SECOND REPRESENTATIVE





DRAMA

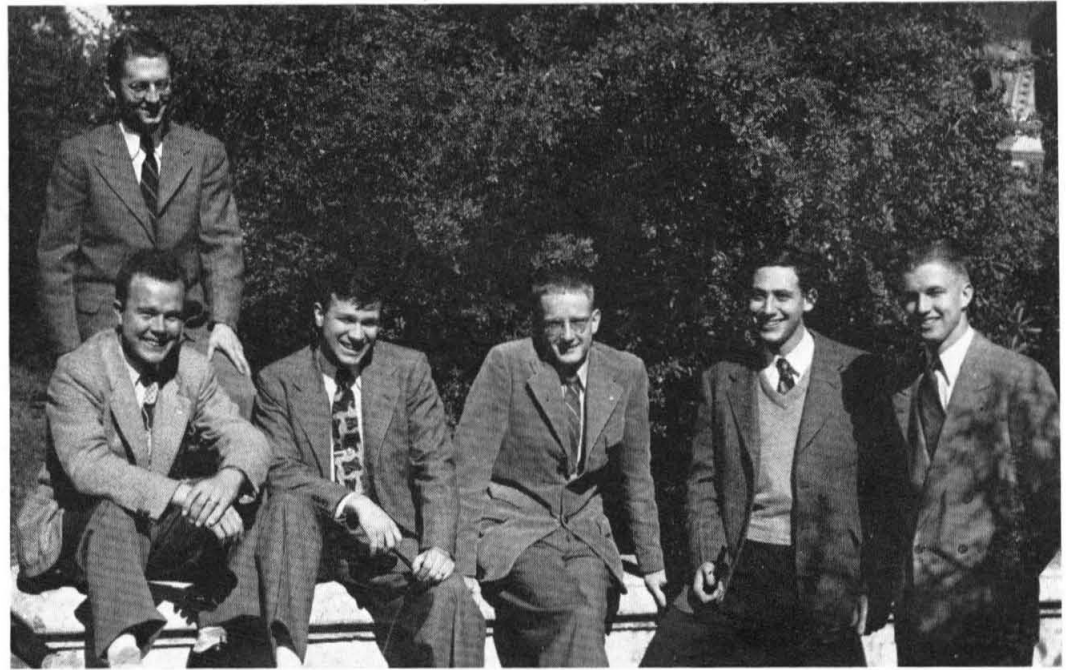
Improving on their tremendous success of last year, the Drama Club, including students' wives and secretaries, outdid themselves in their spring production. Featured were three one-act plays: "A Night at an Inn", "Men's Room", and an original play, "Divided We Stand".

TOM TRACY, DALLAS PECK, TOM STIX, EMILY EATHERLY, TONY MALANOSKI, CARL PRICE, DAN MARKOFF, LEN HERZOG, STAN HARRISON, GRETCHEN BENTON, BLACKIE STONE, AL ESCHNER, CHUCK MURPHY, BILL WOODS, BOB LYNN, WALT MUDGETT, RITCHEY NEWMAN

BRUCE WORCESTER ON PAUL HOWARD, BILL SEIDEN, GARLAND BRADFIELD, BUD MITTENTHAL, MITCH COTTON, BOB HAUFE, BILL BOUTELLE



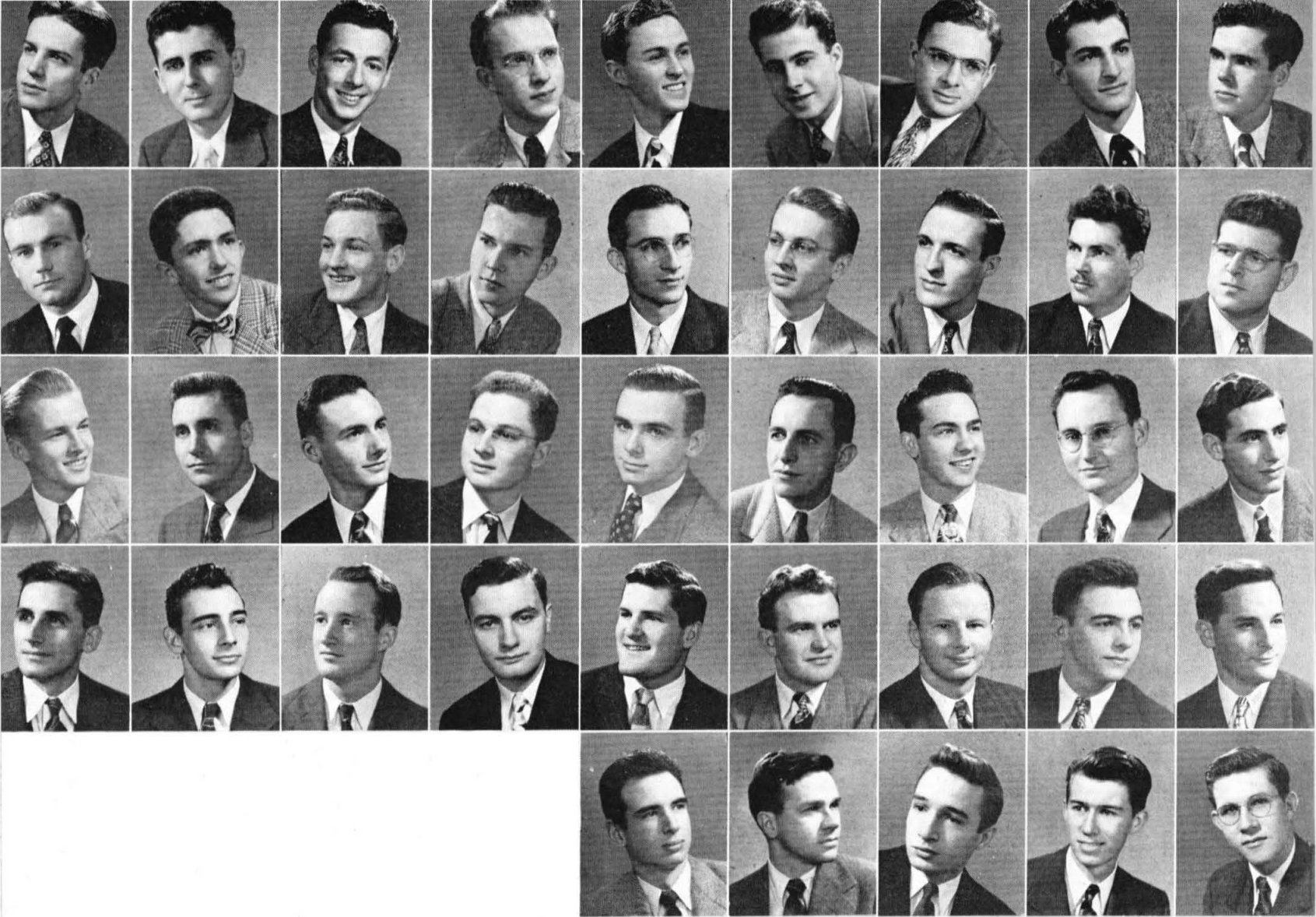
TAU BETA PI



CHARLES MURPHY, PRESIDENT; WARREN CHRISTOPHERSON, RECORDING SECRETARY; DON WILKINSON, CATALOGER; BILL DIXON, TREASURER; TOM STIX, VICE-PRESIDENT; JOHN RASMUSSEN, CORRESPONDING SECRETARY

ROGER ANDERSON, MILT ANDRES, STAN BARNES, EARL BEDER, MARY BLAIR, JUSTIN BLOOM, GEORGE BOWEN, WARREN CHRISTOPHERSON, JOE CANTWELL, DICK CORNELIUS, BOB DALTON, WARREN DANIELSON, RAY DAVIS, BILL DIXON, FRANK EMERSON, DICK FERRELL, TAYLOR FLETCHER, BRUCE GAVRIL, ROY GOULD, JOE GREEN, FRED GUNTHER, JAMES HARDER, STAN HARRISON, DEL HAUSMANN, BOB HENIGSON, ROBERT HEPPE, WALT HIRSCHBERG.





TAU BETA PI

DAVE HOGNESS, HARVEY HOLM, PAUL HOWARD, JAMES HUMMEL, BILL JARMIE, BOB KAHN, ABNER KAPLAN, BILL KARZAS, HENRY LONG

DOUG MAC LEAN, JACK MARSHALL, WARREN MARSHALL, HARDY MARTEL, ALBERT McEUEEN, CHARLES MURPHY, BILL MYERS, DICK PLATZEK, HERB PODELL

JOHN RASMUSSEN, GEORGE RIGSBY, HARVEY ROBERSON, MARTIN ROBINSON, DICK ROEHM, ED ROSKOWSKI, CLEM SAVANT, GEORGE SCOTT, TOM STIX

JOHN SWAIN, DICK TALMADGE, KENT TERWILLIGER, FRANK VALLE-RIESTRA, BOB WALQUIST, DEAN WANLASS, ALFRED WATERS, BOB WATERS, JOE WECHSLER

JOHN WHITTLESEY, DON WILKINSON, ROBERT WINCHESTER, WILLIAM WOODSON, BYRON YOUTZ



These men were chosen from the junior and senior classes on the basis of high scholastic standing, and participation in student affairs.

Their activities are many. The instructor-rating program, a Caltech first on this scale, held the spotlight this year, and considerable work was done on the free tutoring service. Picnics, initiation banquets, and a spring semi-formal dance rounded out the year.

BEAVERS

This year the Beavers, the Tech Honor and Service organization, supported the new Student Camp, and as usual helped with the Pajamarino and other student activities. The Beaver constitution was changed to include by vote a small number of faculty members. The new meetings at faculty homes were successful and worthwhile.



THIRD ROW: DICK SCHUSTER, SAGE BURROWS, BOB STOKELY, DALE VRABEC, DON SHEPARD, DICK ALEXANDER, BOB BENTON, PAUL FULLERTON

SECOND ROW: TOM STIX, BRUCE WORCESTER, WARREN MARSHALL, BOB DALTON, FRANK WOLF, DAVE BARON, PAUL SALTMAN, BILL KARZAS, FRED WOOD, BUD MITTENTHAL

FIRST ROW: TOM TRACY, LEN HERZOG, HUGH CARTER, BILL WOODS, TOM HAMILTON, JACK OTTESTAD, CHUCK FORESTER, RUBE KACHADOORIAN





Y.M.C.A.



ALEX AND WES

Operating under the Wes Hershey motto: If there is a need, we fill it! the "Y" scanned every cranny of campus life to improve non-academic life. Beside the innumerable services within the "Y" offices and lounge itself the following "Y" expanded functions loomed important for the year:

A severe need for enlarging the training table was seen as scores demanded entrance to the "Y" luncheon clubs. Pacifying the overflow were Pat Glover and Harry Begg.

College man and college professor found humanity in informal evenings together through the "Y" Sunday Firesides. Super-host was Tom Tracy.

"Politics, Economics, Art, Music, Sex, Psychiatry, we have it!" was Carl Price's cry as Forum Chairman.

The spiritual requirements of Techmen were the prime consideration of hard-working Dick Buck as Church Relations Chairman.

And, if you look hard enough, Bill Boutelle may be discerned modestly appeasing the social urge.

The "Y" got a terrific boost this year in all its activities. In great part the success of the entire program may be attributed to the officers: Dick Alexander, Bill Muehlberger, Elroy Chinn, Dave MacKenzie, Burt Housman, Vern Edwards, Dave Metzler, and Jim Harder.



KNEELING: JOHN FEE; TOM TRACY; JIM HARDER; ELROY CHINN, SECRETARY; DAVE MACKENZIE, TREASURER; BURT HOUSMAN.

STANDING: FRANK WOLF; BILL MUEHLBERGER, VICE-PRESIDENT; PETER KNOEPFLER; DICK BUCK; WES HERSHEY, EXECUTIVE SECRETARY; VERN EDWARDS; DOROTHY KING; HARRY BEGG; DICK ALEXANDER, PRESIDENT; BOB CRICHTON; JOHN LEWIS; KON-HOCK KHAW.



TOM TRACY, EDITOR



TOP: TOM STIX, FACULTY; STAN HARRISON, HOUSES; BILL SEIDEN, ACTIVITIES; BILL BOUTELLE, CLASSES

BOTTOM: CHARLES SHALLER, SPORTS; HAROLD BAUGH, PHOTOGRAPHY; BURT HOUSMAN, SPORTS; ERLE BROWN, SPORTS



RALPH LOVBERG, PHOTOGRAPHY EDITOR

DICK KING, MANAGING EDITOR

BOB HAUFE, ART EDITOR



The BIG





BOB CRICHTON, BUSINESS MANAGER



AD STAFF: BOB CRICHTON, BRUCE ROBINSON, PETE HOWELL, RONALD CALDWELL, DAVE OAKLEY, KEN GARDINER, DAN KING, JIM ENSLOW, JIM GILLETT, MARCO ROMERO, BOB SMITH.

CHARLIE STEESE, BOB DAVIS, BUD KLARFELD, WALT MUDGETT, OLLY GARDNER, KENT STRATTON, BILL WOODS, JACK OTTESTAD, MILTON CARUS.

T

The BIG T activities this year are characterized by a complete lack of apologies. The staff has been a congenial, industrious crew with each man ready to accept responsibility and produce.

For this reason, the actual publication is an anti-climax to us. We had all our fun putting the book together.



PICTURE AT LEFT:

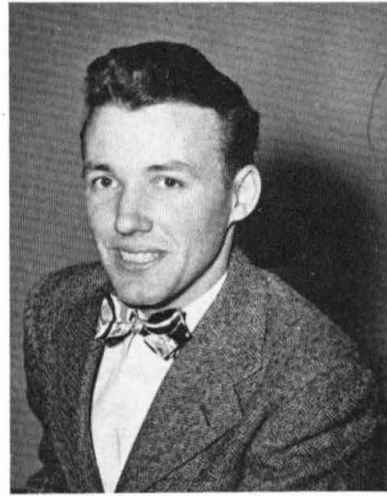
STANDING: MITCH COTTON, BILL WOODS, TOM STIX, DICK ROEHM, BILL BOUTELLE, JOHN BEAR, ERLE BROWN, DICK KING.

SECOND ROW: STAN HARRISON, BOB HAUFE, RALPH LOVBERG, BILL SEIDEN, CARL ANDERSON.

FIRST ROW: TONY MALANOSKI, DON MOORE, HAROLD BAUGH, DON LOVELACE.



LEN HERZOG, EDITOR



DICK KING, MANAGING EDITOR

ERIC JOHANSSON, LEE ROSS, BOB HAUFE, J. C. BEAR, BILL BOUTELLE, MITCH COTTON, STAN HARRISON, LEN HERZOG, DICK KING, JACK SCANTLIN, JIM HUMMEL, LOTHROP MITTENTHAL.

NOT PICTURED: BILL MUEHLBERGER, BOB KURLAND, BILL WRIGHT, JOHN LEWIS, TOM STIX, CARL PRICE, DICK MARSH, WALT DAVISON, JOHN WHITTLESEY, NEAL PINGS, EARL HEFNER, THORNE BUTLER, BILL GOTHARD, DON PETERSON, HAROLD BAUGH, PAUL SALTMAN, RALPH LOVBERG, TOM TRACY, STAN BOICOURT, BILL WHITNEY, JIM GILLETT, TONY MALANOSKI.





CALIFORNIA TECH

This year saw the California Tech grow in size and scope. Due largely to the efforts of guitar-strumming Editor Herzog, the paper achieved a "new look," expanding the columns from five to six, and lengthening them a coy three inches. The members of the staff soon learned the art of filling this added space and still keeping their feet on the desk. Despite an occasional butch, or attack of "resign-itis," the Tech reached new post-war heights, with good prospects of continuing the trend next year.



BILL BRADLEY, BUSINESS MANAGER

BUSINESS STAFF: ABNER KAPLAN, BILL BRADLEY, CHARLES STEESE



BRUCE WORCESTER AND HUGH CARTER, CO-EDITORS

'48
sd
 '47

ULRICH MERTEN, LEO BREIMAN, JOHN ROGERS, BOB KURLAND, JAMES KENNEY, JACK DYER, GEORGE BROWN, BERNIE RUDIN, GEORGE MERKEL, IRVING SULMEYER, TOM VREBALOVICH, BOB SMITH, VERN SMITH, FRANK HYLTON
 RALPH STONE, STAN BOICOURT, HUGH CARTER, CLEM SAVANT, SAGE BURROWS, KENT TERWILLIGER, JOHN HEATH, JOHN SCHUTZ



JOHN SCHUTZ, ADVISOR



DEBATING



HONOR POINT COMMITTEE: BOB STEWART, WARREN MARSHALL, BILL BOUTELLE, BUD MITTENTHAL, FRANK WOLF, MIKE SELLEN

HONOR KEYS

These men received the Student Body's highest award for outstanding participation in extra-curricular activities.

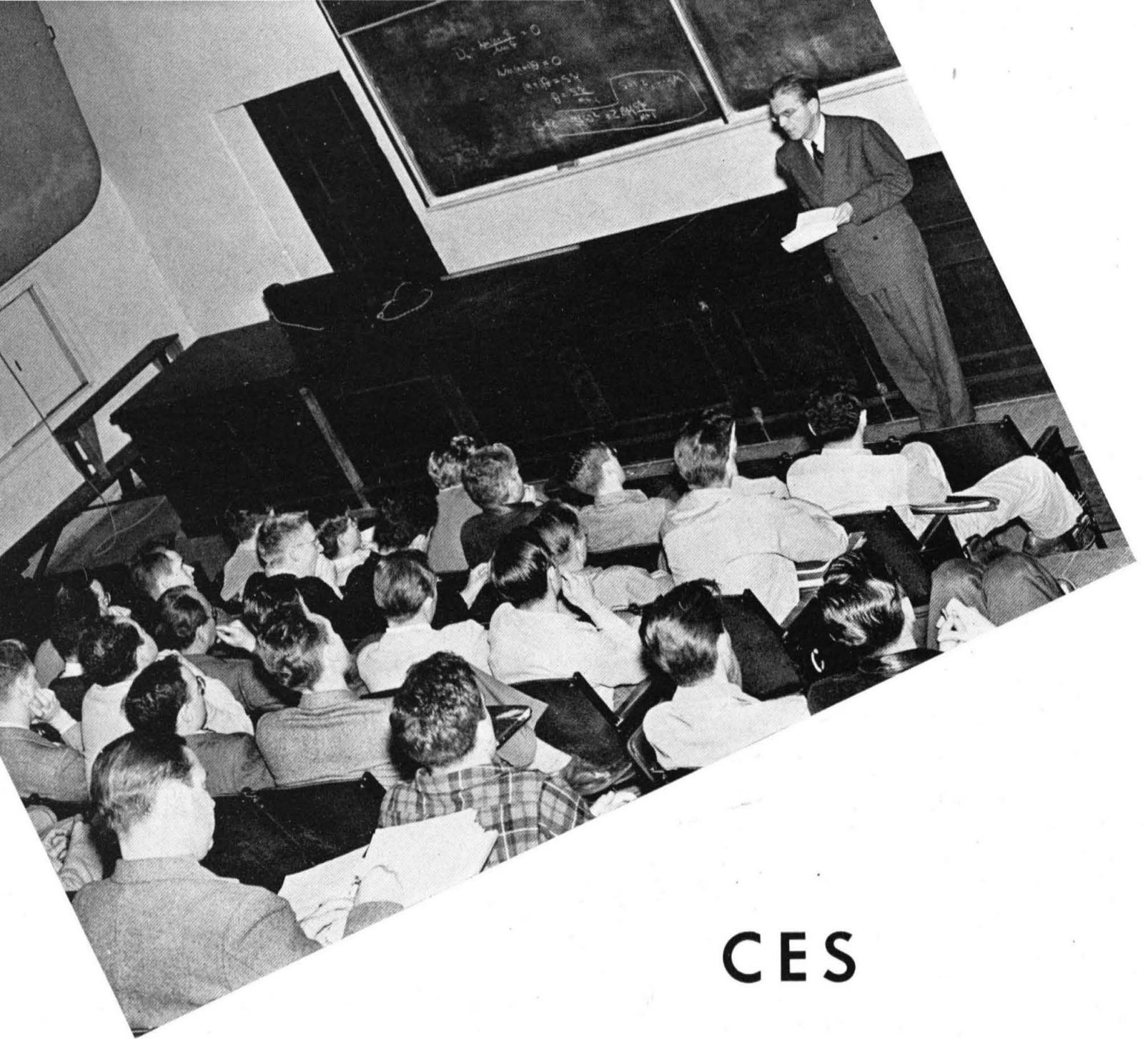
STAN BARNES
 BILL BOUTELLE
 ERLE BROWN
 SAGE BURROWS

STAN HARRISON
 BILL KARZAS
 DICK KING
 DON LOVELACE
 JACK MARSHALL

WARREN MARSHALL
 BUD MITTENTHAL
 BILL MUEHLBERGER
 JACK OTTESTAD
 BILL SEIDEN

LEN HERZOG
 DON PETERSON
 MIKE SELLEN
 TOM STIX
 TOM TRACY
 FRANK WOLF
 BRUCE WORCESTER





CES



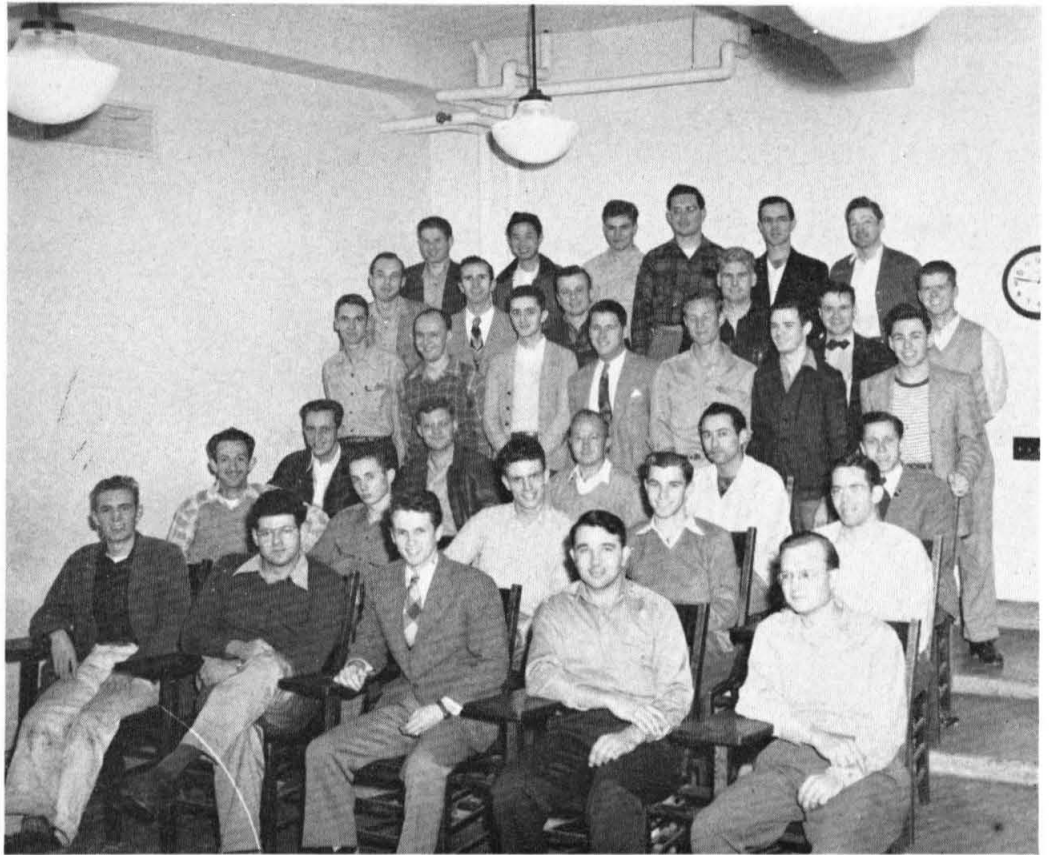
STANDING: PETER KYROPOULOS, BOB POINDEXTER, W. H. PICKERING, CHARLES SUSSKIND, JOE WECHSLER, WILLIAM BOBISCH

KNEELING: WARREN CHRISTOPHERSON, CHAN RYPINSKI, BOB DAVIS, TAYLOR FLETCHER

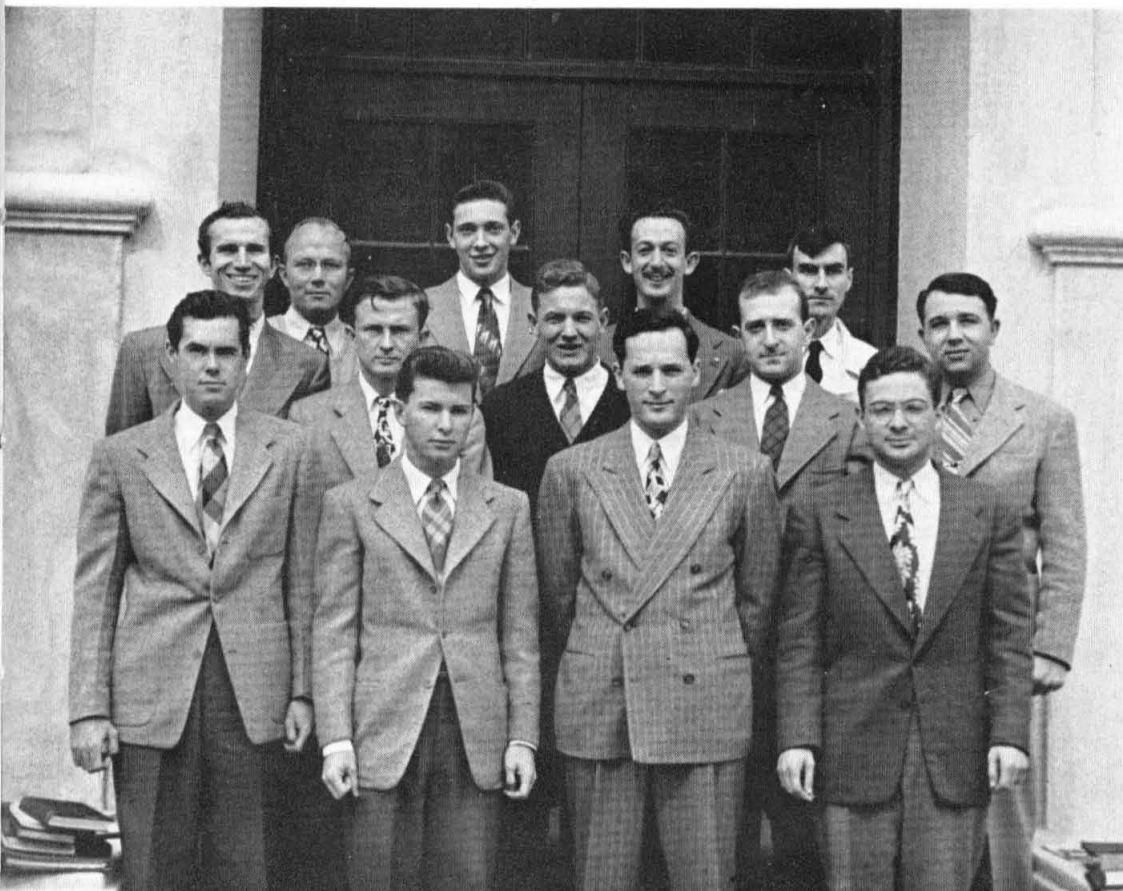
This was the first year of active functioning of the Consolidated Engineering Societies, and its popularity was indicated by the fine turn-outs at the Monday assemblies it conducted. All five societies combined, once each month, to present speakers on topics of general engineering interest. Some of these topics included: labor relations, industrial design, patent law, power engineering, and "perpetual-motion" devices.

ASME

FIRST ROW: HUGH CARTER, HERB PODELL, SEBA ELDRIDGE, ALLEN PUDER, NORMAN OLSON; SECOND ROW: DAVE BARON, AL FAY, CHUCK MOODY, FRANK WOLF, JOE BURKHOLDER; THIRD ROW: ED ROSKOWSKI, EARL BEDER, FRED GUNTHER, ROSS MEHL, JOHN ROACH; FOURTH ROW: DAVE REESE, DON SILLIKER, BRUCE GAVRIL, JEFF WILLIAMSON, WAYNE HERZIG, JIM HARDER, BILL SEIDEN; FIFTH ROW: JIM ALLEN, TOM VREBALOVICH, GEORGE MARTINEK, ORSON MITCHELL, DON WILKINSON, BOB POINDESTER, PRESIDENT; LAST ROW: HAROLD LINDERMAN, SAM FONG, DEAN RAINS, BOB KING, STAN HARRISON, DIRCK HARTMANN.



SAE



FRED GUNTHER, TOM LANG, DAVE BARON, PETER KYROPOULOS, ADVISOR.

TOM VREBALOVICH, IRWIN MARKOWITZ, WARREN MARSHALL, JOHN ATTIAS, ALLEN PUDER.

HENRY LONG, BOB PEDRAGLIA, JOE WECHSLER, ABNER KAPLAN.

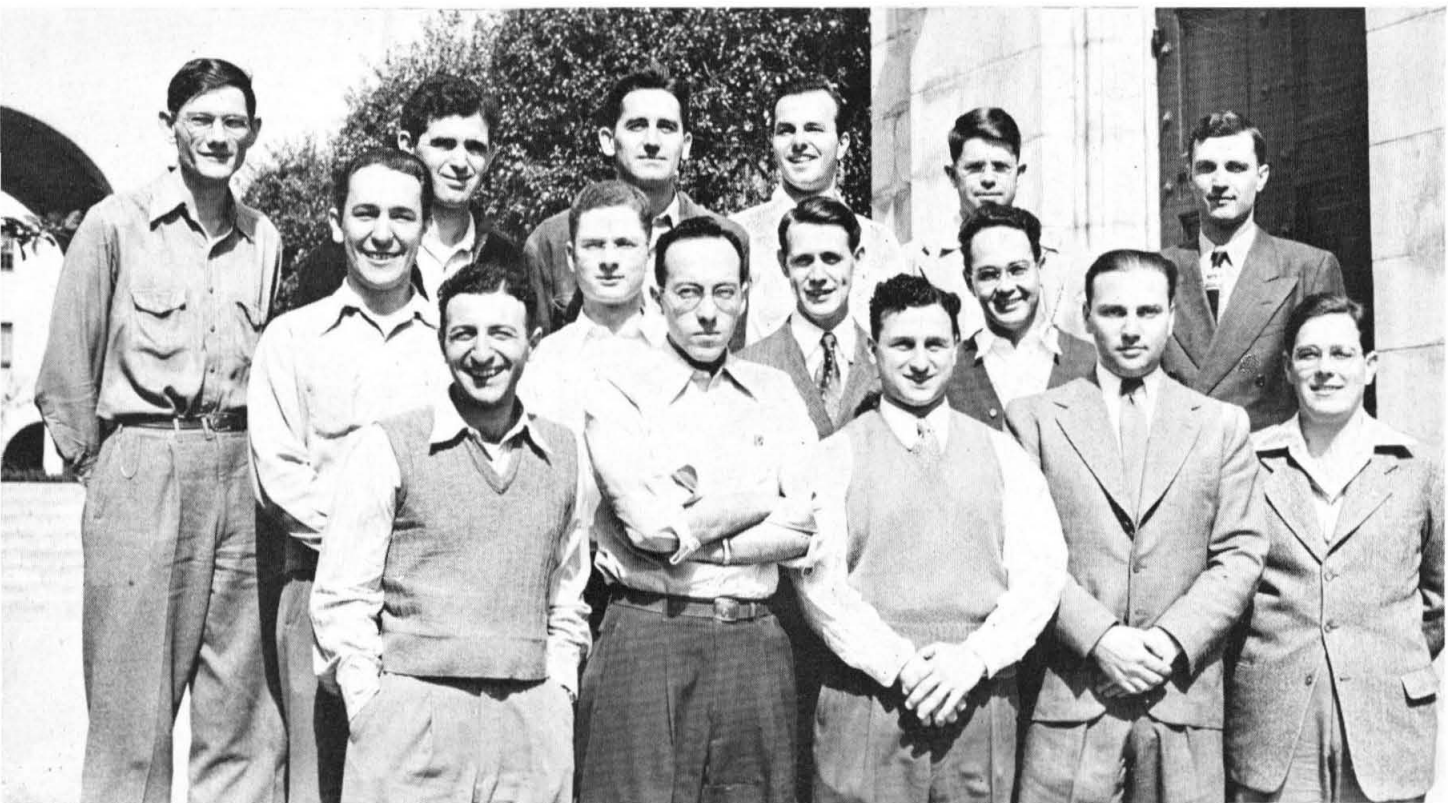


AIEE

FIRST ROW: JOHN SWAIN, WARREN CHRISTOPHERSON, SECRETARY-TREASURER; W. H. PICKERING, ADVISOR; TAYLOR FLETCHER, CHAIRMAN; ALAN BAGLEY. SECOND ROW: ERNEST BLAIR, ANTHONY DOOLIN, ED DOLAN. THIRD ROW: FRANK EMERSON, MARTIN ROBINSON, BOB HEPPE, WALT HIRSCHBERG, DON SPALDING, FRED KRASIN. FOURTH ROW: DICK ALEXANDER, DOUG STRAIN, BOB WATERS, CLEM SAVANT, GLEN MITCHEL, BOB WALQUIST. FIFTH ROW: FRED FLAM, BOB WINCHESTER, JOHN McPHATE. SIXTH ROW: KEITH HENDERSON, BOUDE MOORE, RICHARD PERRY, BUD MITTENTHAL, STEVE MORRISON, BILL CONNER. TOP ROW: FRED DRURY, WALT PEVOST, MYRVIN GIFT, RUPERT BAYLEY, ENSIGN DRAKE, BILL DIXON.

FIRST ROW: WALT HIRSCHBERG, BUD MITTENTHAL, CHAN RYPINSKI, CHAIRMAN; CHARLES SUSSKIND, FRANK EMERSON. SECOND ROW: WAYNE SEFTON, MARTIN ROBINSON, JOHN HARRIS, DOUG STRAIN. THIRD ROW: FRED KRASIN, PAUL KIDDER, JOHN SWAIN, BOB HEPPE, TAYLOR FLETCHER, MERLE MORGAN.

IRE



ASCE



THIRD ROW: MARSHALL POND, PETE LAMBERT, JED HARRISON, IRVING SULMEYER, DOC HYBERTSEN, JAMES MARTIN, JOE DOBROWOLSKI, CHARLES KNIGHT, GEORGE PETZAR, DAVE BROWNE, DAVE POWELL.

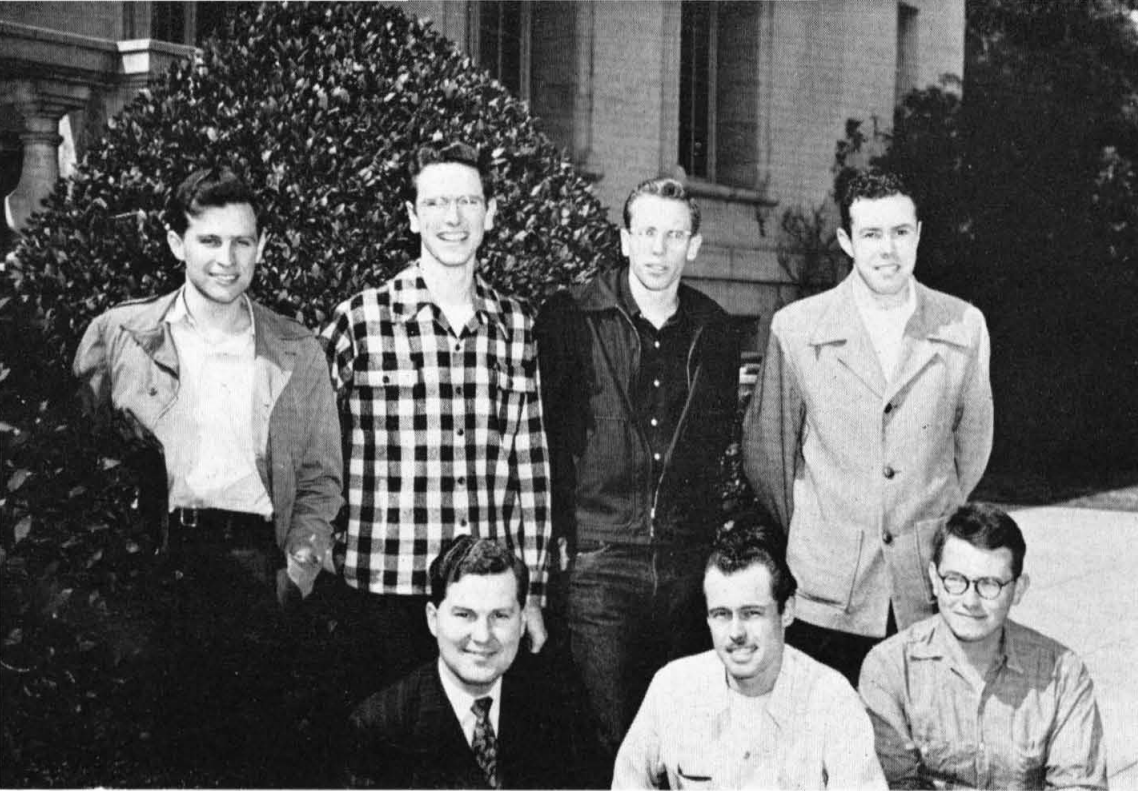
SECOND ROW: BOB GASKELL, JOE WILLIAMS, BUD CARROLL, GEORGE ROE, MARV BLAIR, BOB LYNN, BOB DALTON, STU BUTLER, CHUCK FORESTER, JOHN RICHARTZ.

FIRST ROW: HAROLD LINDERMAN, ALBERT WONG, TOM TURNER, WALLACE BARNES, TOM WATERS, PRESIDENT; DEL HAUSMANN, SECRETARY; JOHN KARIOTIS, TREASURER; RAY DAVIS, GENE SIX.

RADIO CLUB



STANDING: VINCE HONNOLD, DON ROLPH
SEATED: WALT MUDGETT



BIOLOGY CLUB

HERB HULL, JAMES YOUNG, JERRY MATTHEWS, JOHN SPIKES
GRIFFITH BARLOW, FRED BURT, JOHN THOMAS



MATH CLUB

AMASA FORRESTER, JOHN McCARTHY, LEONARD ZABLOW, FRED SMITH, FRED MACHETANZ, BOB BROWN, RICHARD PIERCE

BOB DICKSON, STAN ZWICK, DON BRATTON, BILL DREW, JIM HUMMEL

CHEM CLUB



FRANK ROCK, FRANK VALLE-RIESTRA, BOB HENIGSON, CARL ANDERSON, PETE HOWELL, PROFESSOR LUCAS, HOWARD GREEN, DAVE POLLARD, AARON FLETCHER, PRESIDENT JOHN RASMUSSEN, BILL BURRISS, BOB PEELER, SID GIBBINS, DAVE BANKS

DAN DEUTSCH, PAUL FULLERTON, DAVE WILFORD, JACK INMAN, ROGER JOHNSON, BILL BAILEY, JOHN VROLYK



MYRON ARCAND, JIM HUMMEL, GEORGE STARBUCK, TOM LANG, JACK MARSHALL, FRANK BUMB, BILL KARZAS

BILL SEIDEN, BILL BOUTELLE, REX RAGON, ULRICH MERTON, JOHN GREENE, BOB PARKER, DON PETERSON, DEAN DAILY, J. HYMER

TOM TRACY, DON MOORE, PAT DUNBAR, LESTER GOODWIN, BILL PALMER, BILL JARMIE, DICK KING, JAMES WIDENOR, ALEX DRAPES, DIRECTOR; DICK BUCK, PIANIST

GLEE CLUB



ALEX DRAPES, DIRECTOR
DICK BUCK, PIANIST

MUSICALE

DICK TALMADGE, BILL BOUTELLE, DICK SCHOEN, DAVE LIBERMAN, RAY DAVIS, ART KOCH, JOHN MCCARTHY, GENE ZWICK, BERNARD RUDIN

LEONARD ZABLOW, SOL FEFERMAN, FRANK VALLE-RIESTRA, AMASA FORRESTER



BAND



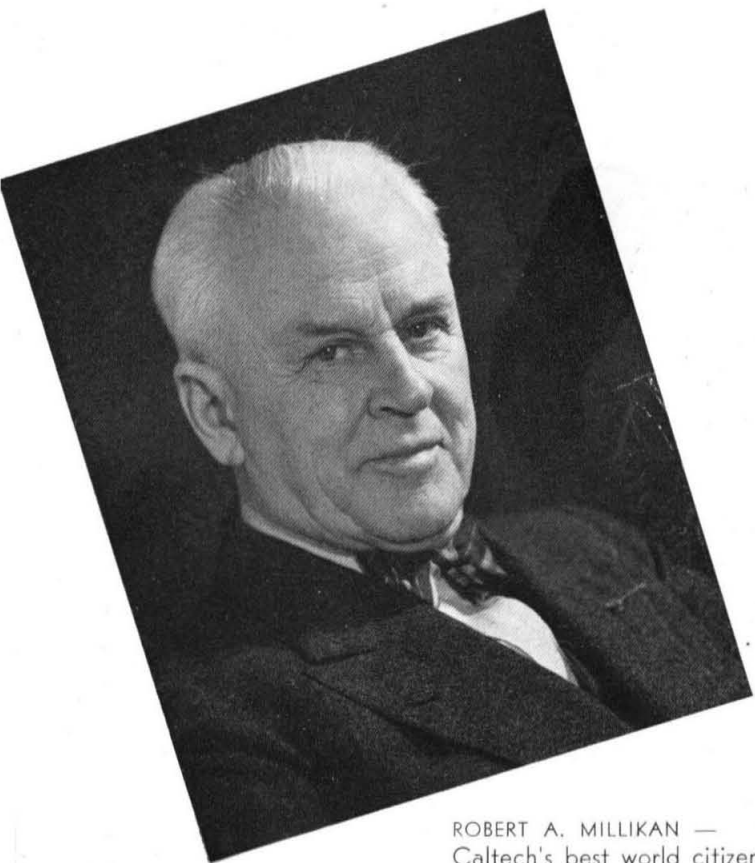
TERRIERE, ROE, EDWARDS, MARSHALL,
SMYTH, BLOOM, ALEXANDER, YOUTZ, HED-
RICK, STONG, SELLEN, HERZIG, SAMPSON,
GAVRIL

FOSSIER, ZWICK, DIXON, GOULD, HOWARD,
DRURY, LOVELACE

ORCHESTRA



MATZNER, CALLEY, SMITH, TAYLOR, CARUS,
SHAW, DE GRASSE, BIÉLER, SUSSKIND,
SAMPSON, MATHEWS, LOVELACE, COLLINS,
SMYTH, DIXON, VAN LINT. JOHN BROCK-
MAN, DIRECTOR.



ROBERT A. MILLIKAN —
Caltech's best world citizen



CHESTER STOCK —
He never got in the BIG T alone
with a bone

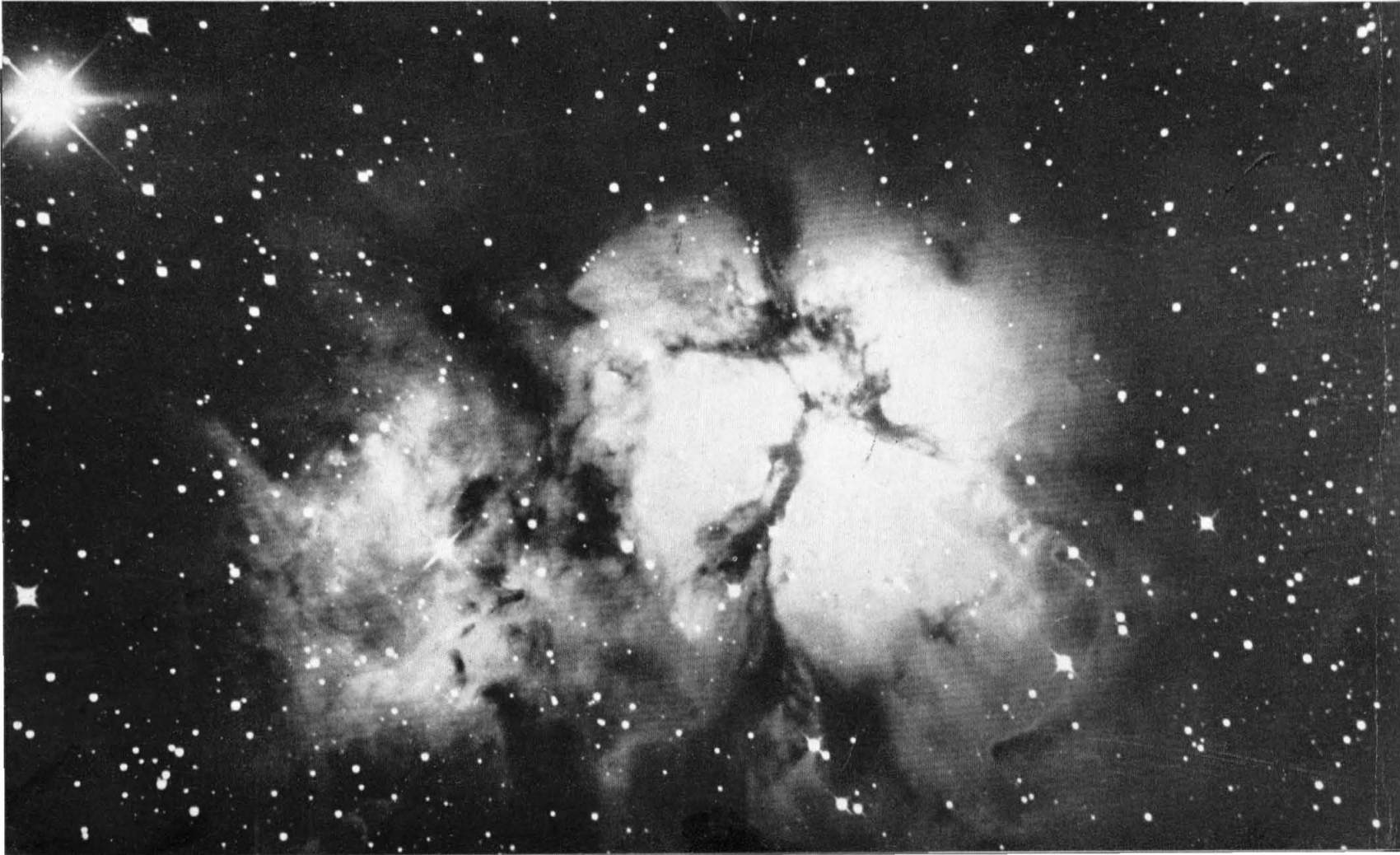
CAMPUS FAVORITES

MARTHA DRAKE —
Her interest in student welfare
goes far beyond the registrar's
office



ELLEN BUNTON AND SUE HUCK —
The Houses never had it better







HOUSES



THE INTERHOUSE COMMITTEE



RUBEN METTLER, RICKETTS



NEVILLE LONG, FLEMING

RESIDENT ASSOCIATES



CHARLES AUERBACH, DABNEY



TOM DAVIS, BLACKER



E. C. GOLDSWORTHY
MASTER OF THE STUDENT HOUSES

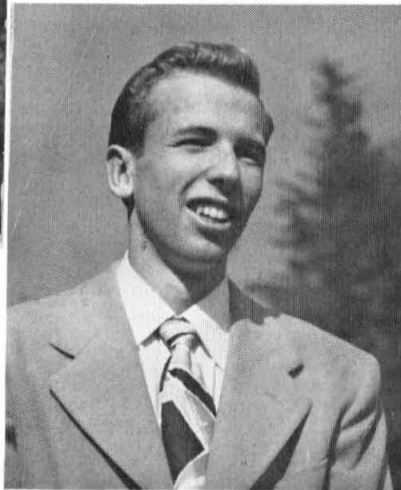


BOB BENTON

JERRY MATTHEWS

JOHN VROLYK

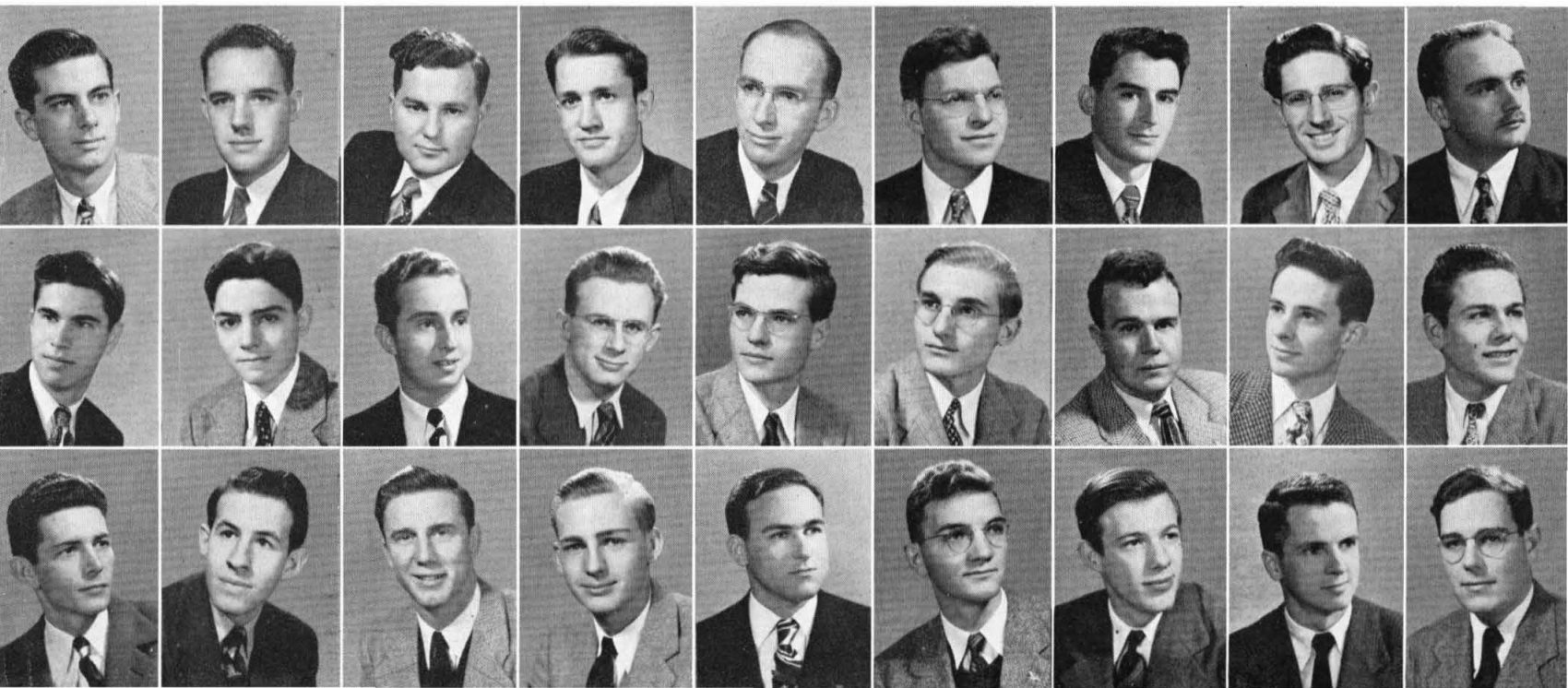
GENE MOORING

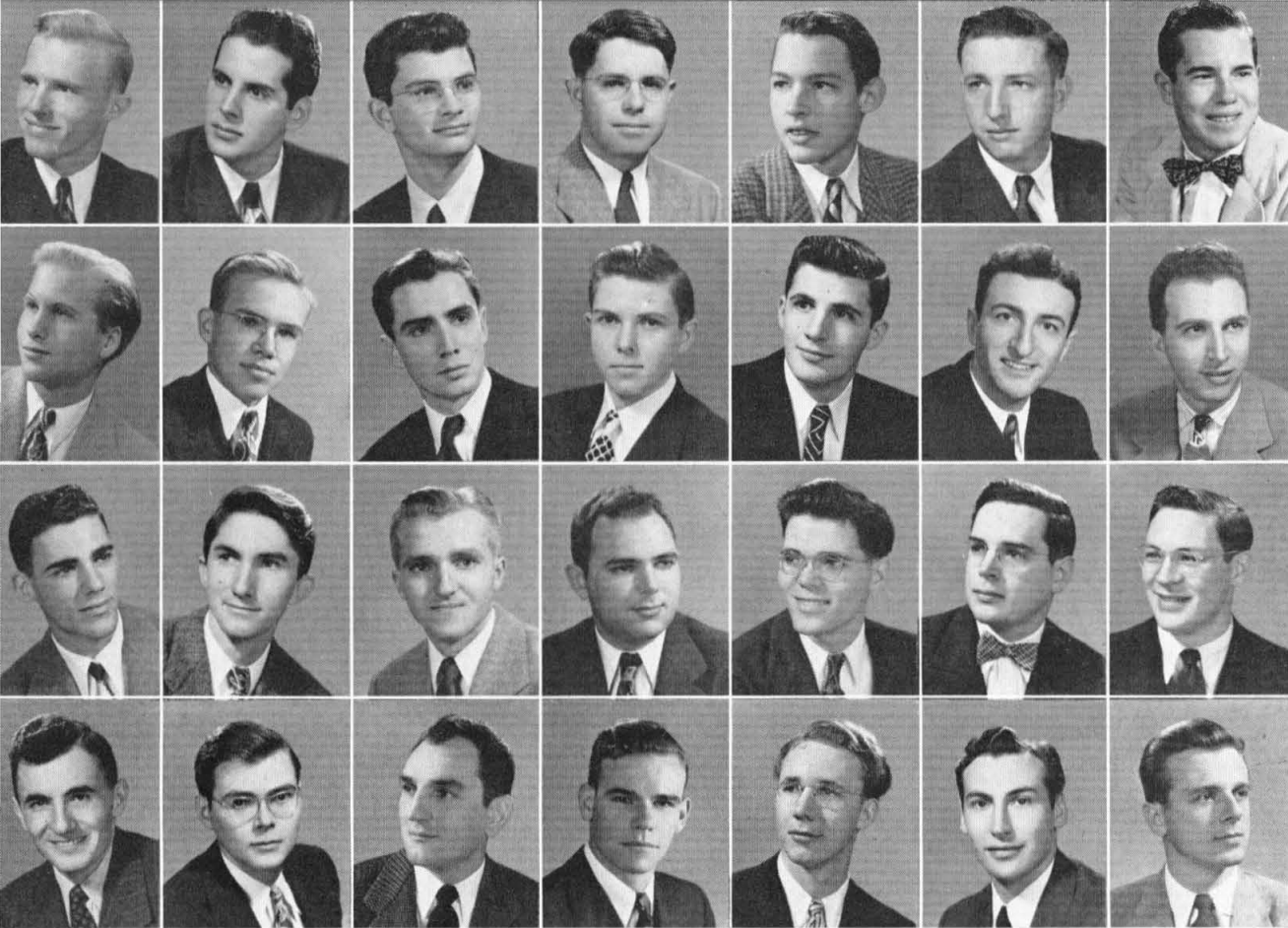




THROOP CLUB

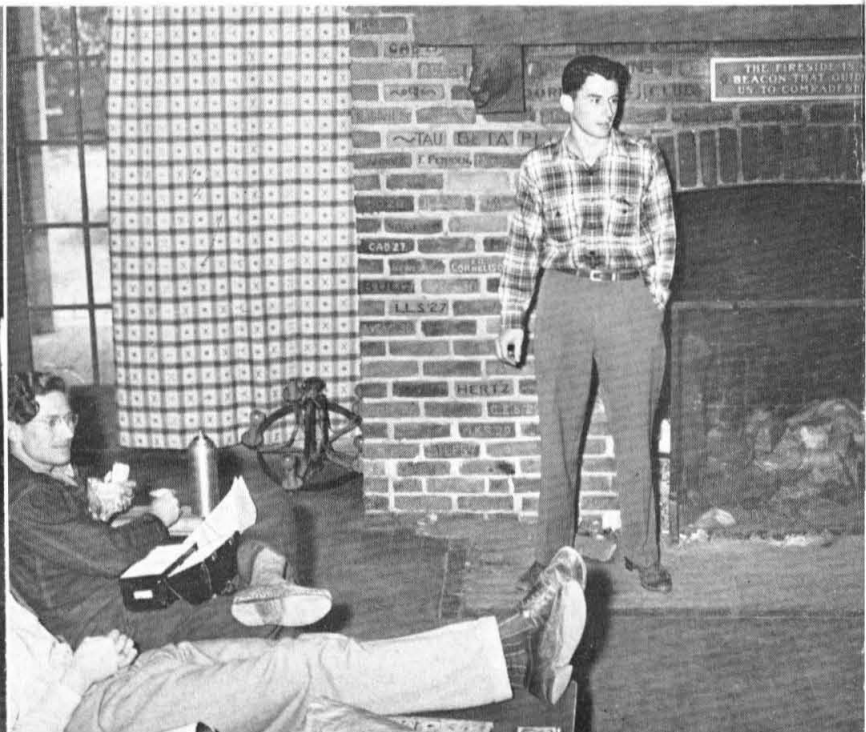
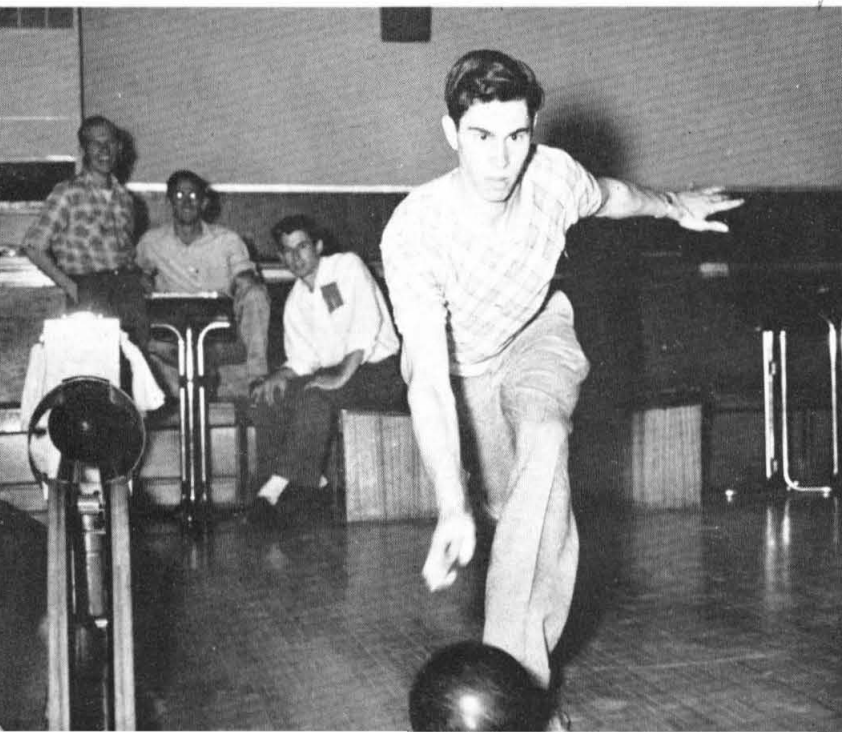
ALAN BAGLEY, DAVE BANKS, GRIFFITH BARLOW, BILL BASHAM, RUPERT BAYLEY, EARL BEDER, BOB BENTON, GALT BOOTH, FRANK BRADY
 WOODY BRATNOBER, JULIAN BRODY, RICHARD BUCK, WILLIAM CALHOUN, DOUG CALLEY, SIG CHAMER, WARREN CHRISTOPHERSON, BOB COBB, BOB CONNELLY
 BILL CONNER, JACK COPELAND, LINN CROSSWHITE, ED DAVIS, ANTHONY DOOLIN, FRED DRURY, WALT EATHERLY, SEBA ELDRIDGE, FRANK EMERSON





RALF ERICKSON, HANK FASOLA, FRED FLAM, TAYLOR FLETCHER, JAMES FUNSTEN, ABRAM GEORGE, SID GIBBINS
 RAY GREUTERT, JOHN HALLSTROM, DEL HAUSMANN, PAUL HELFREY, BOB HENIGSON, WALT HIRSCHBERG, JERRY JACOBS
 DON JENNINGS, ROLAND JOHNSON, SID JONES, ELI KATZ, BILL KELLEY, BOB KING, LAWRENCE KNIGHT
 ALI KOCAMAN, ART KOCH, JOHN KOSTELAC, WARREN KREML, TOM LAYTON, JAMES MARTIN, GEORGE MARTINEK

THROOP CLUB



Throop Club, the powerful co-operative organization for off-campus Caltech men, made considerable progress in advancing its already important position in campus affairs during the year. Capable leadership coupled with energetic support from the members increased the membership from sixty to eighty. An important factor in promoting this advance was the presence on registration day of President Bob Benton and his wife in the line of registering Freshmen. Using his blonde wife as secretary and decoy, he absorbed ignorant and well-meaning freshmen into the club's membership. A stag party during the first term did much to arouse the interest of the members in club activities.



Throop Club was very active socially during the year. In addition to numerous record dances, all three terms were highlighted by major social events which were well attended by the members. Of special importance first term were the exchange dances with Pomona and Scripps—giving the neophytes the essential opportunity to establish contacts—and the Interhouse Dance, which featured decorations in the Early Cro-Magnon motif complete with an oil painting of a squashed bug. The second term featured a party at the Theatre Mart, a dinner dance at the Club, the annual Throop-Ricketts Formal in Dabney Lounge, a barn dance, and a bowling party. The third term saw the officers' installation dance, a hay ride and picnic, and a beach party.

JERRY MATTHEWS
RAY MAURUS
ALBERT McEUN
DON MERRIFIELD
ORSON MITCHELL
GENE MOORING



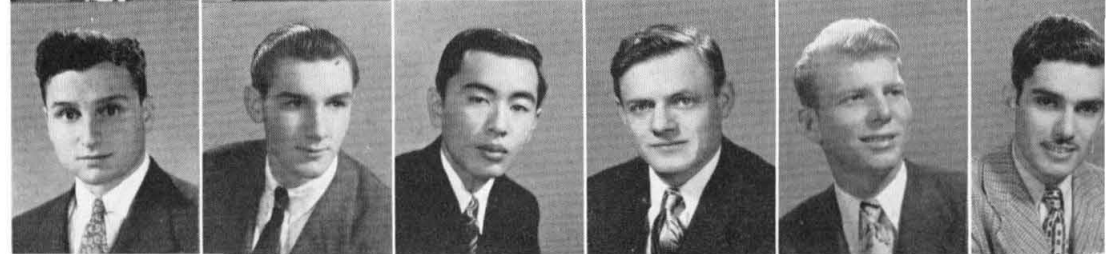
DICK MORGAN
BOB MUNRO
IRVING ODGERS
PETER PAULING
PAUL PAYNE
RICHARD PERRY



WALT PFEIFFER
BOB PHILLIPS
HERB PODELL
JOHN RASMUSSEN
DAVE RATHJE
BERNARD RUDIN



CHAN RYPINSKI
HAYDN SANDERS
KAZ SATO
LELAND SATRE
NORMAN SCHROEDER
HENRY SHAPIRO





THROOP CLUB



DON SILLIKER
GENE SIX
LOUIS STALKAMP



ED STERN
BRUCE STOWE
DOUG STRAIN

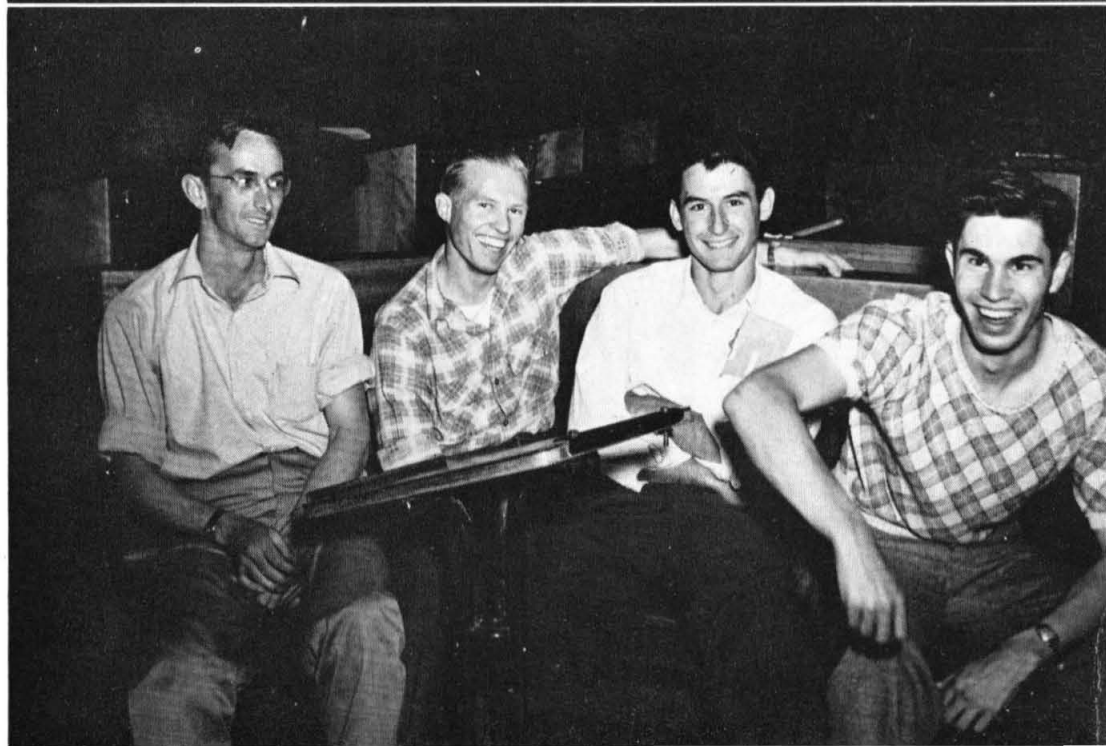
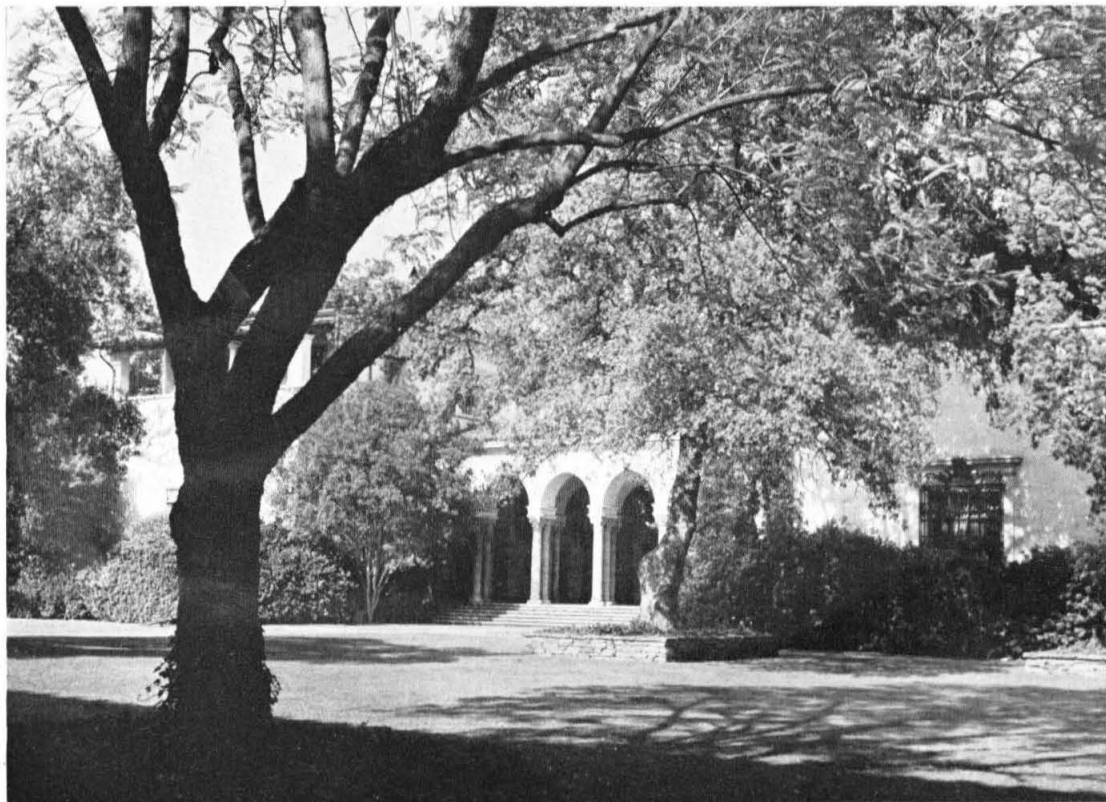


JOHN VROLYK
KENT WANLASS
ALFRED WATERS

In the field of sports, Throop Club ran over all the houses so far as baseball, softball, and bowling are concerned, but fared rather badly in the others. Track and cross-country were particularly heart-breaking for the reason that the club's only man out for these sports, Bob Cobb, won all his races, but failed to gain credit for the Club because three men from each house are required to compete. This misfortune has been a thorn in the Club's side ever since.

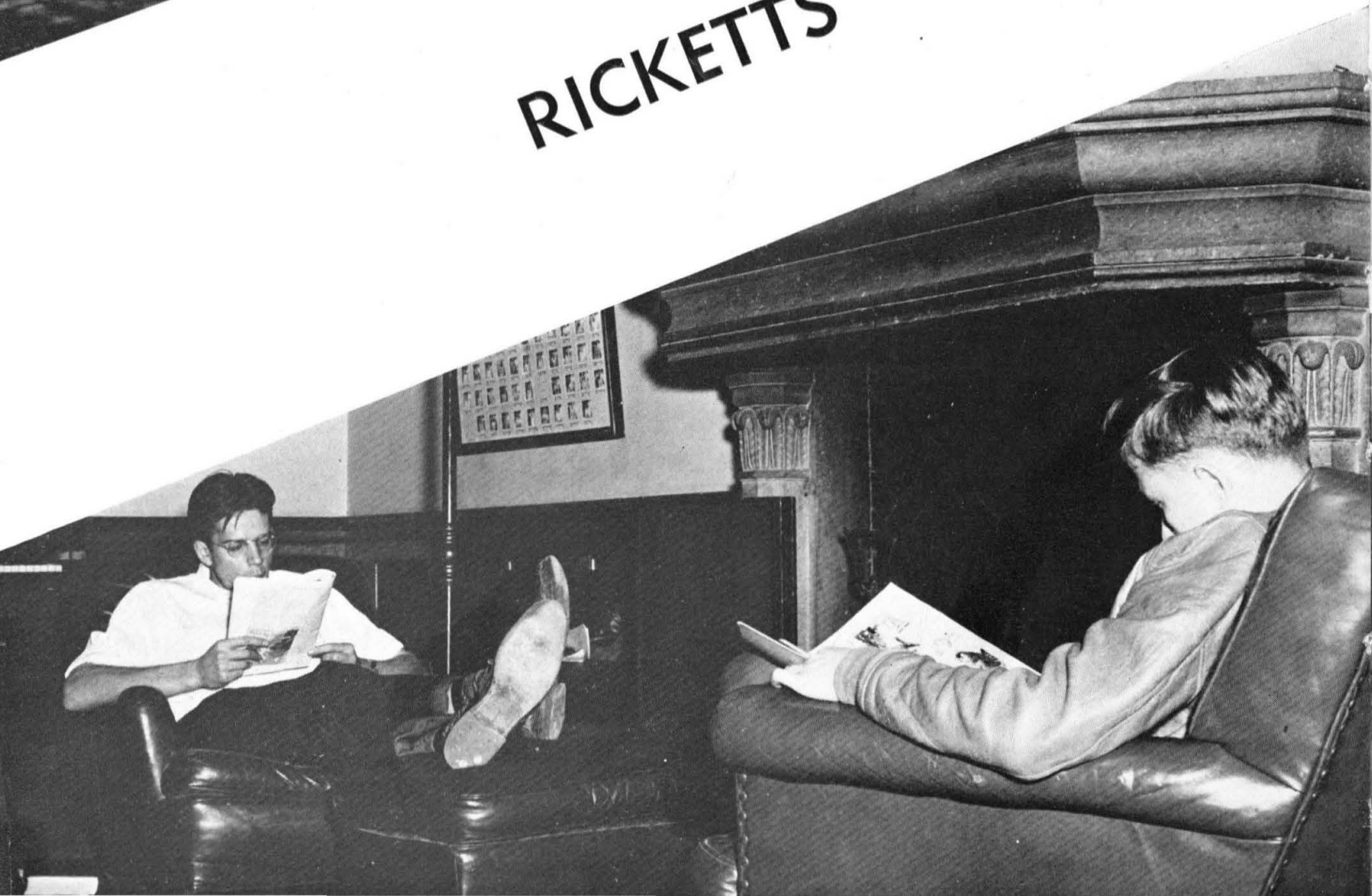
Bob Benton served as president, leading a crew of eager aides: vice-president, Jerry Matthews; Secretary, John Vrolyk; Treasurer, Gene Mooring; Social Chairman, Galt Booth; Athletic Manager, Haydn Sanders; Lounge Chairman, Irving Odgers; Pledgemaster, John Kostelac; Self-styled Pledge-harrier, Chandos Rypinski.

A comfortably large number of freshmen were initiated this year. Their initiation provided labor for the frosh and fiendish amusement for the upperclassmen. To set them off from others on campus., Throop frosh were distinguished by trousers legs rolled up to half-mast. The morality of the group was investigated through a comprehensive questionnaire, the results of which, when plotted on a distribution curve, were found to be in full accord with Tech standards. The informal initiation began as a dinner and ended in a trial of each pledge by a prejudiced upperclass jury, in which sins committed during the initiation period were enumerated and sentence handed down. The end result was a good display of individual and group talents.





RICKETTS





The able president of Ricketts this year was long Bob Dalton, who led the house (or was he chased?) to new heights, charming one and all of the house's dinner guests with his suave manners and burning cheeks. Jeff Williamson, proponent of the fast buck, fulfilled the fondest hopes of his friends and the worst fears of the taxpayers in his role as house treasurer. A master of the mot juste, he sparked up a multitude of routine house functions. Bob Haufe served long and ably throughout the year as decorations chief for the house dances, and did much to substantiate the Kremlin's contention that Western art is completely decadent.

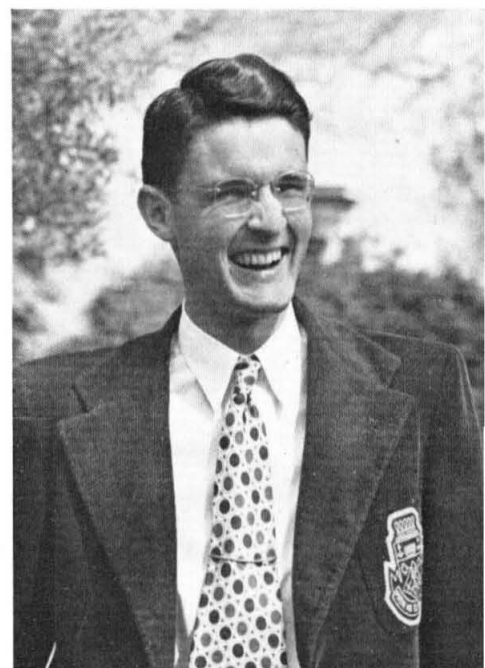
Ricketts upheld its reputation for student leadership in the number of ASCIT officers elected from its ranks. These included Bruce Worcester, student body prexy; Tom Tracy, Big T editor; Bill Bradley, business manager of the California Tech; and Bill Shippee, first representative at large.

As regards the more solemn and sacred aspects of college life, Ricketts House again took the lead. Under the kindly religious leadership of Exalted Prophet Blackie Stone, the freshmen were soon indoctrinated into the age-old rites of worship to Ball Pall, great spherical entity—infinite in radius, infinitesimal in thickness, with the sun as its geometric center.

JEFF WILLIAMSON, BOB PILLING, DAVE HOGNESS



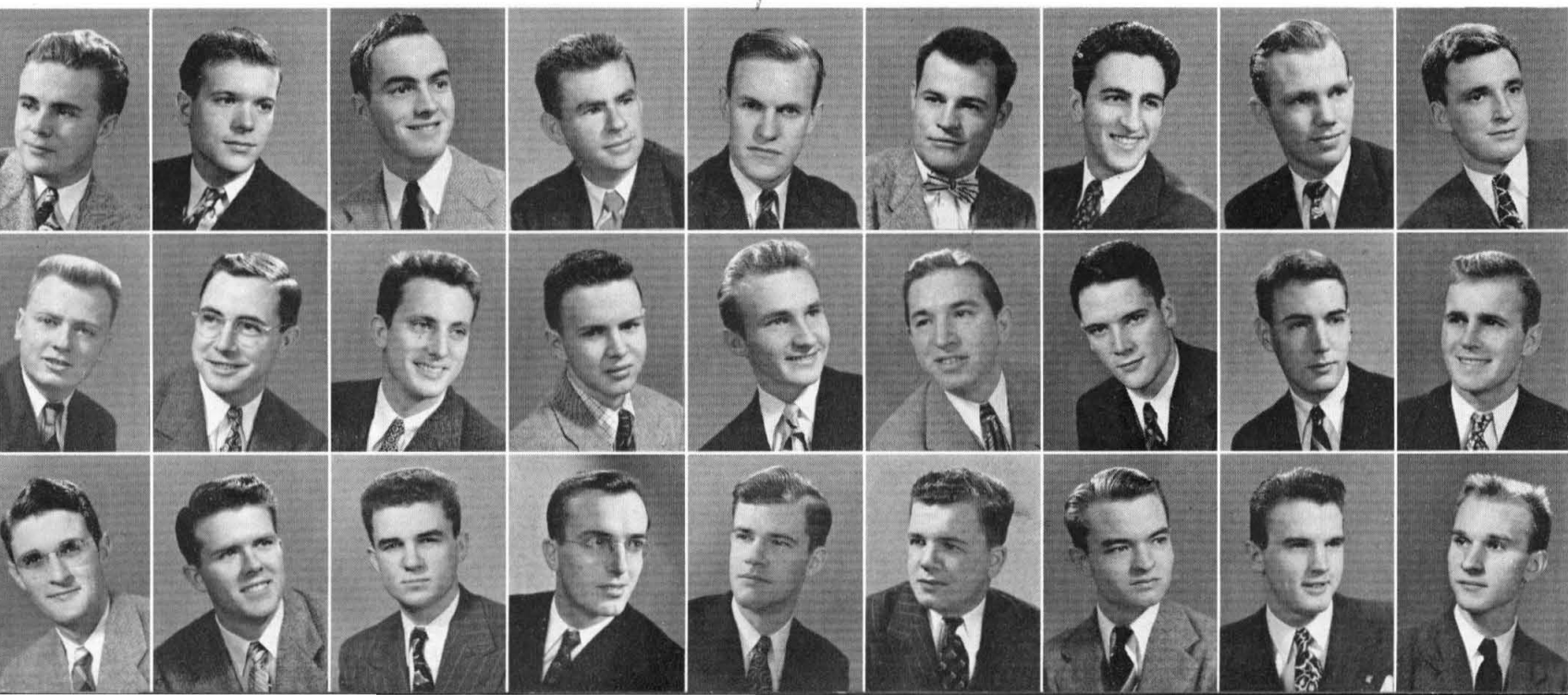
BOB DALTON, PRESIDENT





RICKETTS

ROGER ANDERSON, MILT ANDRES, DON ASQUITH, HAROLD BAUGH, HARRY BEGG, MARV BLAIR, STAN BOICOURT, TED BOWEN, BILL BRADLEY
 DON BRATTON, DAVE BROWNE, STU BUTLER, RONALD CALDWELL, MILTON CARUS, ANDREW CHECK, PHILIP CONRATH, BOB CRICHTON, LARRY DAHM
 BOB DALTON, ROBERT DARROW, PAT DOHERTY, ALEX DRAPES, BILL DREW, PAT DUNBAR, DAVE DURHAM, JACK DYER, ERNEST DZENDOLET



Outstanding performances by Ricketts athletes in interhouse competition were made in the fields of skiing and crew racing.

The Ricketts House ski team rode roughshod over all contenders in the Interhouse Ski Meet at Snow Valley, taking five out of the first seven places. Ollie "Speed of Light" Gardner, red-headed ace, set the pace on the short slalom course, proving himself to be greased lightning on the boards. The second best time was turned in by Pete Price, followed by Bill Bradley in fourth place. Marv Blair and Blouke Carus completed the rout by capturing sixth and seventh places.

Led by Captain "Speed of Light" Shippee, the Ricketts House Crew ran roughshod over all competition under the lights of Mountain Oaks indoor arena. Stalwart crewmen Ted Bowen, Bob Lynn, and Jim Wilcox formed the nucleus of an indefatigable slippery throated combination as they "poured it on" on the "foam stretch". John "Hot Lips" Moss and Dave Durham teamed up to win spectacular victories in the Flamer contest. Supremacy in these events was undoubtedly due to spirited rivalry and unceasing endeavor on the part of house members to gain the coveted positions on these teams. Spectator interest and house support reached an all-time zenith at these stirring Saturday night sporting events.

With Carl "Speed of Light" Fox showing the way, the Ricketts Bowling team rode roughshod over the majority of competition. Exhibiting superior skill and ability, Bill Root, Roger Anderson, and red-headed ace Bob Lynn demonstrated their prowess on the polished boards by compiling near professional averages.

In other sports Ricketts fielded highly spirited and courageous aggregations. Al Fay, Rube Kachadoorian, Bob Winchester, Howie Lewis, and Bob Dalton were among the intrepid athletes who represented Ricketts throughout interhouse competition.





RICKETTS

The 1947-48 social season found Ricketts brilliantly maintaining its famed tradition for excellence. Again demonstrating their leadership proficiency, the Rowdies staged the first Apache dance ever held on campus. An authentic atmosphere of the iniquitous Paris Latin Quarter was created by the shabby, candlelit (for the first hour) basement setting. In vigorous reaction to the New Look the specified costume for women was dresses two inches above the knee. One of the most attractive features of the dance was the ingeniously arranged ladder entrance.

In the best tradition of barn dances, the two Ricketts affairs at Mountain Oaks were four-keg successes. Much of the energy of the gala evenings was devoted to an enthusiastic revival of the polka and schottische.

For the Interhouse Dance, Ricketts reached another pinnacle of decorating success with the transformation of its lounge into Newcastle Prison of medieval days. Flickering torchlight revealed dungeon-like walls hung with spider webs and assorted instruments of torture.

Among the other interesting events occurring in Ricketts was the traditional dinner visit of a movie star to the house; this year "Casanova" Stratton brought Jane Powell of M. G. M.

To aid the freshmen in meeting feminine prospects, and to fill out the rosters in the upperclassmen's little black books, several exchange dances were arranged by Social Chairman Bob Pilling. Ricketts men were exposed to all varieties of eligible women through exchanges with Scripps, U. C. L. A., Oxy, P. C. C., and Bullocks, giving a selection wide enough to satisfy even the most discriminating of tastes. A Valentine's formal, a theater party, beach parties, dances following the big athletic events, and parties held by individual alleys completed the social activities.

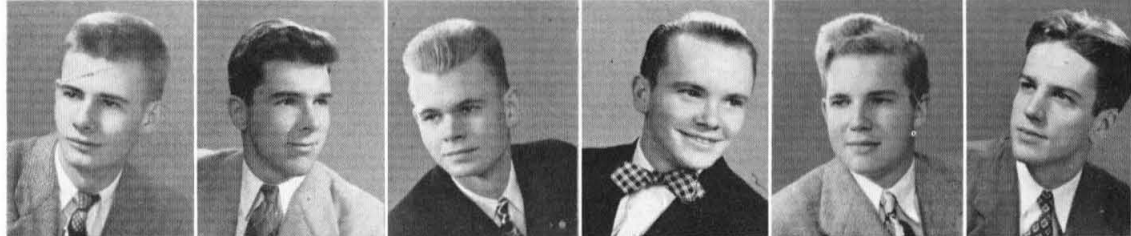
DAVID ELLIOTT
JAMES ENSLOW
AL FAY
JAMES FEHRENBACH
CHUCK FORESTER
CARL FOX



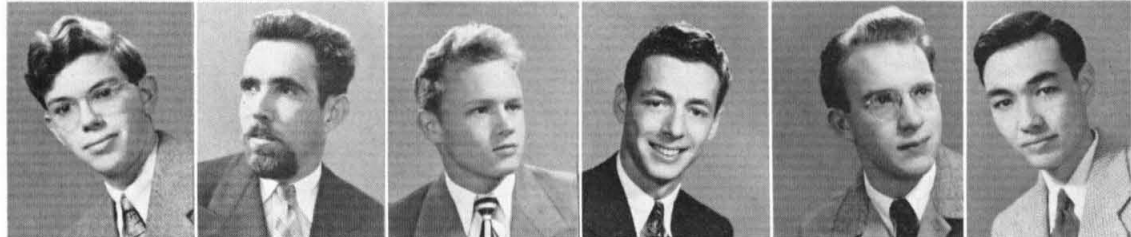
KEN GARDINER
OLLY GARDNER
BRUCE GAVRIL
JIM GILLETT
JOHN GREENE
RONALD GREENE



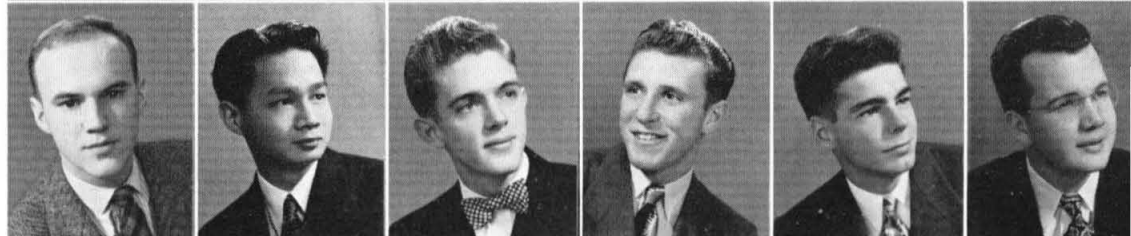
JIM HAAKE
WILLIAM HAEFLIGER
PHIL HALVERSON
BOB HAUFE
CARL HIRSCH
DAVE HOGNESS



JOHN HOLMES
ALEX HOLSER
BRAD HOUSER
PAUL HOWARD
JAMES HUMMEL
WALTER JOHN



ROGER JOHNSON
KON-HOCK KHAW
DAN KING
BOB LYNN
HOWARD LEWIS
ROBERT LORD

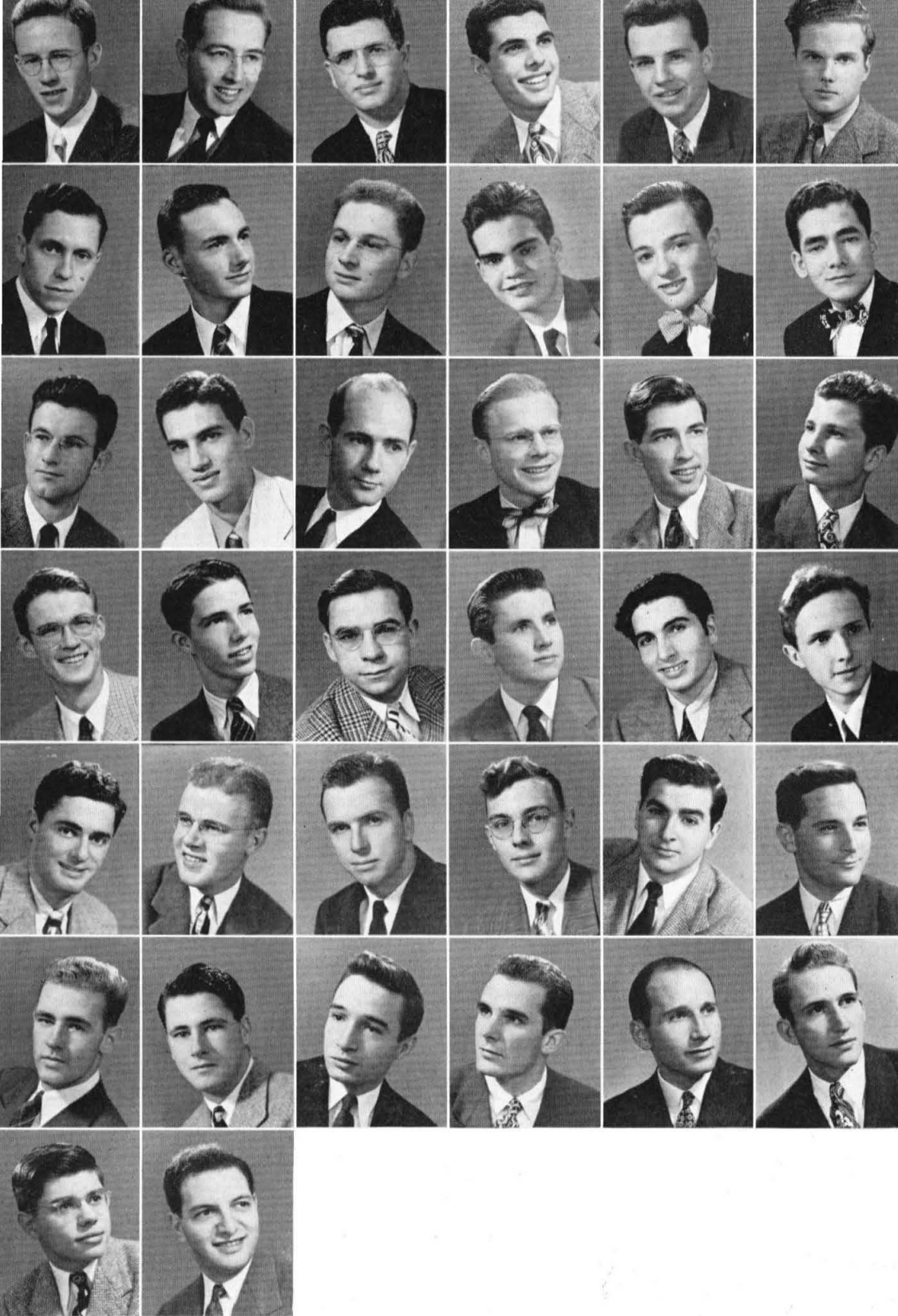


JAMES MALONE
IRWIN MARKOWITZ
MONTE MARKS
ROSS MEHL
ULRICH MERTEN
REHA MESARA



JOHN MOSS
BILL MYERS
RITCHEY NEWMAN
DAVE OAKLEY
DON OTTO
ROBERT PEDRAGLIA





DON PETERSON
BOB PILLING
TED POLK
VICTOR PORIZKY
PETE PRICE
JOHN RIDER

JOHN ROACH
HARVEY ROBERSON
MARTIN ROBINSON
SERGIO RODRIGUEZ
GEORGE ROE
MARCO ROMERO

BILL ROOT
AL SERENO
BOB SCOTT
BILL SHIPPEE
JACK SMITH
RICH SMYTH

WIN SOULE
CHARLES STEESE
BOB STONE
KENT STRATTON
HAROLD STREAKER
DICK TAYLOR

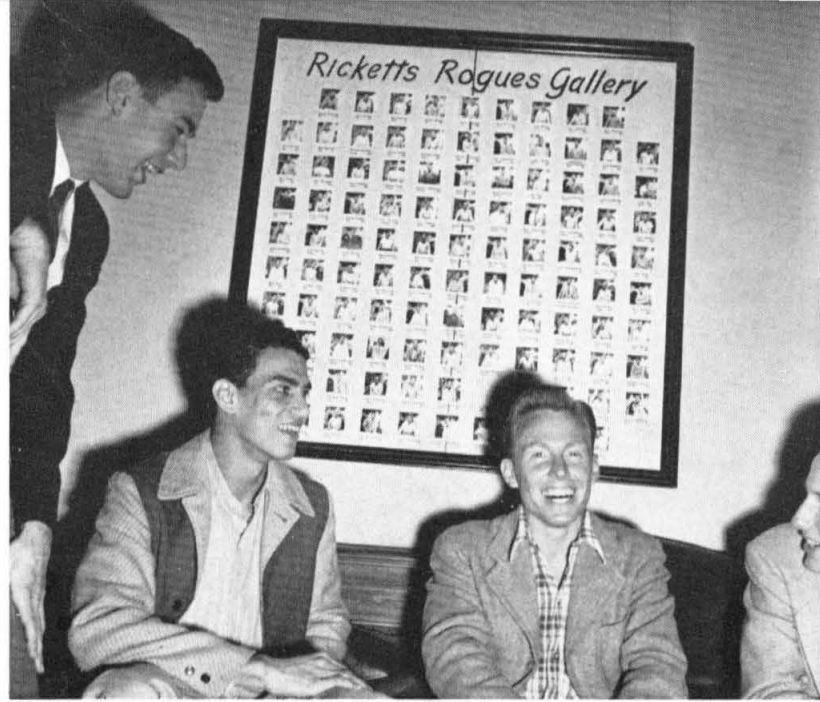
JAMES THORPE
TOM TRACY
BILL TRIMBLE
VICTOR VAN LINT
DAVID VIGLIERCHIO
JOE WECHSLER

JIM WILCOX
JEFF WILLIAMSON
ROBERT WINCHESTER
GEORGE WOODWARD
BRUCE WORCESTER
HARVEY WRIGHT

DICK WRIGHT
STAN ZWICK

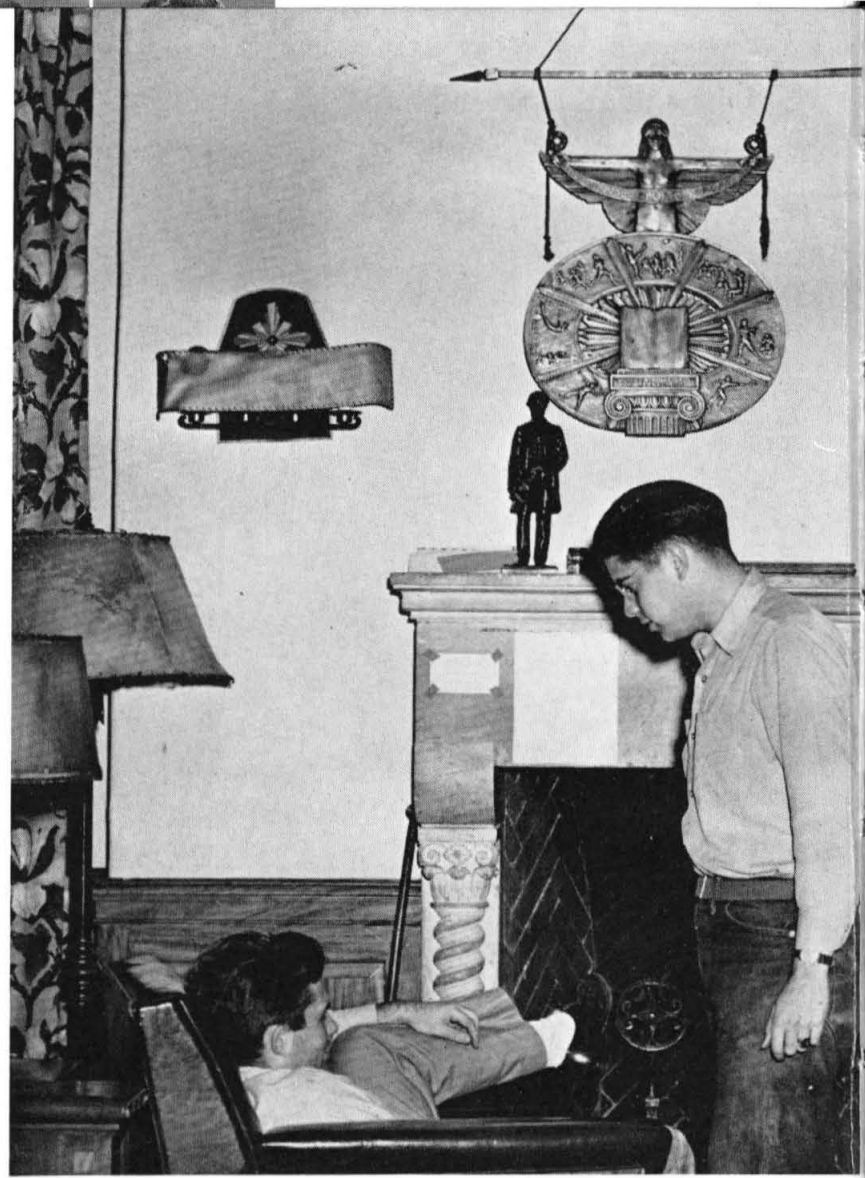


RICKETTS



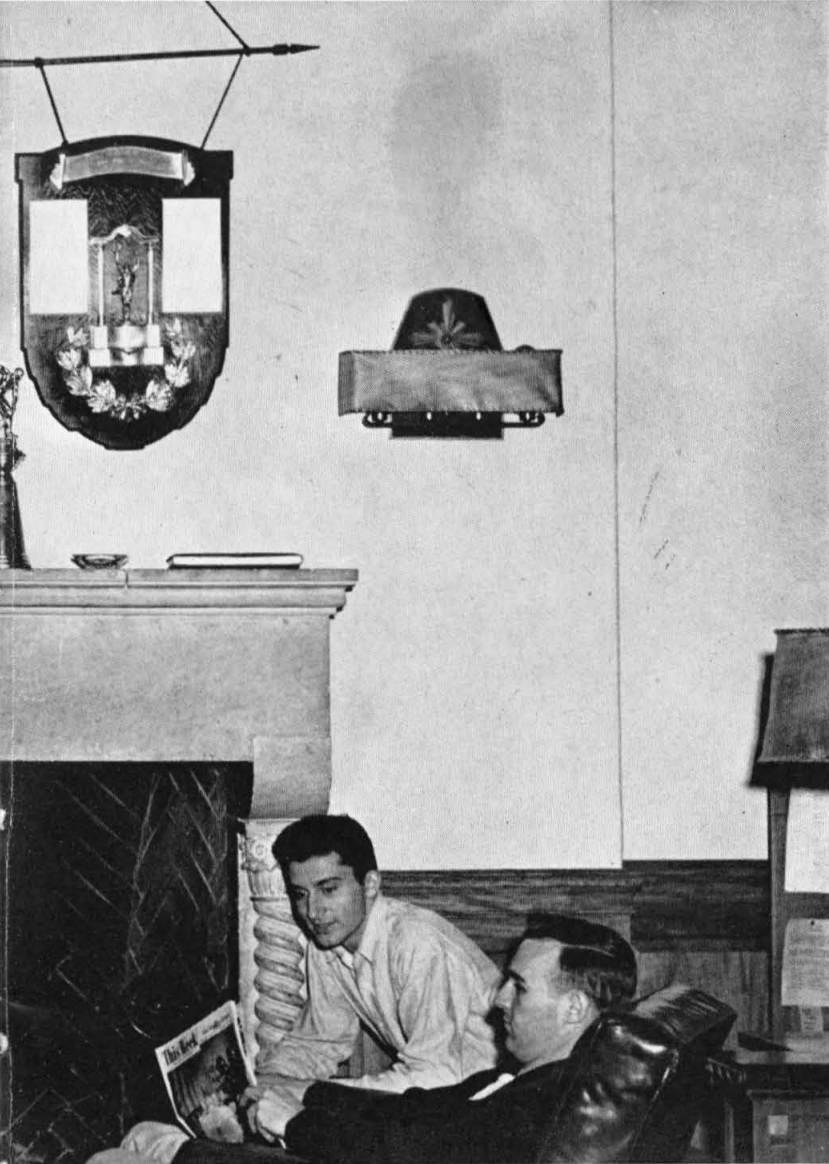
Rivalry between freshmen and sophomores was kept active by the keen competition for the possession of an ugly piece of metal called the brake drum. According to tradition, this object must be brought into the courtyard twice each term and rung for several seconds by the temporary owners while the other class bolts downstairs to do combat for the prize. If one class can retain possession for two years, the survivors have the great honor of painting their class numerals on the gory trophy. The "Speed of Light" Sophomores ran roughshod over all competition, the Frosh, in this year's frays.

FLEMING



PAUL SALTMAN, BILL BOUTELLE, DON LOVELACE





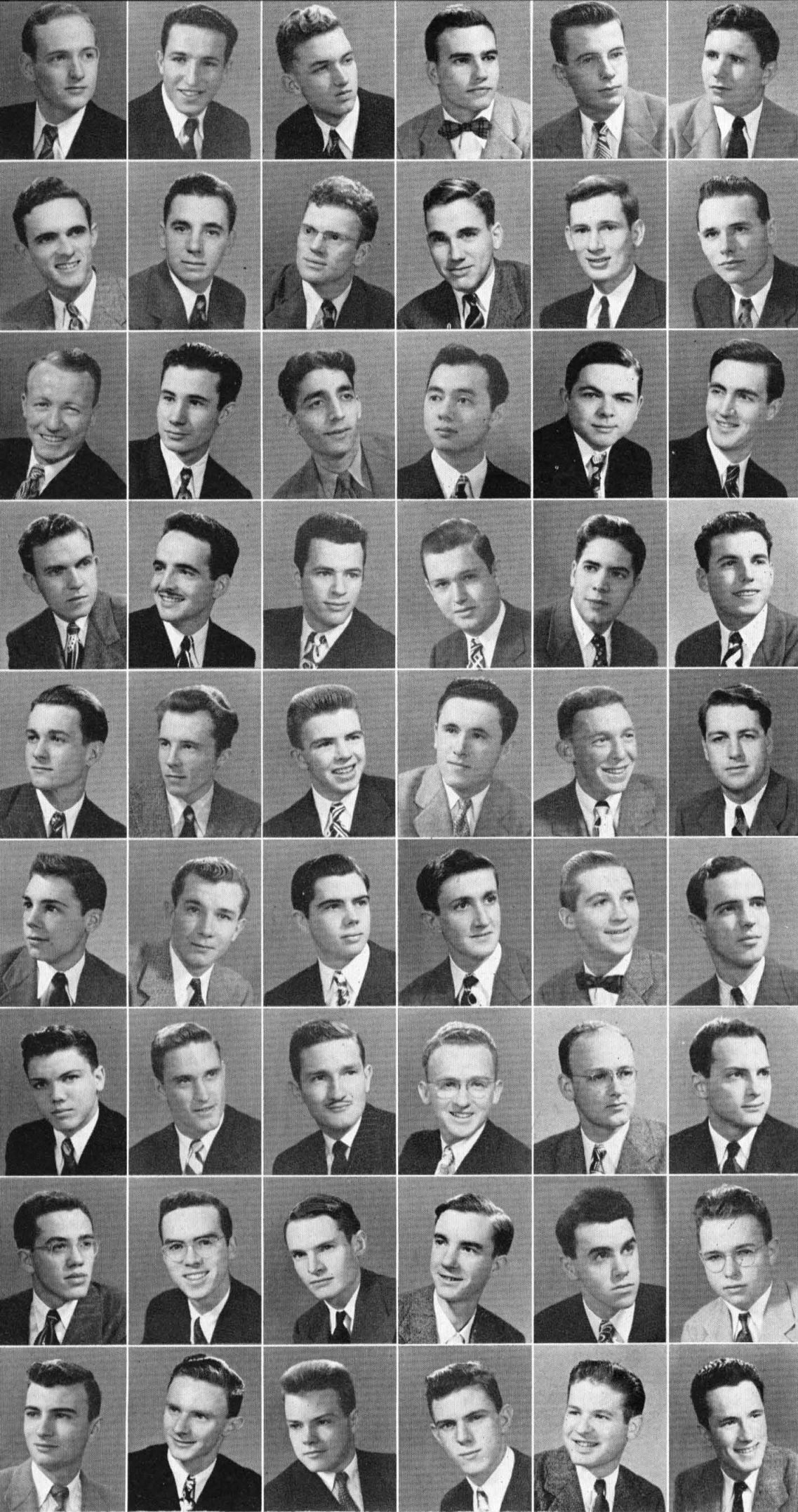
A great part of the task of turning out the California Tech and the Big T can be credited to Fleming men who predominated on the staffs of both. Much of the credit for the past fine year should be given to Fleming's elected officers: Tom Stix as President, Vice-President Bill Boutelle, Secretary Paul Saltman, Treasurer Don Lovelace, Athletic Managers Don Furth and Don Hibbard, Entertainment Chairman Carl Price, and Social Chairman Pat Glover.

Fleming House closed the cover of its '47-'48 edition with pride. Not only was the mantle crowded with the Interhouse Trophy, the Varsity Rating Trophy and the Discobolus defended in five successive encounters, but also for the first time in many years the Lincoln Public Speaking Trophy moved into the Fleming Lounge.

The Spring election found three capable men from Fleming chosen to lead the student body, while eight men received the coveted Honor Keys out of 21 awarded. Tau Beta Pi was headed by Chuck Murphy who left the swimming pool long enough to bring that organization into active significance with the Instructor Rating Program. Don "Hot Lips" Lovelace kept the Band and Orchestra on the beat.



TOM STIX, PRESIDENT



HARRIS ADAMS
ED ALEXANDER
CARL ANDERSON
DON BAKER
STAN BARNES
DON BARRIE

DICK BENNETT
BOB BIBLE
FELIX BOCHANSKI
BILL BOUTELLE
GEORGE BOWEN
DOUG BROWN

ERLE BROWN
ODELL CARSON
MANOHAR CHANDE
ELROY CHINN
SAM COOK
BILL COX

BOB DAVIS
ED DOLAN
VERN EDWARDS
FRED EISEN
CLAYTON ENGLAR
AL ESCHNER

DICK FAIRALL
JOHN FRANCIS
GEORGE FREISE
BOB FUNK
DON FURTH
PAT GLOVER

BILL GOTHARD
DUSTY GUENTHER
ALLAN GUNDERSON
KEN HAMMOND
WILLIAM HARRIS
STAN HARRISON

WALT HARTUNG
ERNE HIBBARD
BILL HIGGINS
JIM HOLDITCH
STAN HOLDITCH
VINCE HONNOLD

BURT HOUSMAN
JACK INMAN
HUGH JOHNSTON
JOHN JOHNSTON
ANDY JORDAN
TAYLOR JOYNER

BUD KLARFELD
BUD LARSH
JOHN LEWIS
DICK LIBBEY
HAROLD LINDERMAN
DAVE MADDEN



F L E M I N G



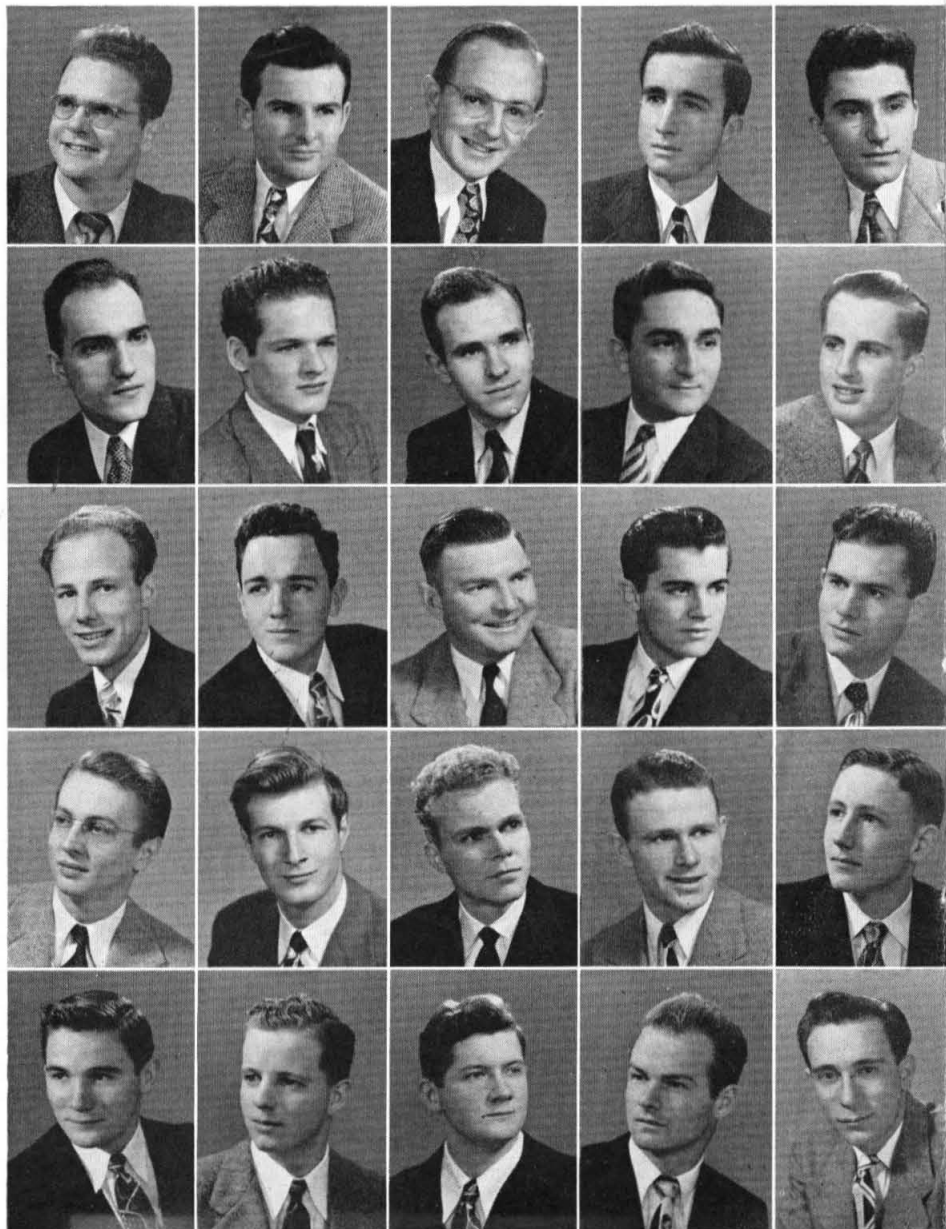
DON LOVELACE
 JIM LUSCOMBE
 FRED MACHETANZ
 BERNIE SHORE
 BOB MADDEN

TONY MALANOSKI
 DICK MARSH
 MAX MATHEWS
 EDWIN MATZNER
 JACK MOFFAT

JAY MONTGOMERY
 DON MOORE
 HARRY MOORE
 JOHN MORRISON
 WALT MUDGETT

CHARLES MURPHY
 RIDLEY MYERS
 FRED NICOLAI
 CHUCK NORMAN
 STEVE PARDEE

DALLAS PECK
 BOB PEELER
 DAVE POLLARD
 CARL PRICE
 BILL PROUD

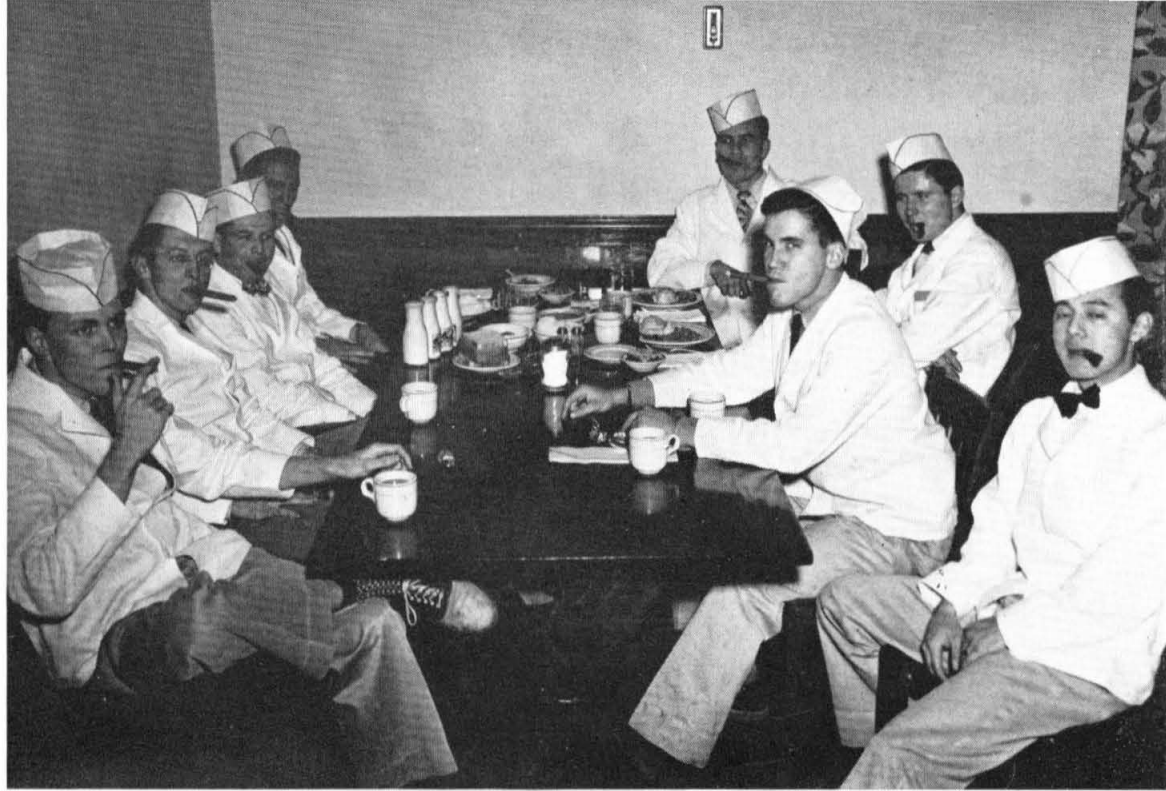


We started off the athletic year for Fleming, the Grand Mogul of field and stream, with our feet dragging. Baseball was the inaugural sport, with the Red wobbling into a torrid fourth place. Even in the mire of defeat, we clubbers looked good, particularly Furth, Bennett, Chinn, Englar, and Bowen. The sun peeped out a bit as Montgomery, Bochanski, and Anderson took a second to Dabney in cross country; but even this honor was alloyed by the competition of only one other team. Faith was measurably increased by our outpointing Dabney in volleyball; we took a heartbreakingly narrow second to Blacker. Softball ended with us in a first place tie with Throop, and for the first time we led the race. The Softball loop had started with Fleming bowing in a tight game to Dabney; but belts were tightened (about some throats) and we lost to no one else. Undeniable sparkplug of the outfit was Chuck Norman, who chanted energy from behind the plate. Once more the oranges in the court hung confidently in victory. Fleming's track machine rolled up an undisputed first, and comfortably padded our hard-won lead. Prime giant killers of the scramble were Chuck Norman and Dave Madden who were one and two high point men in the meet; Chuck setting a new Interhouse mark with a 165 foot javelin throw. The shouts of guileless pleasure had scarcely died away when the Red swimmers, complete with blue goosepimples, paddled their icefloes to a resounding first. Walquist, Libbey, and Hammond were the blue ribbon bathers.



FLEMING





FLEMING



RONALD QUANDT
RICHARD ROEHM
JOHN ROGERS
LEE ROSS
PAUL SALTMAN
BILL SAMPSON



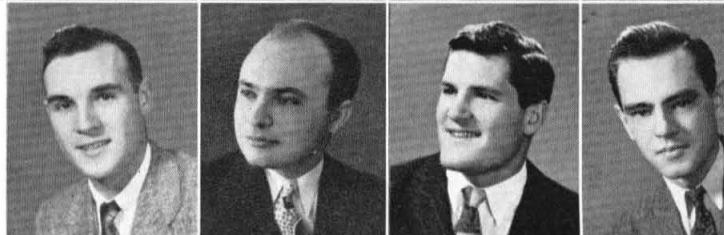
JACK SCANTLIN
DWIGHT SCHROEDER
DICK SCHUSTER
BILL SEIDEN
MIKE SELLEN
CHARLES SHALLER



DENNIS LONG
FRED SMITH
BOB SMOOT
TOM STIX
BOB STOKELY
GEORGE TERHUNE



BOB TERRIERE
CHARLES WALANCE
BOB WALQUIST
BILL WOODS



Under the watchful eye and bookful of phone numbers of Carl Price, the Social Committee started the Fall Term with a PCC Exchange Dance and a dinner exchange with Clark Hall of Scripps. Ever proud of their hospitality, the Locker Room Lads continued to throw after-game open houses during the football and basketball season, for both visitors and Techsters alike. (There was no ten cent charge.)

The perennial barn dances were enjoyed by all. Most outstanding was undoubtedly the one with Ricketts in the Winter Term, when Miriam as Miss Hoganburger won the beauty contest from such international beauties as Miss Peneplane, Miss Columbia Rear End, and Miss Goon. Not forgetting the cultural pursuits, Fleming men were seen at theatre parties at the Drunkard and the Playhouse, while in the outdoor recreation program was the Snow Party at the Ski Hut and many memorable beach parties during which 3.2 and the female form combined to the satisfaction of all.

The Spring Term featured the traditional Moonlight Dance in the Fleming-Ricketts patio. Many of the snakes, living in the adjacent pits, were known to have abandoned their slide rules for a look into this Being called Woman.



DABNEY



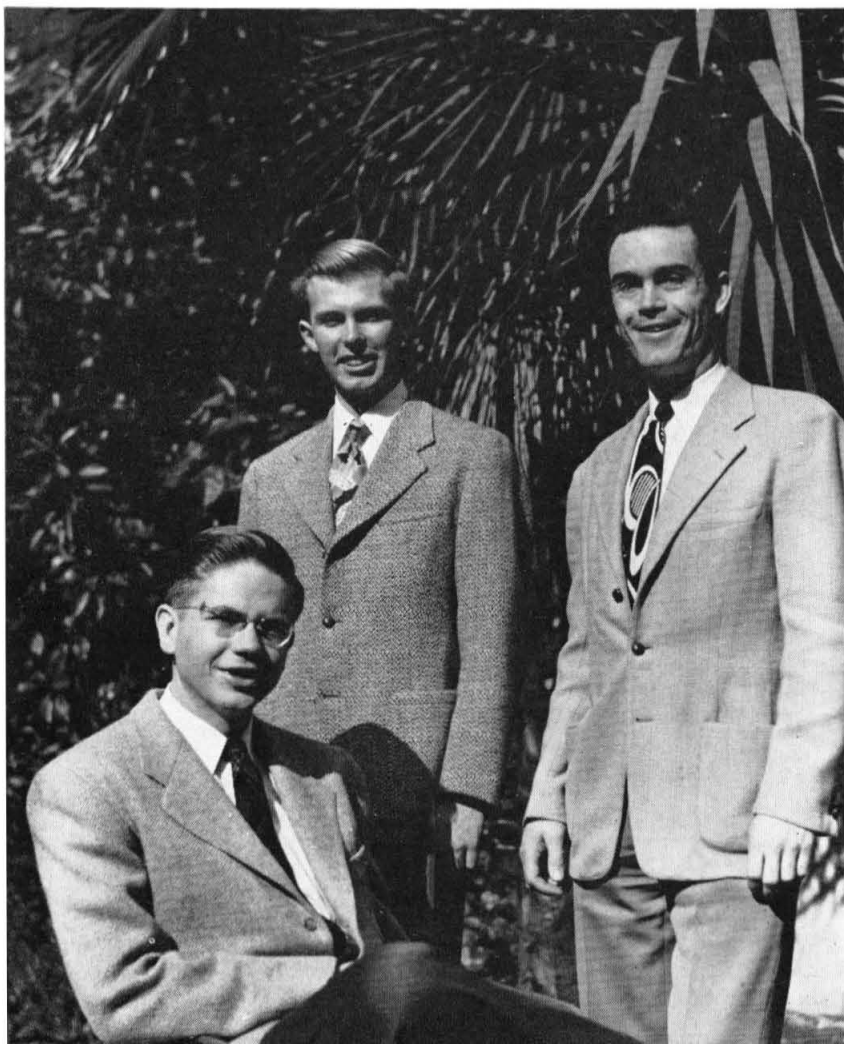
In a full and successful year, the members of Dabney were to be found widely distributed through campus activities and offices. Frank Wolf as V. P. of the student body policed the school honor, while Bill Muehlberger, as Secretary, pensively penciled the minutes. Down in his sub-basement vault Treasurer Bob Poindexter snapped his horde of rubber checks. Evident at all school functions was Rally Commissioner Jack Ottestad. The task of putting out a weekly paper fell to Len Herzog, editor of the California Tech. Serving the school through the Y was Dick Alexander as president. Busy Burrows headed both the Beavers and Ski Club, while out of the frosh elections Fred Wood emerged as President of the class.

This year Dabneymen, attempting to thrash out the problem of the ruinous luxury of having a pay-phone nearby, were beset by incessant attacks on their aerials. This galling annoyance was brought to a head when the men voted eagerly to purchase a television set. The house lounge has since echoed to the tumult of athletic events from the Rose Bowl game to the agonized cries of Gorgeous George on the mat at the Olympic. The post-dessert viewing of daring, antediluvian serials has become an integral part of the dinner hour at Dabney.

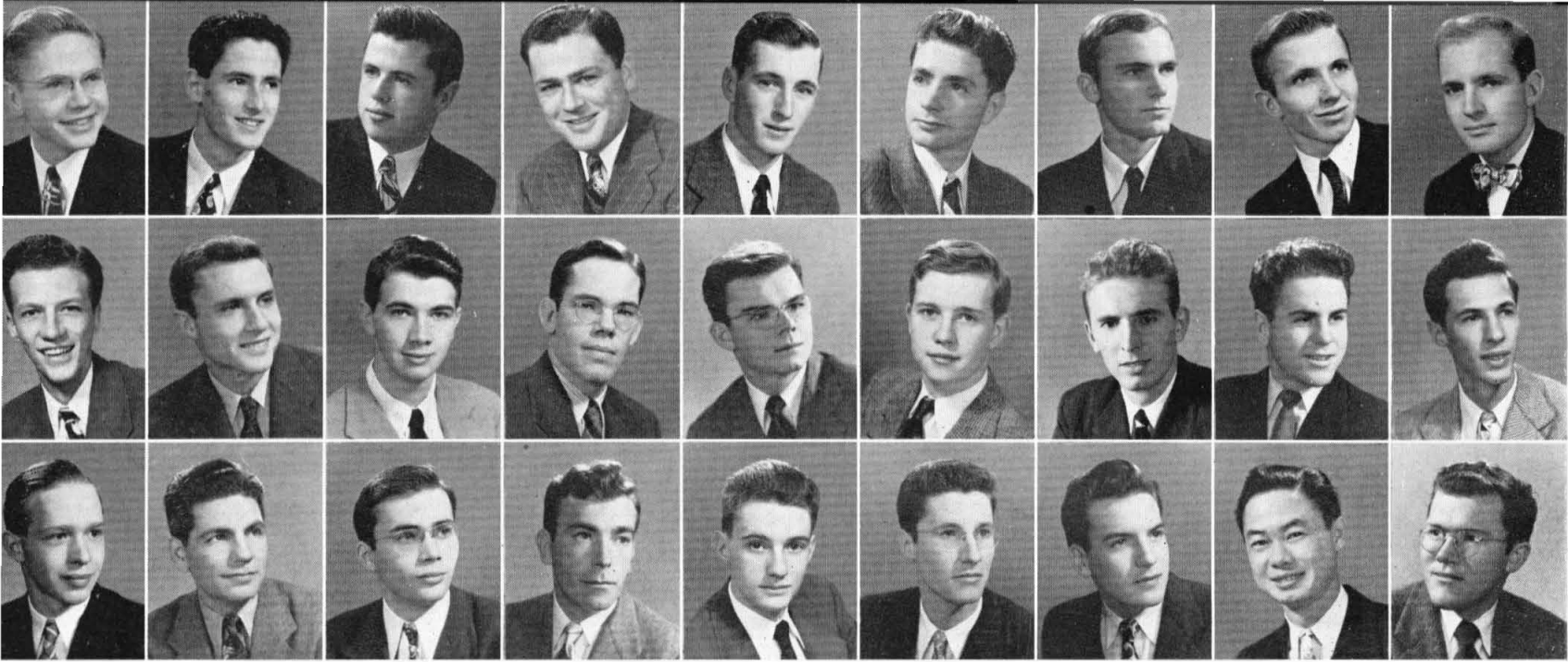


PAUL FULLERTON
PRESIDENT

DICK ALEXANDER, BOB STEWART, DAVE WARREN

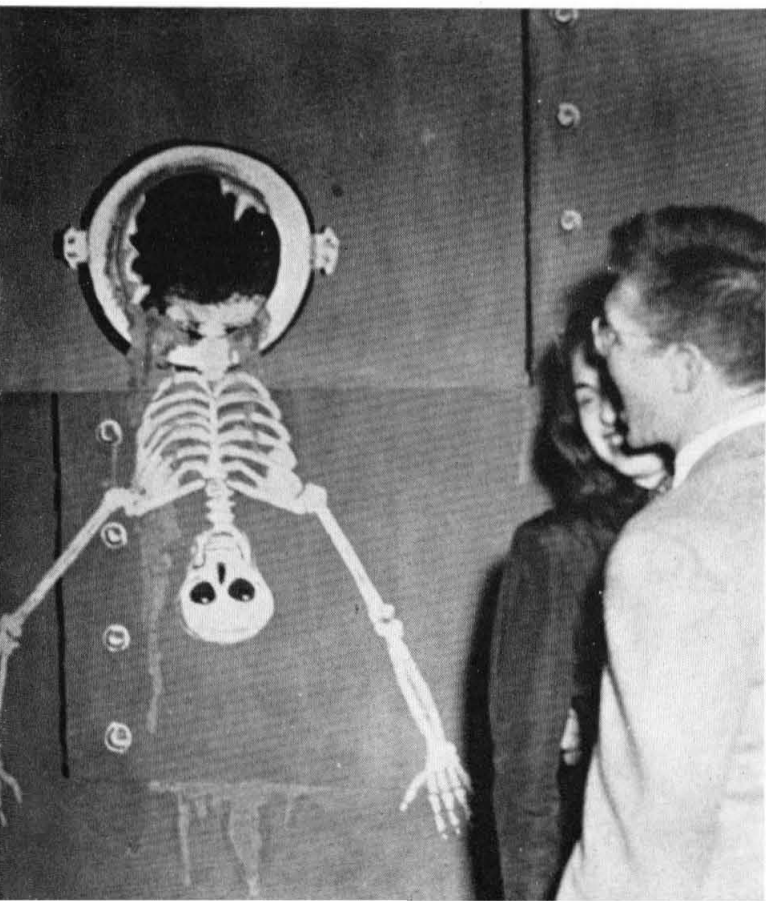


Guiding the house through this eventful year was Paul Fullerton as President and front man par excellence; Dick Alexander, V. P., Social Chairman, and master of the filibuster; Dave Warren, pen man; Bob Stewart, custodian of the cash; John Kariotis, mobilizer of the muscles; Dick Spellman, guardian of the files; and Don Royce and Weldon Bergreen served as house historians. This year, as last, Major Chuck Auerbach, R. A., with his friendliness and participation, played a leading role in all phases of life in the house.



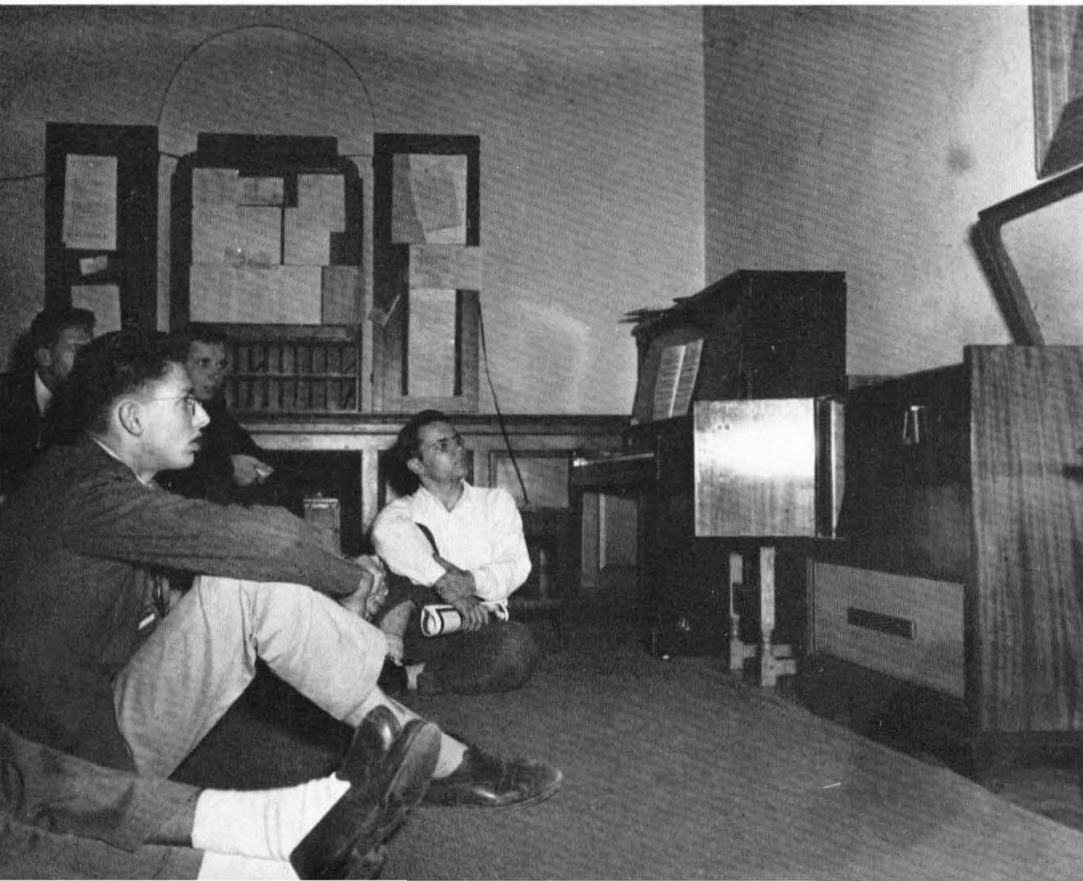
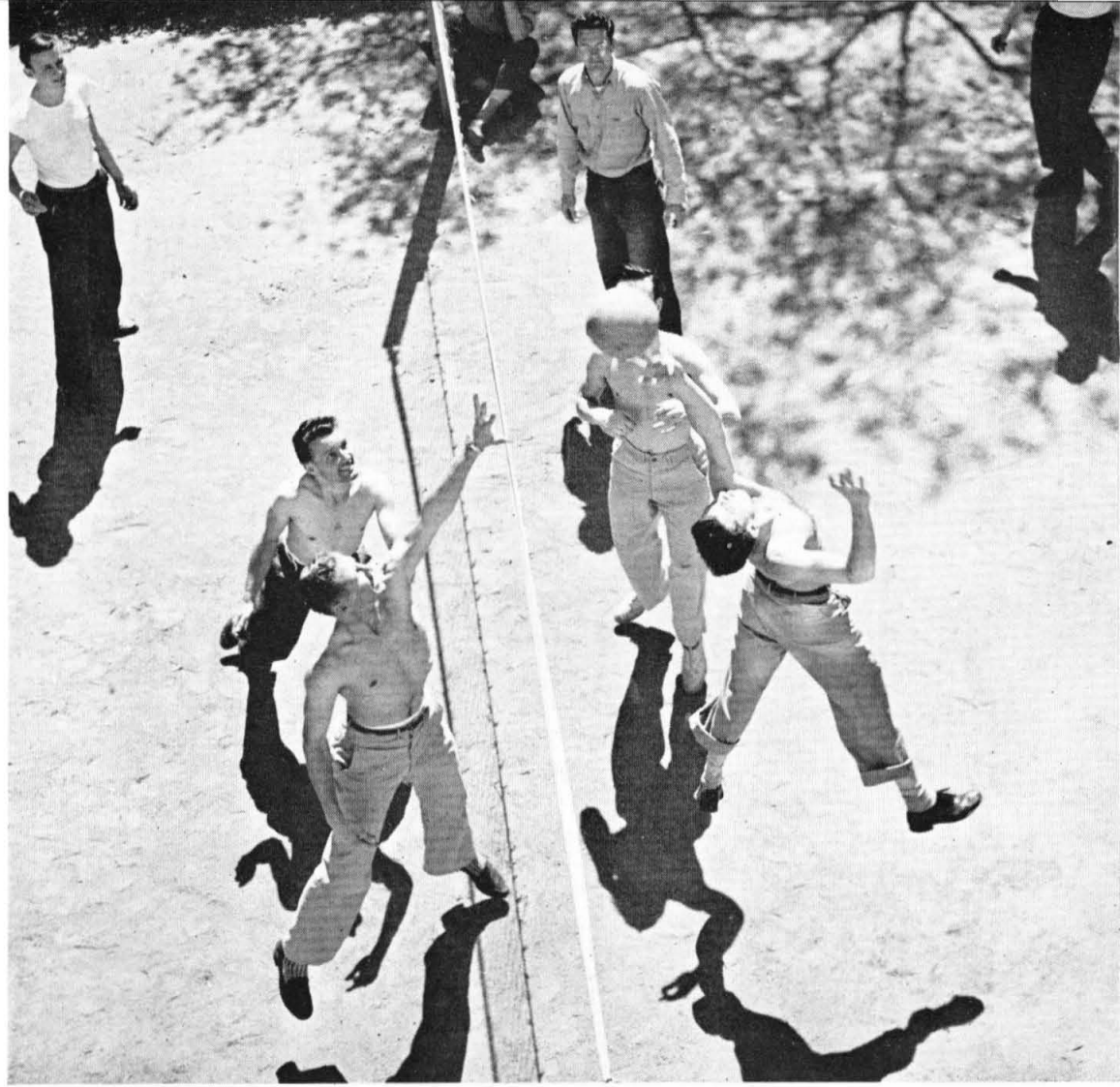
DICK ALEXANDER, MICHEL BADER, BILL BARBAT, BOB BARRACLOUGH, ALLAN BEEK, WELDON BERGREEN, DEAN BLANCHARD, JIM BLOM, EMMETT BOTTS
 BOB BRAYFORD, DICK BREWER, RAY BROW, JOE BURKHOLDER, SAGE BURROWS, JOE CAIN, HUGH CARTER, EUGENE COOK, FERNANDO CORBATO
 HAROLD COULTER, BILL CULBERTSON, WALT DAVISON, JOE DOBROWOLSKI, BRUCE DOLAN, ED DuFORT, ED FISK, SAM FONG, BOB FOSTER





DABNEY

D
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B
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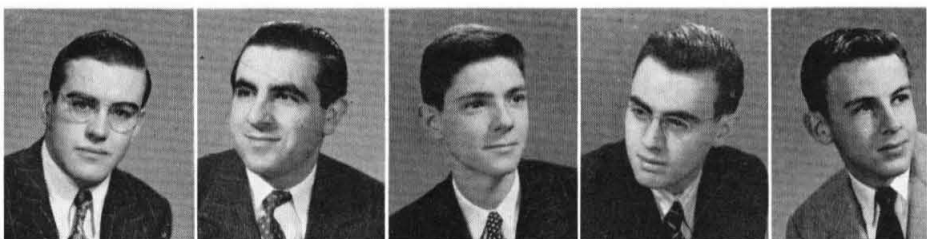
Enjoyment of house life was added to by many occasions. With the novel theme of "Underwater", Dabney scored first in the annual Interhouse Dance. Yards of green cellophane and Jarmie's bubble machine provided the most distinctive atmosphere on the campus. The social calendar also included three memorable semi-formal dinner dances; in the Dabney Court, Pasadena Athletic Club, and the Lounge. More informal revelry was occasioned by Barn Dances with Fleming, Ricketts, and Blacker, where Dabney maintained its possession of the Interhouse Crew Racing Trophy, and Flamer supremacy.

The television set made Dabney Lounge an even more popular retreat after games, picnics, skating and theater parties. Low lights and soft music passed many happy hours for the members and their dates. Exchange dances with girls from U. S. C., U. C. L. A., Muir, P. C. C., Occidental, and Scripps enabled Dabney men to broaden their circle of friends.

The approach of summer found the men of the Big Green getting tanned and tanked at their retreat by the sea, Emerald Bay. This revelry was climaticly opposite to the Snow Party, which helped round out a full program of social activity.

The years' successful program was made possible by the ingenuity, contacts, and perseverance of social chairman, Dick Alexander. Aiding him were Dean Rains, Dave Mackenzie, George Suman, and Peter Knoepfler. The art work of Carlos Navarro, Bruce Hedrick's faithful erection of the amplifier system, and the work of a dependable nucleus of decorators and rug-rollers were great factors in the success of the program.

PAUL FULLERTON
PARVIZ GHAFARI
JON GOERKE
SERGIO GONZALEZ
ROY GOULD



JOE GREEN
TOM HAMILTON
DIRCK HARTMANN
DAVE HAYWARD
BRUCE HEDRICK



JARVIN HEIMAN
WAYNE HERZIG
LEN HERZOG
BOB HEYNEMAN
MAL HICKEY



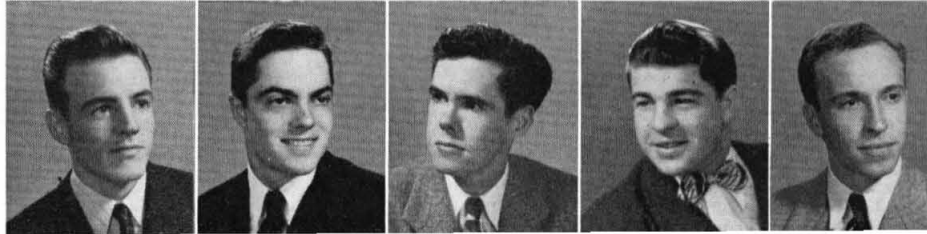
BILL HOUGHTON
BILL JARMIE
SAUL KAPLUN
JOHN KARIOTIS
DICK KING



PETER KNOEPFLER
KEITH KOHNEN
ED KONO
BOB KURLAND
JAMES LaFLEUR



PHIL LAMSON
DAN LeMAY
HENRY LONG
JOE MANGIN
DAN MARKOFF





DABNEY

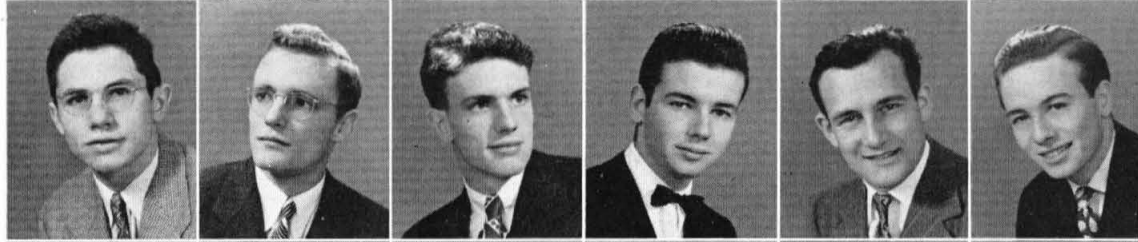


This school year was a bright one for Dabney's athletes. The Big Green teams were successful in bringing home enough points to establish Dabney as the leader in the race for the Interhouse Trophy. With the team of Kurland, Spellmann, and Captain Bill Simons showing their heels to the men of the other houses, the leather-lungers of Dabney gained first place in cross-country to start the swing of points. The House baseball team of Captain Bruce Hedrick, Jarmie, Lamson, Burkholder, Burrows, Moody, et. al., topped all other houses to add to the lead of the Green. The same men were included in the softball team, and scored the upset of the season in beating Fleming handily. With track and swimming still in the offing, Dabney's able teams, bolstered by promising frosh, will prove to be strong contenders in both. In their present leading position, and with good prospects in coming sports, Dabney may well be the first house to wrest the Trophy from Fleming in many a year.

CRAIG MARKS
 JACK MARTIN
 PAUL MARX
 DICK McINTYRE
 DAVE MACKENZIE
 JAMES McQUISTON



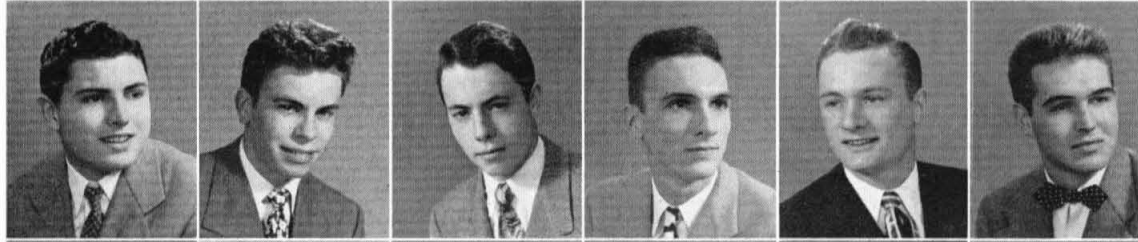
GEORGE MERKEL
 ED MITCHELL
 CHUCK MOODY
 DON MORRISON
 BILL MUEHLBERGER
 CARLOS NAVARRO



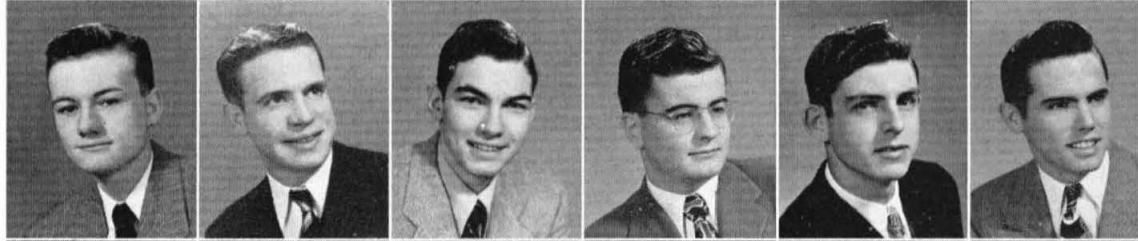
LAWRENCE NOON
 NORMAN OLSON
 JACK OTTESTAD
 CHUCK PAULSON
 ROGER PICCIOTTO
 BOB POINDEXTER



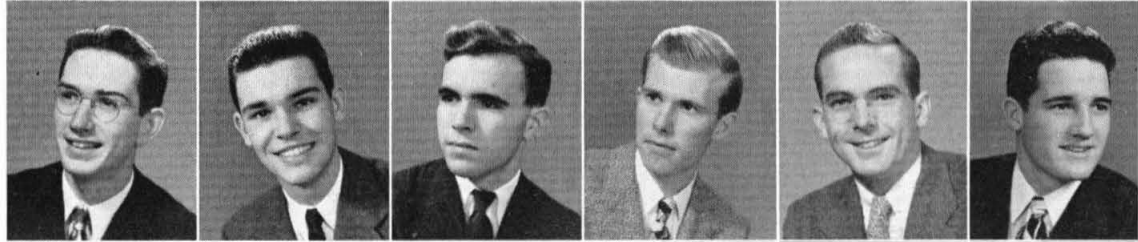
BILL PYLE
 DEAN RAINS
 DON RAINS
 DAVE REESE
 BRUCE ROBINSON
 DON ROYCE



WINSTON ROYCE
 FRANK SHELTON
 DON SHEPARD
 LEE SHERIFFS
 JIM SHIELLS
 BILL SIMONS



BOB SMITH
 BILL SMYTH
 DICK SPELLMANN
 BOB STEWART
 RALPH STONE
 GEORGE SUMAN



TOM TURNER
 HOWELL TYSON
 DALE VRABEC
 MARTIN WALT
 DEAN WANLASS
 DAVE WARREN



BOB WATERS
 BILL WHITNEY
 JOHN WHITTLESEY
 FRANK WOLF
 FRED WOOD
 EDESEL WORRELL



JAMES YOUNG



BLACKER



WARREN MARSHALL
PRESIDENT

Possibly due to its location as the House most remote from the main Institute buildings, Blacker has through the years achieved and maintained a reputation of being very wrapped up in its own affairs. That this local spirit has not been achieved at the expense of other activities, is shown by a glance at the record of outstanding contributions made by Blacker men in virtually all fields of campus activities.

As House President during the past year, Warren Marshall exemplified the virtues of comradeship, enthusiasm, and mature judgement, and his leadership was largely responsible for the successful course of House activities. The remainder of the Executive Committee consisted of Bill Karzas as Vice-President (also Student Body Publicity Manager), Forrest (Tight-Fisted) Allinder as House Treasurer, and Ralph Lovberg as Secretary. Blacker athletics were in the able hands of Doug MacLean, while J. C. Bear and Mitch Cotton were Social Chairmen.



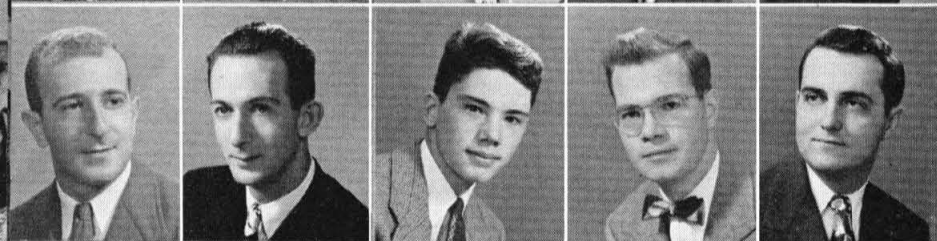
No list of house politicians would be complete without the name of "Pope" Mitten-thal, known to the campus as ASCIT 1st Rep.

During the initiation period the sharp tongue of Pledgemaster Jake Bear harried the indoctrinees while monumental red bow ties allowed no mistaking their identity.

During the second term, Blacker successfully challenged Fleming in forensics, and John Heath's oratory returned the Abe Lincoln Trophy to the Blacker mantle, where it had rested for many years.



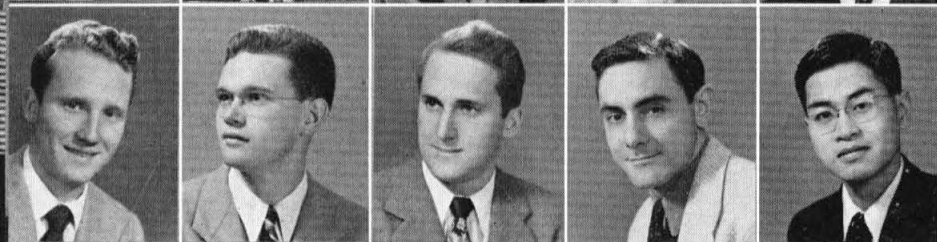
JARED ABELL
FORREST ALLINDER
HARVEY AMSTER
CHET ANDERSON
MYRON ARCAND



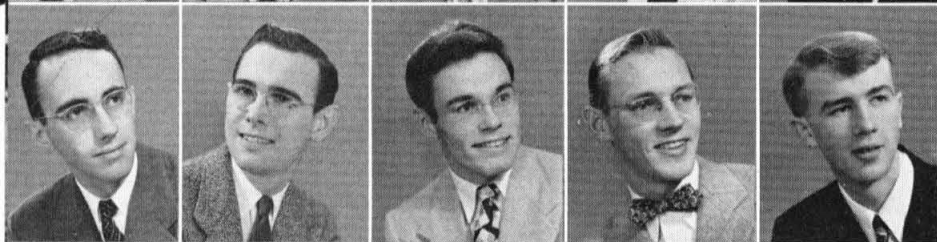
JOHN ATTIAS
DAVID BARON
CHARLES BATES
JOHN BEAR
ROLAND BERNER



WALT BIGGERS
JOSEPH BOOKEE
RAY BOWERMAN
BOB BROWN
ART BRUINGTON



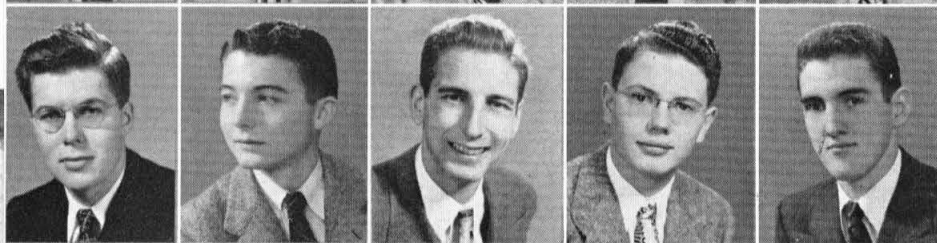
FRANK BUMB
BILL BURRIS
THORNE BUTLER
ROG CHAMBERS
STEVE CHONG



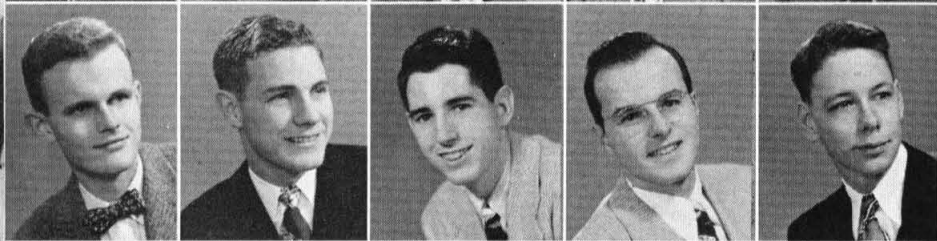
HOWARD COHAN
DUANE COOPER
DICK CORNELIUS
MITCH COTTON
ART COX



JOE CURRAY
ART CUSE
BOB DeGRASSE
JOHN FEE
SOL FEFERMAN



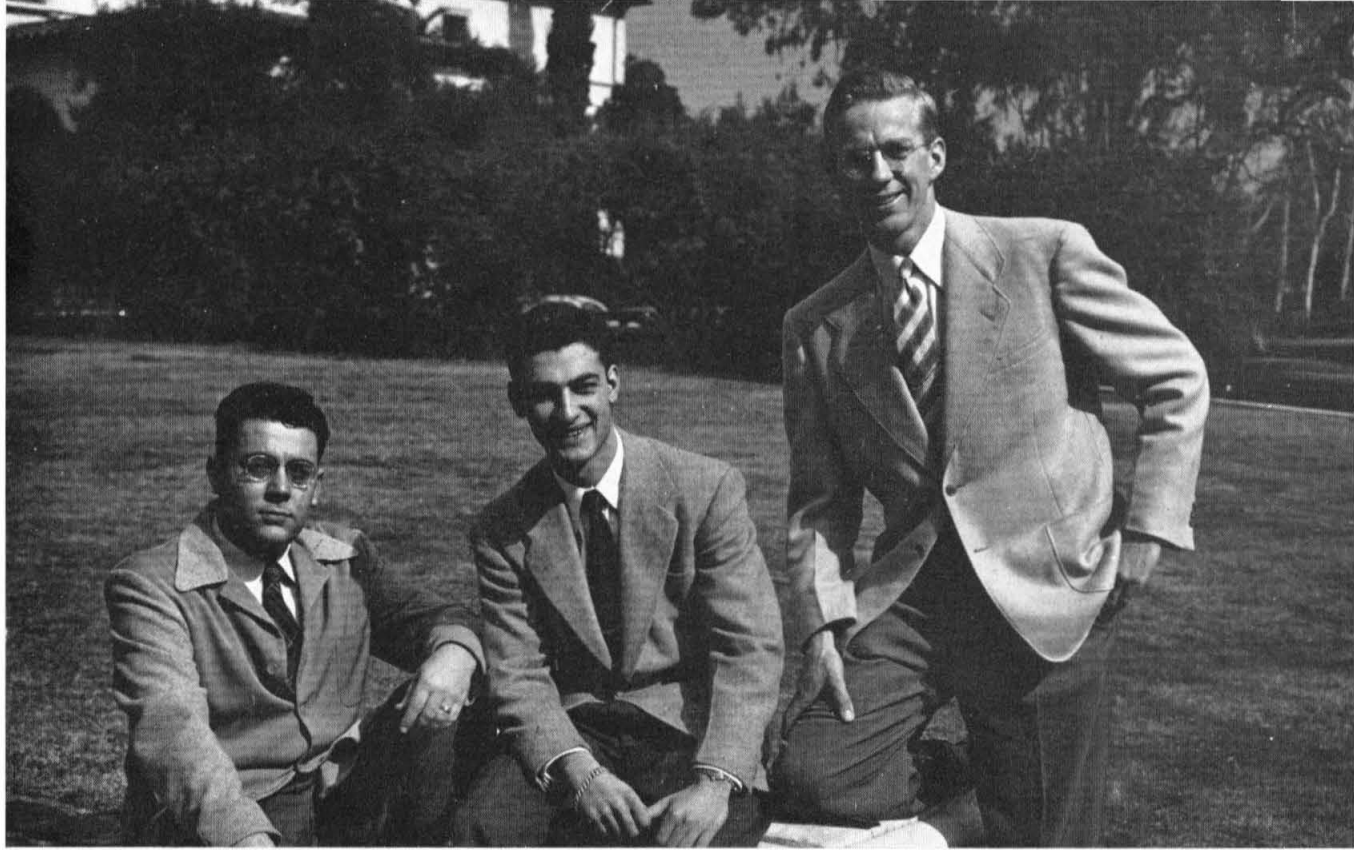
GEORGE FELBECK
DICK FERRELL
BILL FREED
LESTER GOODWIN
MIKE HALL



ANDY HARRIS
JOHN HEATH
EARL HEFNER
ROBERT HEPPE
CARL HILDABRAND



JIM HILL
CHUCK HOWARD
PETE HOWELL
JAMES JOHNSON
BOB KAHN



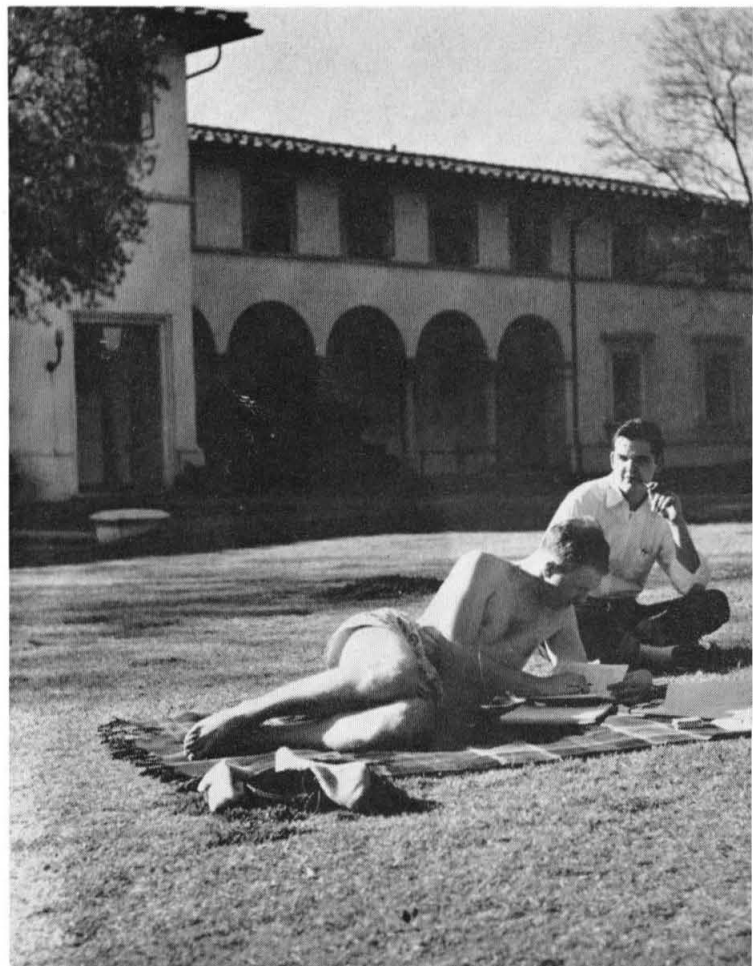
FORREST ALLINDER, BILL KARZAS, RALPH LOVBERG

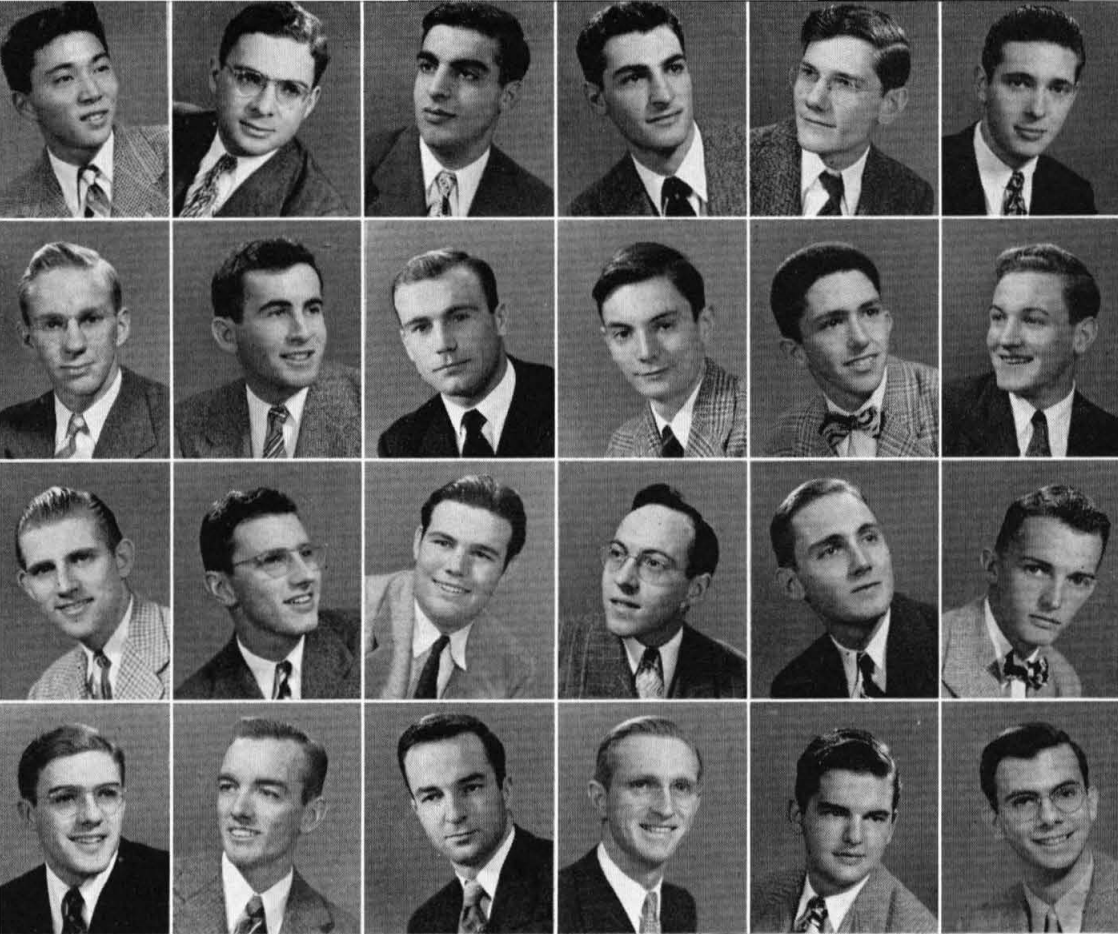
BLACKER



First large social affair of the fall term was the Blacker-Fleming Barn Dance, held at Mountain Oaks Lodge. As Blacker forged ahead in the Crew Race to win the Inter-house Cup, hilarity reached a new high. The Interhouse Dance provided the climax to the term's activities. Blacker set a new high for this affair by featuring the music of Nappy Lammarre and his nationally famous jazz outfit. Decorations were built around a "Harmony Hangout" theme, and were highlighted by the remarkable silhouette work of house artist, Hugh Stoddart.

Topping all of the winter term's activities for sheer magnificence was the Blacker-Fleming Formal Dinner-Dance at the Altadena Town and Country Club.





HIROSHI KAMEI
 ABNER KAPLAN
 BYRON KARZAS
 BILL KARZAS
 FRED KRASIN
 TOM LANG

RALPH LOYBERG
 RALPH LUTWACK
 DOUG MacLEAN
 PETE MASON
 JACK MARSHALL
 WARREN MARSHALL

JOHN McGRANE
 RICH POLLAK
 ART MILLER
 BUD MITTENTHAL
 STEVE MORRISON
 LARRY NOBLES

BILL PALMER
 JACK POINDEXTER
 DICK McKINNON
 WALT PREVOST
 BILL RAMSAY
 WERNER RIESENFELD

BLACKER





Plans for the third term included several beach parties and the annual "Doc's Party". In addition to the affairs described, the social program included exchanges with various local groups, theatre parties, the Blacker-Dabney Barn Dance, a Roman Holiday Dinner-Dance, an all day ski party, a Showboat party, an ice-skating party, a stag, and informal record dances after the games.





MARION RINEHART
FRANK ROCK
DON ROLPH
CY ROSS
RON RUDDICK

GEORGE SAWYER
DON SCHMID
DICK SHARP
DON SPALDING
GENE SPENCER

GEORGE STARBUCK
DON STILLMAN
WILLIAM SYLVIES
BROOK TARBEL
JOHN THOMAS

FRANK VALLE-RIESTRA
WARREN WATERS
BERK WELCH
BILL WRIGHT
BYRON YOUTZ

BLACKER





As the Finns take to javelin throwing, so do Blacker men take to volleyball. Taking time off from their intra-house doubles games long enough to collect a six man team, the Blacker Bums proceeded to the championship.

A little more unexpected was the second place garnered in the inter-house track meet. Taking six first places, the Bums came within four points of upsetting the favored Fleming team. Meet records were established by Jack Marshall's 4:57 mile and by Dick Cornelius's 52.8 quarter.

Holding down the cellar spot in softball, baseball, and cross country proved to be no mean task, but the Bums successfully captured these three positions. Knowing that the only way they can move is upward, Blacker men are due to make a strong showing in the remaining sports of football, basketball, swimming, and tennis.

Let the closing phrase be the words which that great athlete and prophet Titus Andronicus wrote in the year 200 B. C., "Fugus futile Fleming" or "Fleming may win the Interhouse Trophy in 1948 but watch out for Blacker in 1949."

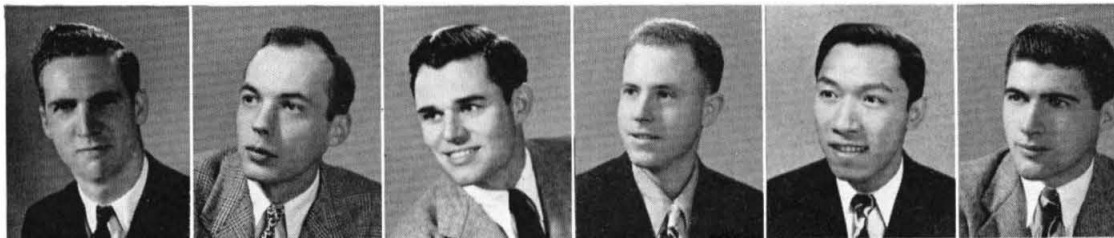


OFF-CAMPUS





GEORGE ABELL
 JIM ALLEN
 JOHN ALLINGHAM
 BILL ARCHER
 YIN CHING AU
 BILL BAILEY



WALLACE BARNES
 JOSE BARROSO
 MICHAEL BASIN
 FRANK BEARDSLEY
 BARRIE BIELER
 BILL BLAIR



JUSTIN BLOOM
 LEO BREIMAN
 GEORGE BROWN
 WHARTON BRYAN
 FREDERICK BURT
 JOE CANTWELL

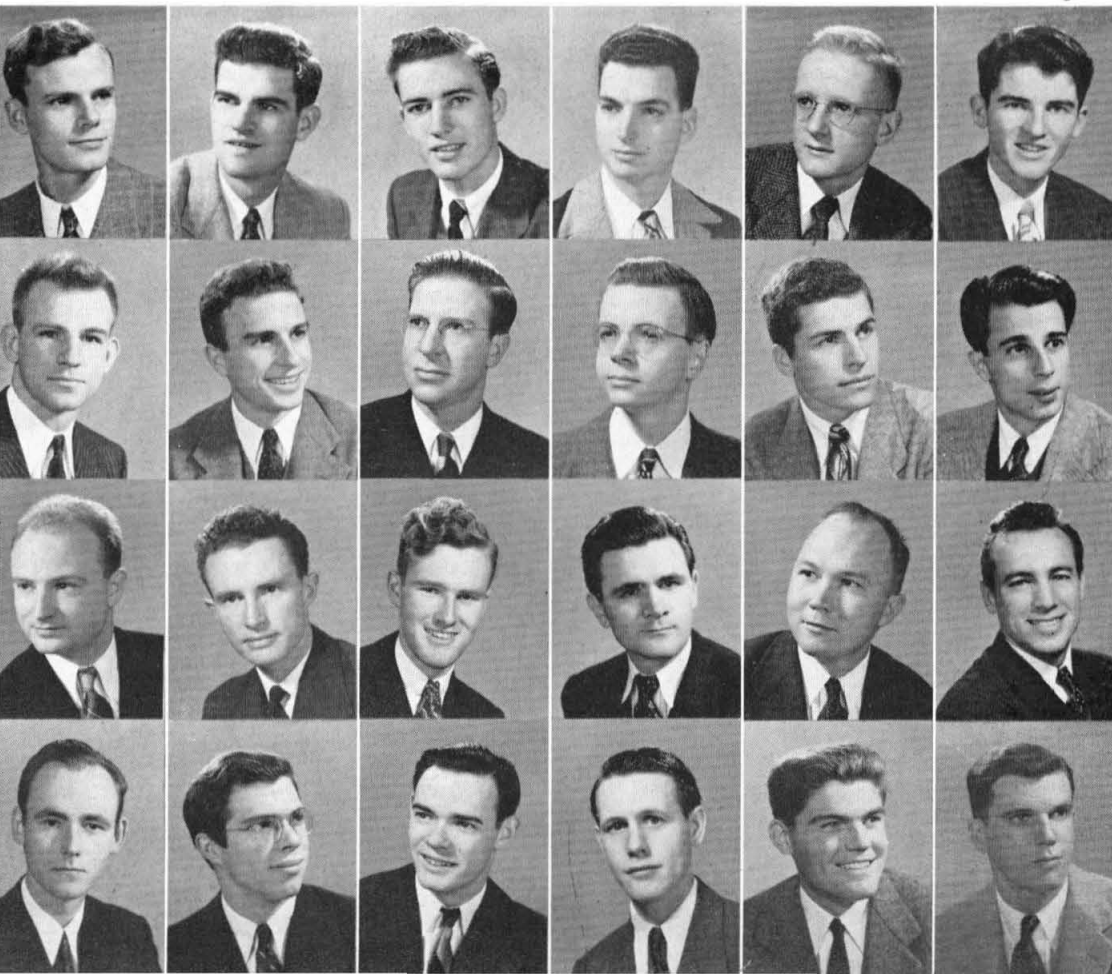


BUD CARROLL
 GLENN CHAFFEE
 WILLIAM CONVIS
 SAM DABNEY
 WARREN DANIELSON
 GEORGE DAVENPORT





OFF CAMPUS



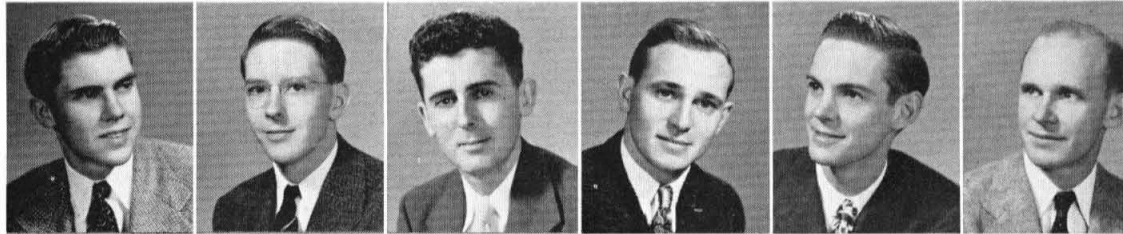
RAY DAVIS
 RUSS DAVIS
 WAYNE DAVIS
 DAN DEUTSCH
 BILL DIXON
 WALT EDWARDS

BILL EILAU
 LEWIS ELIA
 JIM ELMS
 KENDALL FAMULARO
 NORMAN FINK
 AARON FLETCHER

CARROLL FRISWOLD
 BOB GASKELL
 JAMES GERHART
 HOWARD GREEN
 FRED GUNTHER
 DARLE HALE

WILBUR HALL
 ORVAL HAMMERMEISTER
 JAMES HARDER
 JOHN HARRIS
 WARREN HARRISON
 JOHN HEDENBERG

RADY HEGGLAND
 KEITH HENDERSON
 HARVEY HOLM
 JOHN HUGHES
 FLOYD HUMPHREY
 MARTIN HYBERTSEN



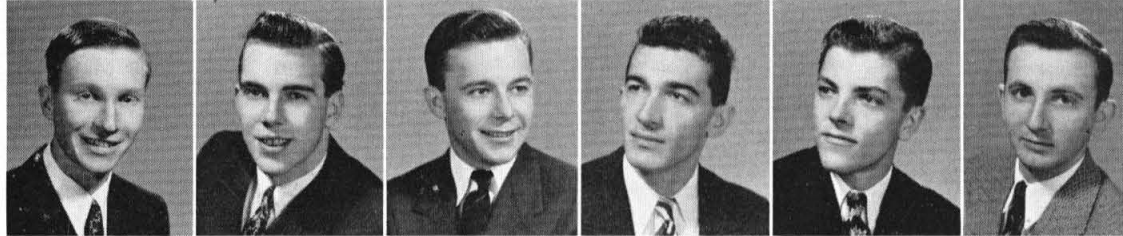
FRANK HYLTON
 JIM IBERS
 RAY JOHRDE
 BRUCE JONES
 BOB KAHN
 NAOMI KASHIWABARA



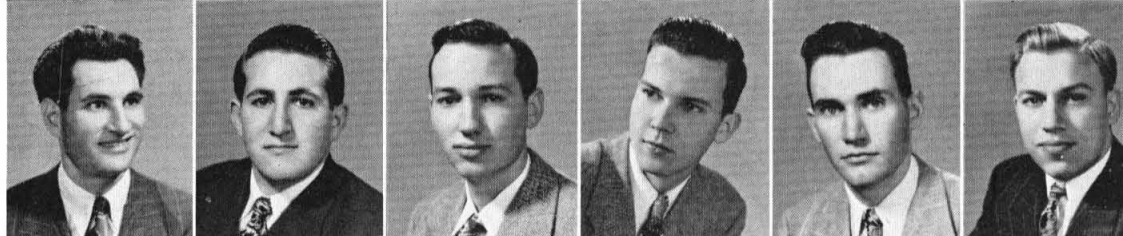
HAP KEINONEN
 JAMES KENNEY
 BOB KERMEEN
 PAUL KIDDER
 CHARLES KNIGHT
 DICK KNIPE



BOB KOFAHL
 JIM KOHL
 MAX KRESTON
 IRV KRUHMOLZ
 DOUG LEAVENWORTH
 FRANK LEMON



DON LILIENTHAL
 MYRON LIPOW
 ROBERT MACMILLAN
 HARDY MARTEL
 HERMAN MASON
 ROGER MATZDORFF



BOB McCLELLAN
 RICHARD McKAY
 BILL McCLELLAN
 AL McCLELLAN
 JOHN McPHATE
 DAVE METZLER



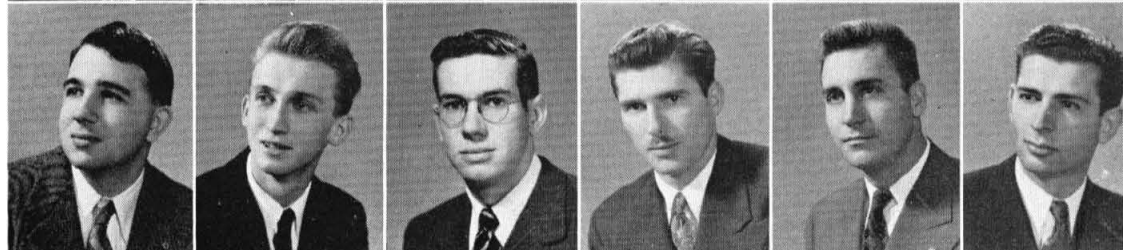
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 JACK MULLEN
 CARL OBERMAN
 CHET ORR
 DICK PATTERSON
 TOM PETRULAS

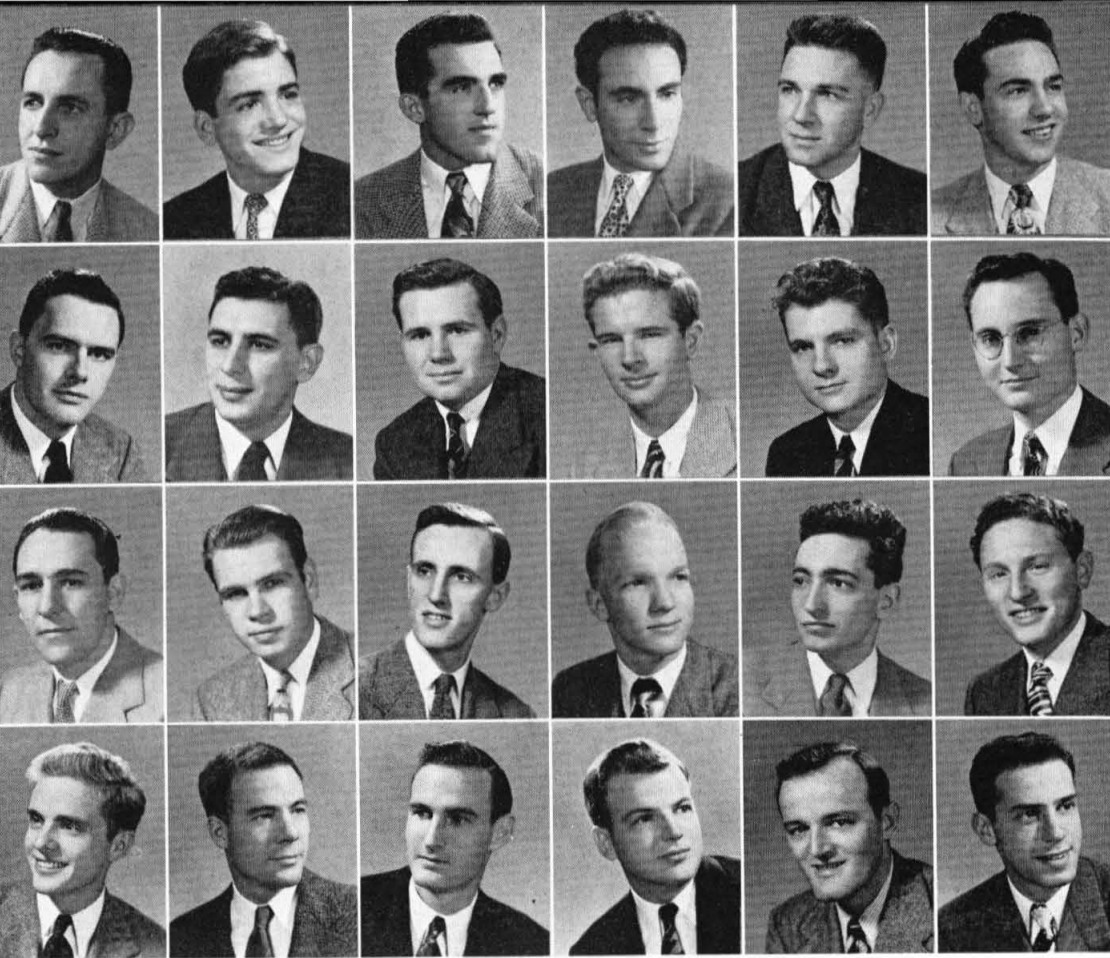


GEORGE PETZAR
 DON PICKRELL
 DICK PLATZEK
 MARSHALL POND
 GRANT POOLE
 OLIVER PRICE



ALLEN PUDER
 CHARLES QUIRMBACH
 BRUCE RENNIE
 ED REVAY
 GEORGE RIGSBY
 THEODORE ROSE





ED ROSKOWSKI
 MARVIN RUDIN
 BILL RUMER
 BURT RUTKIN
 DALE RYDER
 CLEM SAVANT

FRANK SCHECK
 HECTOR SCHEITNE
 FRED SCHNEIDER
 LEONARD SCHULTZ
 DAN SCHUSTER
 GEORGE SCOTT

WAYNE SEFTON
 CLYDE SEITZ
 FREDERIC SELLECK
 VIRGIL SIMS
 ROLF SINCLAIR
 BOB SINKER

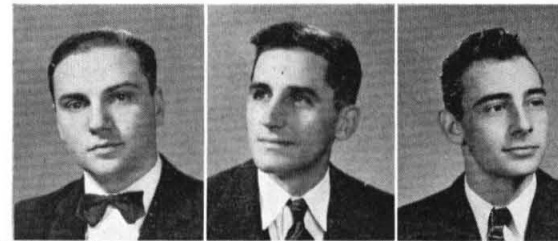
DON SIX
 MIKE SPOONER
 TOM STAUFFER
 BOB STERT
 JIM SUHRER
 IRVING SULMEYER



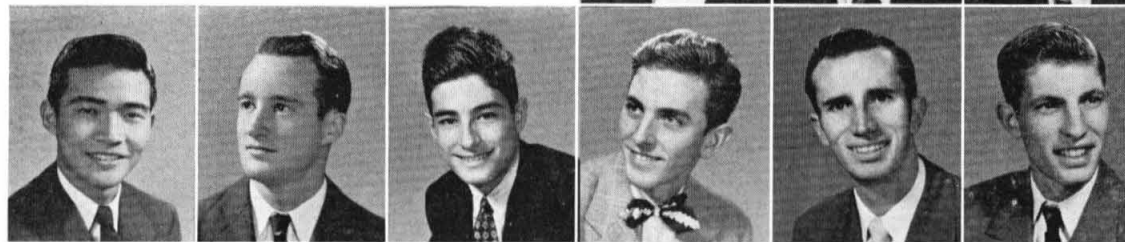


OFF CAMPUS

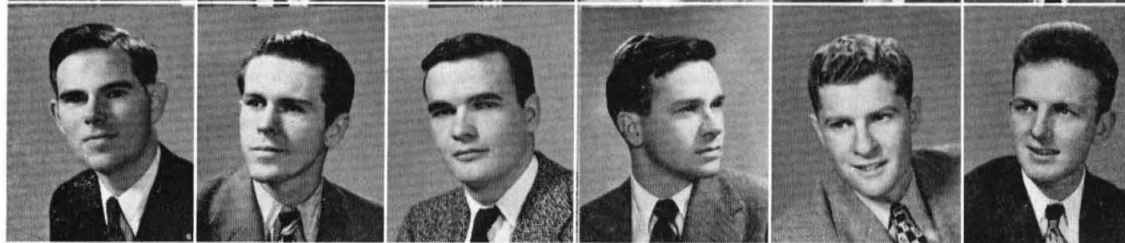
CHARLES SUSSKIND
JOHN SWAIN
DICK TALMADGE



KENNETH TANG
KENT TERWILLIGER
GEORGE TRILLING
MILTON VOGEL
TOM VREBALOVICH
THAD VREELAND

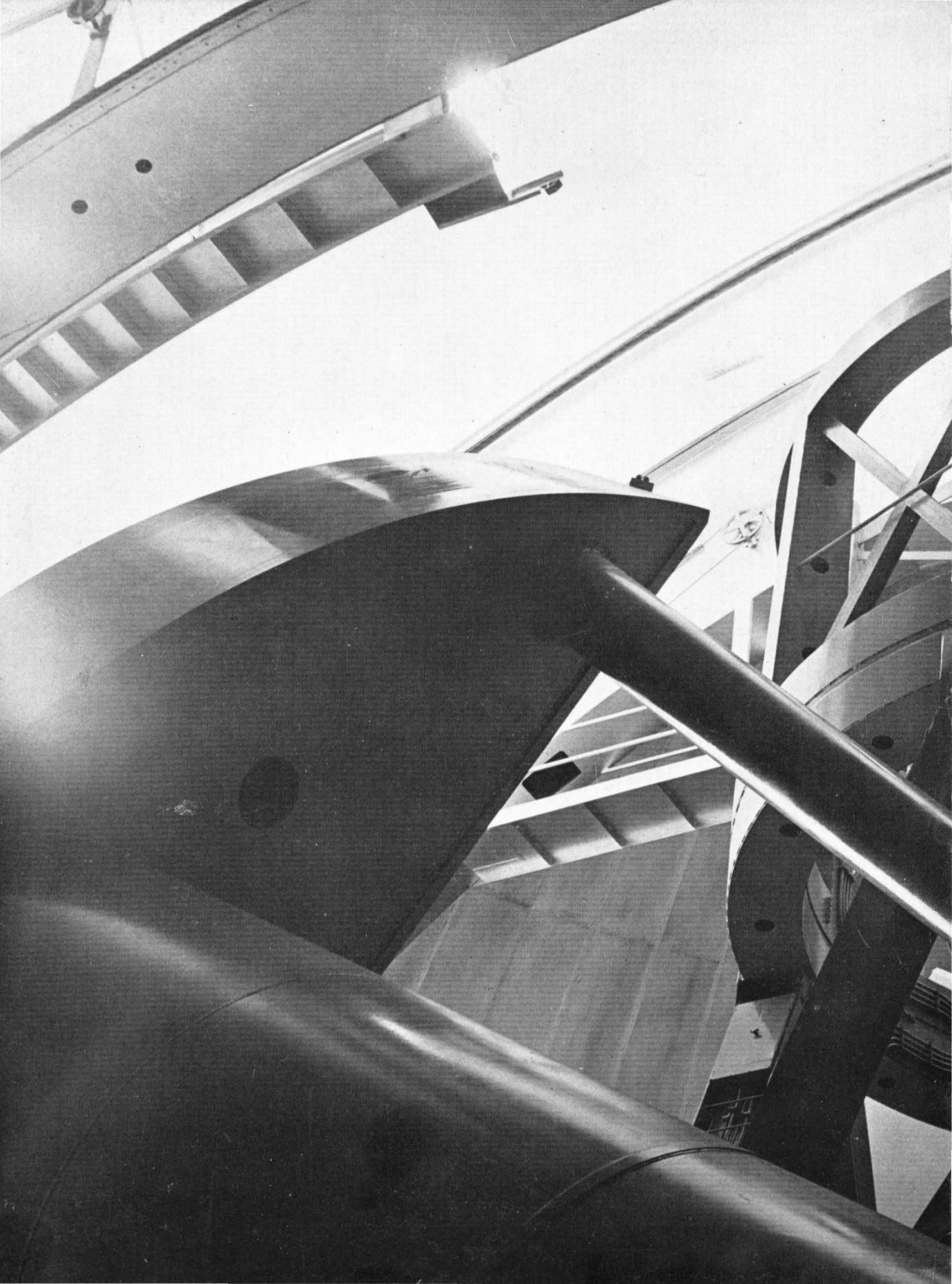


LeROY WEEKS
WILBUR WIKHOLM
WARREN WHITING
DON WILKINSON
JOE WILLIAMS
JACK WILLIS



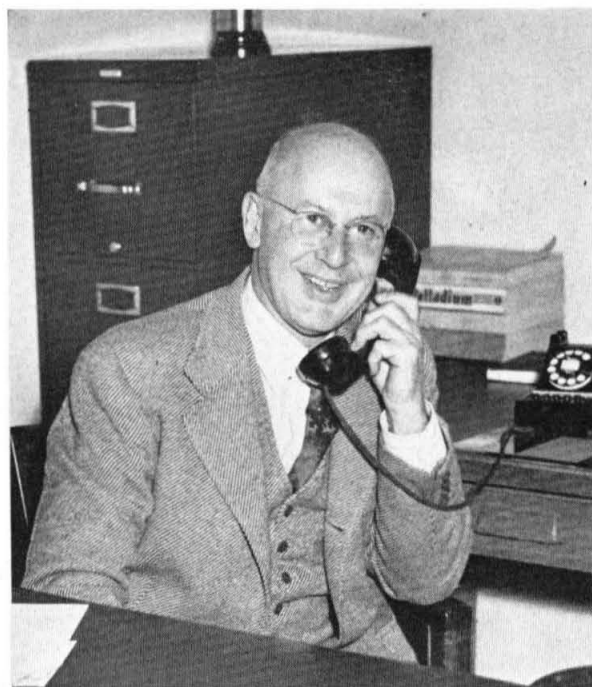
ALBERT WONG
WILLIAM WOODSON
JERRY WOZNIAK
LEONARD ZABLOW
ROBERT ZACHARIAS
EUGENE ZWICK



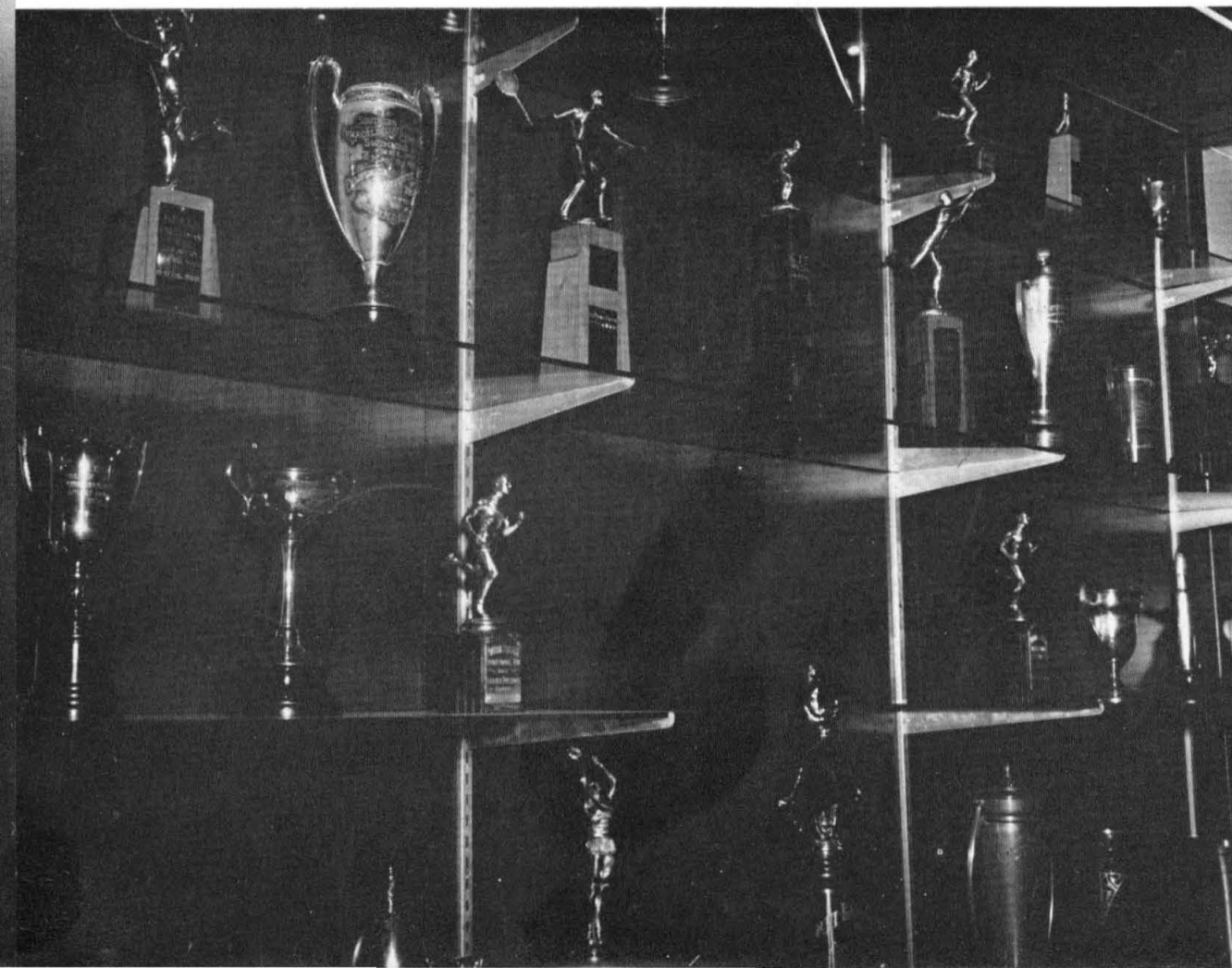


A black and white photograph featuring a large, dark, circular metal structure in the foreground. The structure has a complex, lattice-like internal framework and a thick outer rim. It is positioned on a tiled floor that recedes into the background. In the background, a building with a window and a ladder is visible. The word "SPORTS" is printed in large, white, stylized capital letters across the lower portion of the image.

SPORTS



HAL MUSSELMAN
MIRIAM COYLE, LOUISE McGEE
ED PREISLER, JIM NERRIE





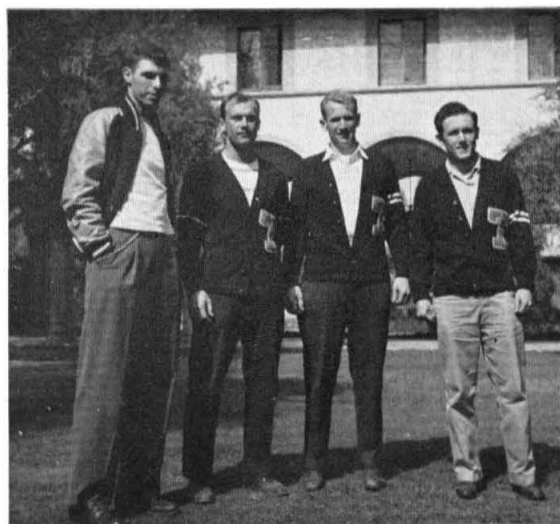
HALL, HAMILTON, SCHROEDER, LONG, COX, HIBBARD, LONG, MARKS, MUEHLBERGER, TYSON, DAHM, CURRAY.

BASS, PALMER, SHALLER, MARSHALL, BROWN, MURPHY, WALQUIST, SIMONS, PETERSON, LEWIS, HEDRICK.

HARRIS, FURTH, ALEXANDER, BARNES, BROWN, BAKER, PATTERSON.

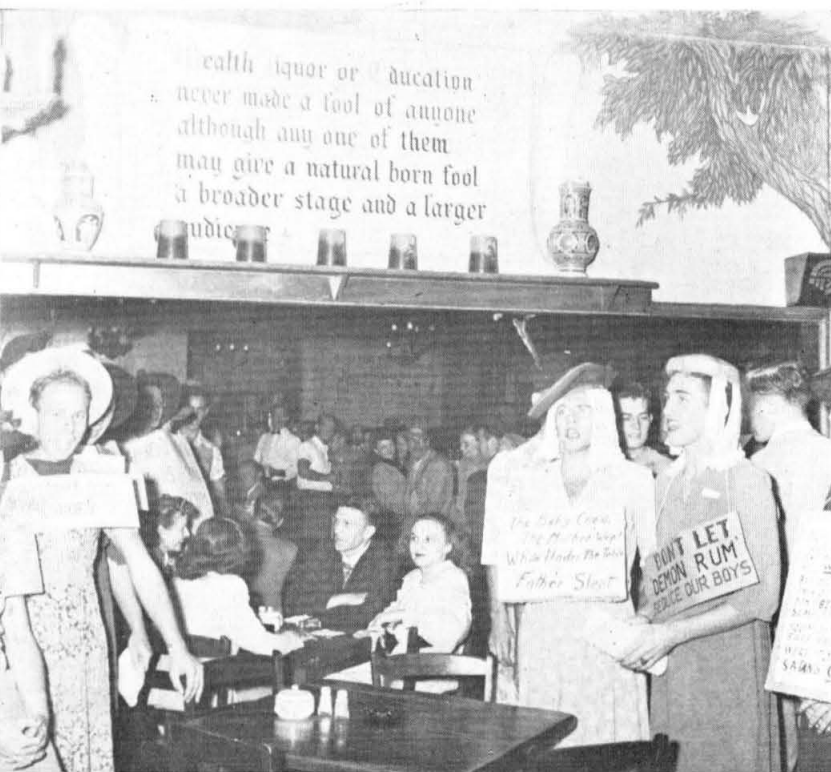
MONTGOMERY, FUNK, JARMIE, MacLEAN, NORMAN, CHINN, NOBLES.

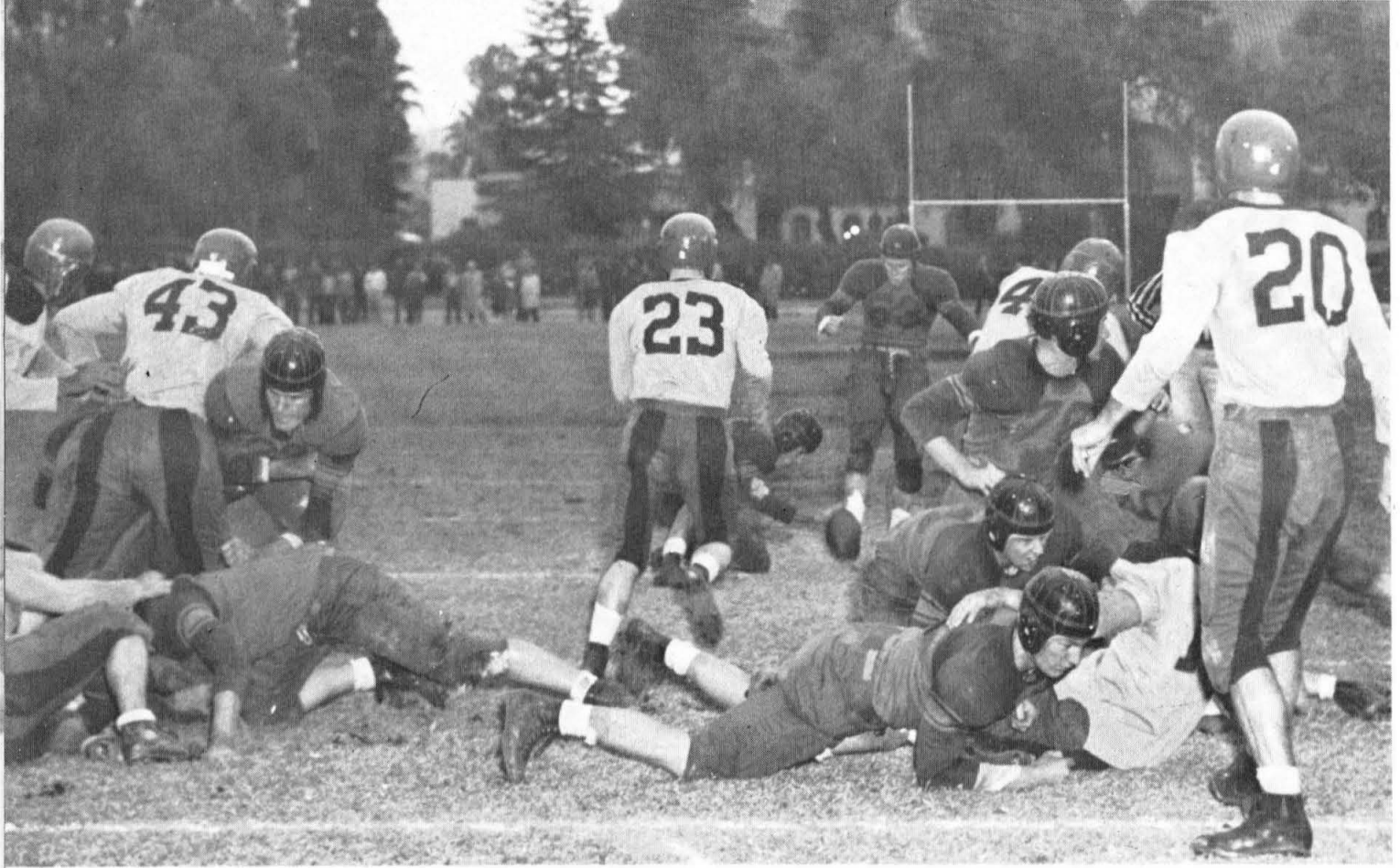
The T-men restrained themselves to social activity this year. Big gun was the initiation when cherubic muscle-men took up Carrie's rusty sword and caroled temperance in the local pubs. A big cold snow party became a picnic when nature ignored justice. The rest of the time was spent supervising photography.



OFFICERS: SALTMAN, MacLEAN, LONG, FUNK

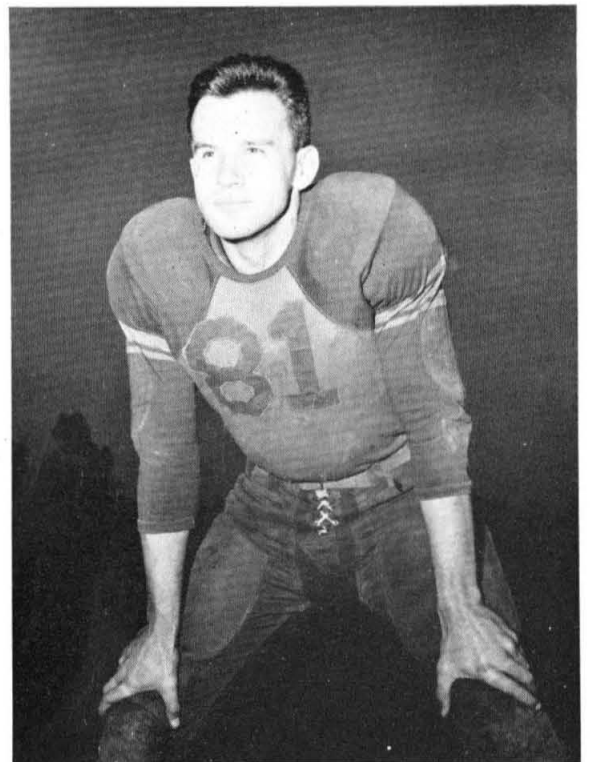
VARSITY CLUB





FOOTBALL

PETE MEHRINGER, COACH ANDERSON



CAPTAIN MILT STRAUSS

Cal Poly 26, Caltech 6

With only a week of practice the Beavers clawed defensively. With little relief all day, Chaff and Muehl bled for the six.

La Verne 0, Caltech 20

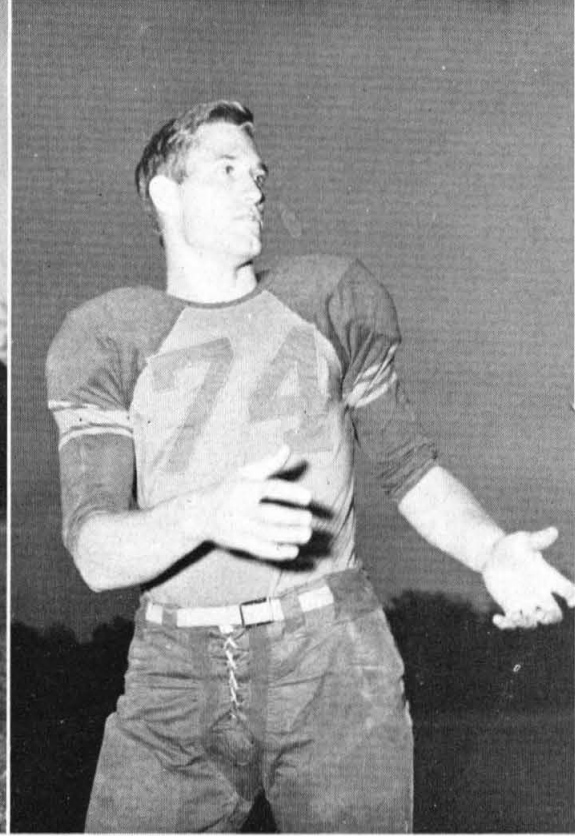
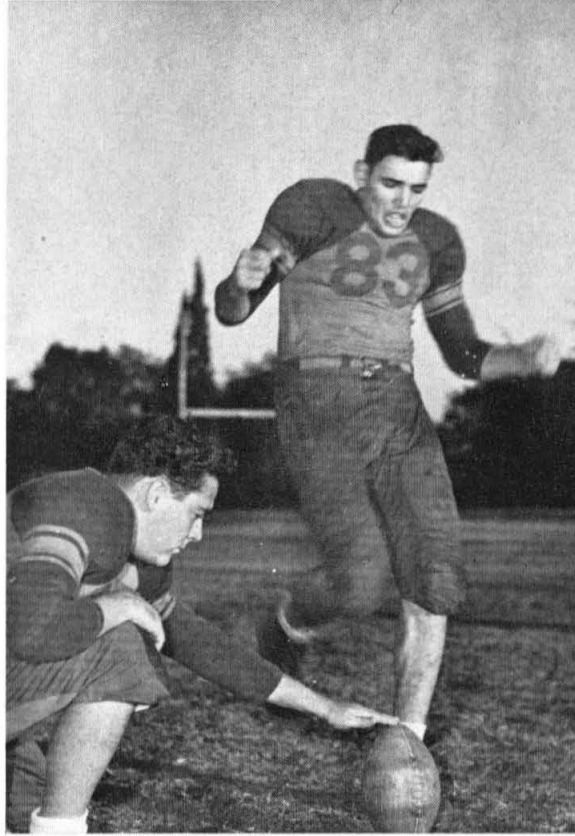
Offensive practice, could have been worse waxing. Funk, Woz and Chaff scored. Norman scored the PAT's.

Whittier 6, Caltech 6

Rough and fumbly. Tech, if anyone, held the edge. Strauss, Long, and Bass defensive giants. Funk, Bake, and Woz bowed shoulders with offensive chore.

Oxy 9, Caltech 0

A rough one to lose. Tech drives all edged in black. Hibb was all over the place. Woz and Mac made our four separate drives lulus.



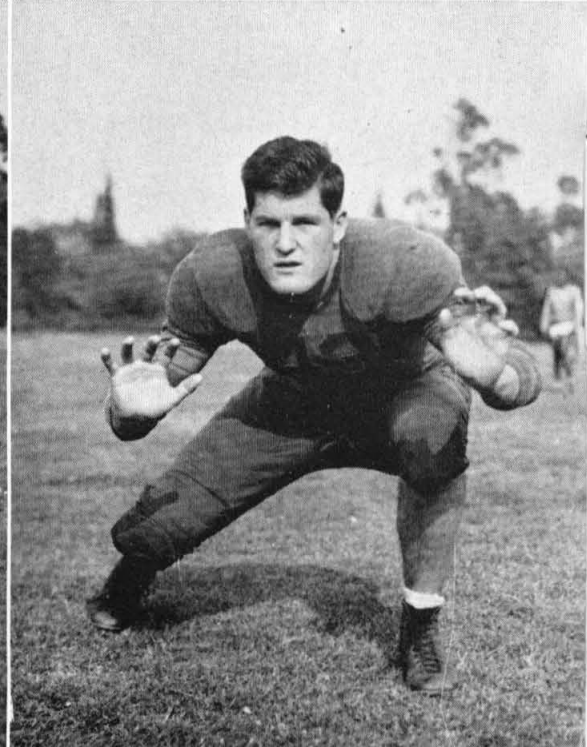
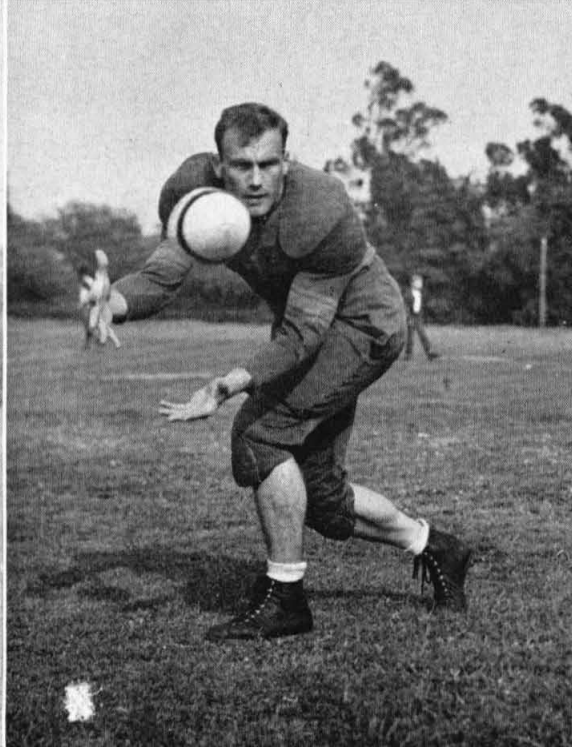
FORREST ALLINDER, MANNY BASS, DON HIBBARD

HERMAN WALQUIST, BILL RUMER, HAL TYSON, DENNIS LONG, TED BOWEN, DAVE POWELL, J. J. BURKE, GLENN CHAFFEE, BILL MUEHLBERGER, ODELL CARSON, DICK FAIRALL, DOUG MACLEAN.

PETE MEHRINGER, WARREN MARSHALL, BROOK TARBELL, AL HOOK, JERRY WOZNIAK, VERN EDWARDS, MANNY BASS, JIM BLUM, CRAIG MARKS, MILT STRAUSS, FORREST ALLINDER, BOB FUNK, DON HIBBARD, DON BAKER, ROLF SINCLAIR, LEIGH SHERRIFFS.

BAIN DAYMAN, LARRY DAHM, DICK SCHUSTER, BYRON KARZAS, JOHN GERPHEIDE, E. I. KARIOTIS, DICK BENNETT, BILL BOUTELLE, DICK CORNELIUS, CHUCK NORMAN, FRED DARMS, ESEL WORRELL, ANDERSON.





GLENN CHAFFEE, DOUG MAC LEAN, HERMAN WALQUIST



Pomona 27, Caltech 20

See-Saw. Hard fought, wide open game, featuring long spectacular plays and critical miscues. Woz was on fire; Chaff passing and punting smooth.

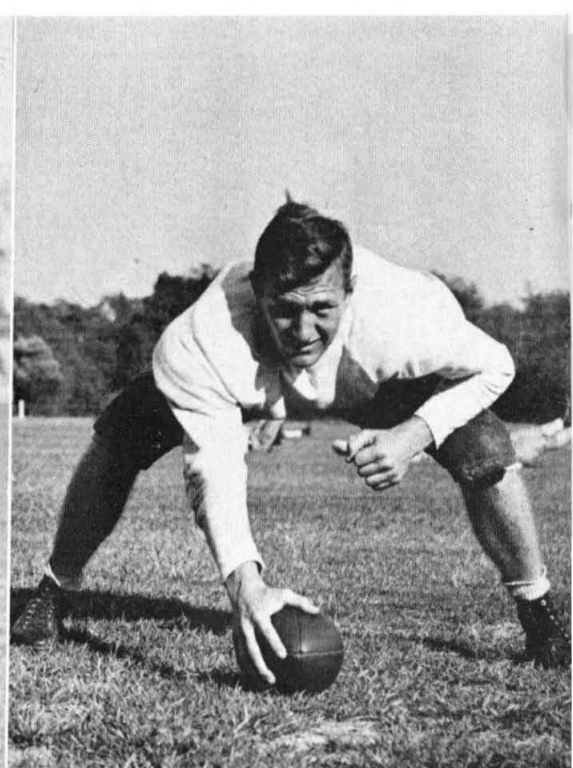
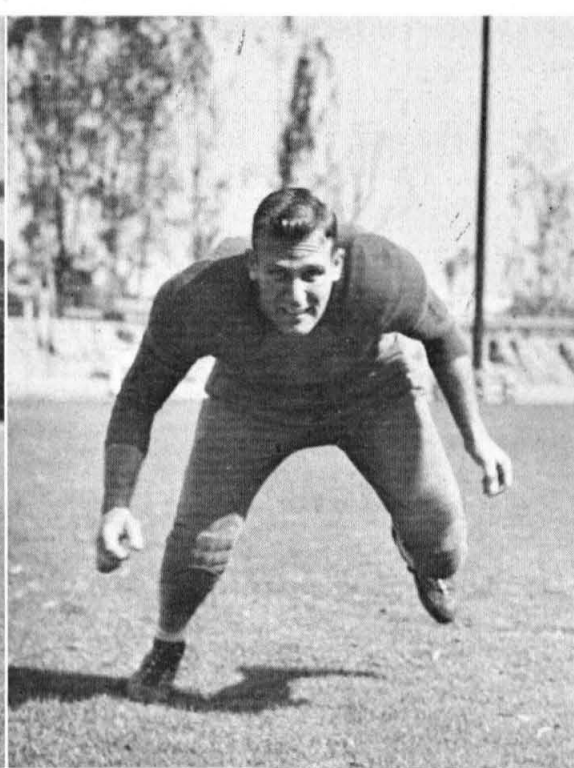
Redlands 20, Caltech 13

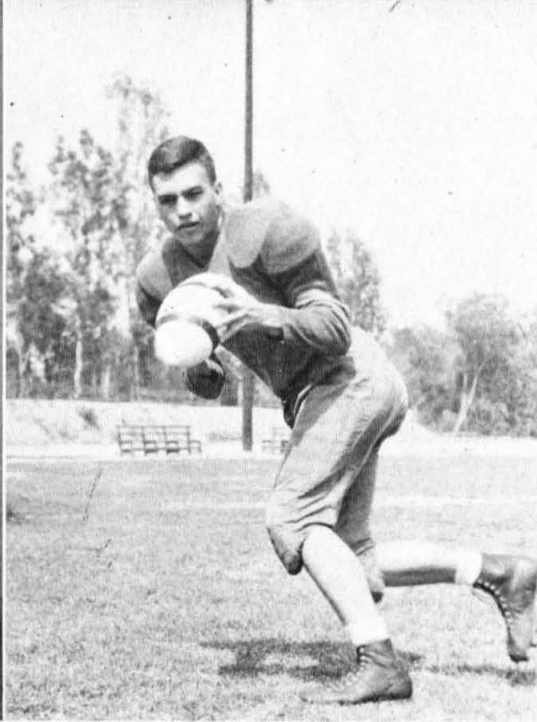
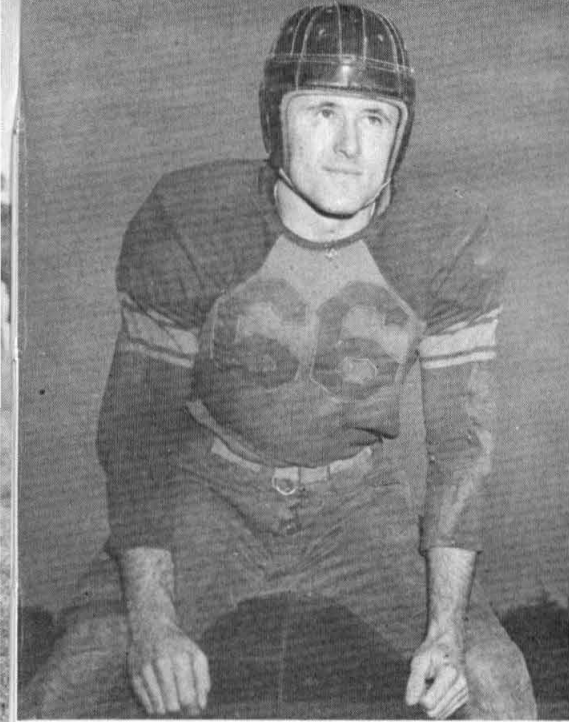
Another closie. Tech TD#1: Bass blocks kick; pass Chaff to Mac. #2, Chaff to Muehl. Walquist and Schoos were splattering 'em.

Pepperdine 46, Caltech 0

A gory staging, but well played. Muehl and Dahm seemed actually to thrive on the rough going.

DOC HANES, JERRY WOZNIAK, DICK SCHUSTER, JOHN GERPHEIDE

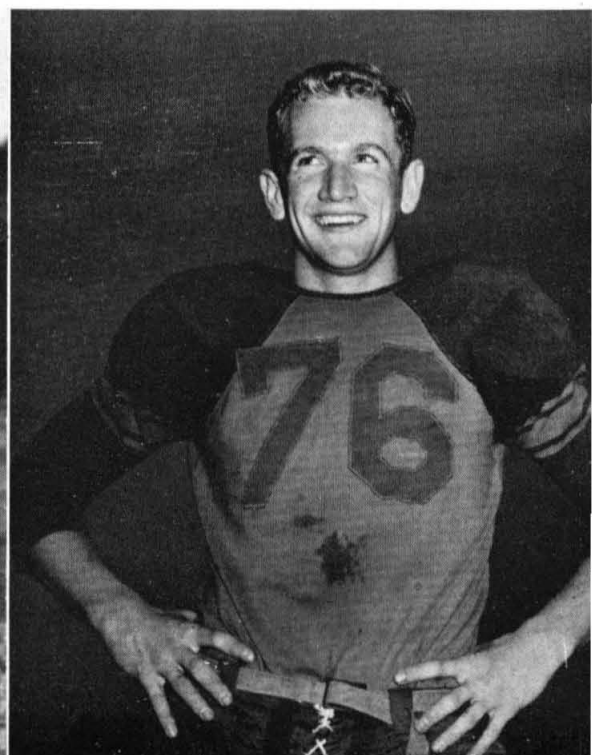
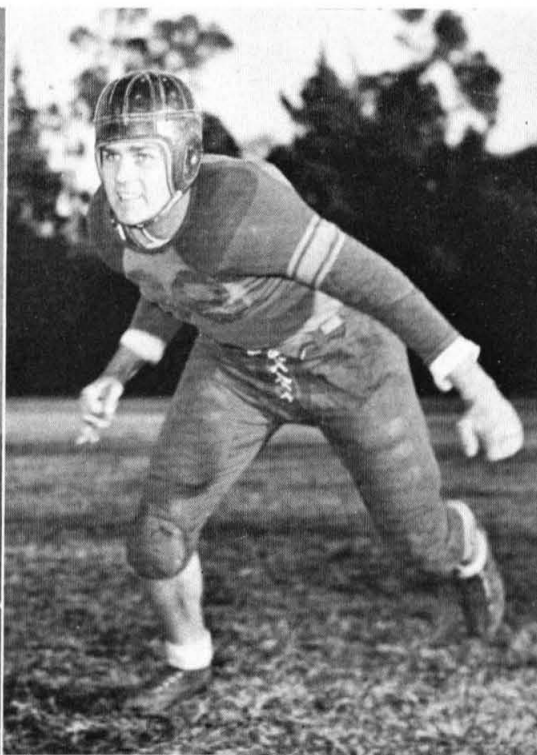
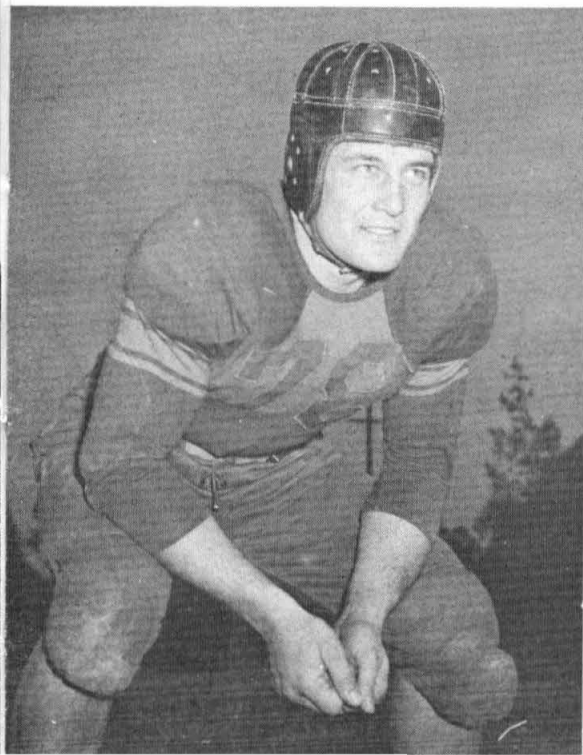


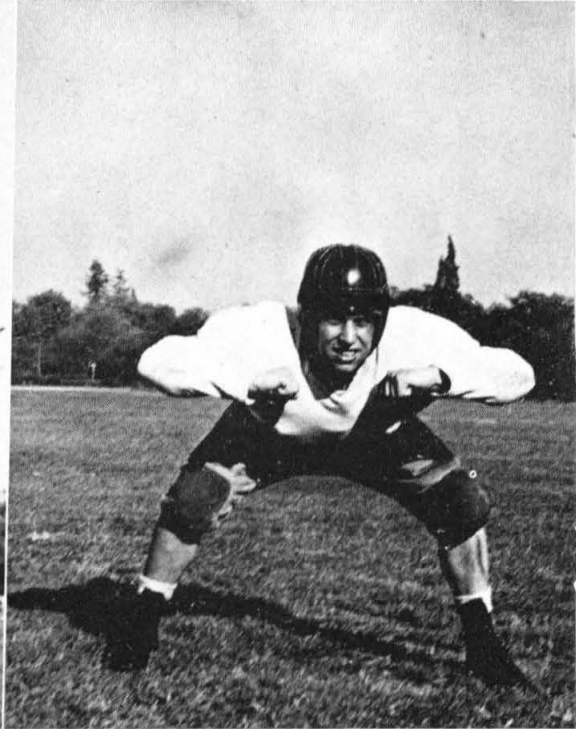


BOB FUNK, DON BAKER, WARREN MARSHALL

FOOTBALL

BILL MUEHLBERGER, LARRY DAHM, DENNIS LONG





CRAIG MARKS, J. J. BURKE, FRED DARMS



The Frosh squad was hapless at the hands of its more experienced foes; handicapped early by condition and later plagued by injury, they were dealt a victory-less season. None-the-less the boys worked hard, learned quickly; they deserve lots of credit. We'll not append the sordid details but merely say that Frosh like Peck, Pfeiffer, and Berner will be demonstrating how well they learned their bitter lessons next year with the Varsity.



COACHES PREISLER AND LONG

FROSH FOOTBALL

ULRICH MERTEN, KEN BERG, ART MILLER, DON SCHMID, JIM GELLETT, GEORGE TERHUNE, FRED EISEN, BOB MUNRO, TAYLOR JOYNER, BOB SMITH.

CHESTER ANDRSON, TONY MALANOSKI, WALT BIGGERS, DICK MARSH, BOB DEGRAS, JIM LAFLEUR, DEAN BLANCHARD, ROLAND BERNER, ED STERN, NOEL REED, JIM LUSOMBE, CARL HIRSCH, EARL HEFNER.

COACH ED PREISLER, NEAL PINGS, BOB BOYER, DAN LEMAY, DEAN DAILY, GEORGE SUMAN, DALLAS PECK, FRED WOOD, VIC PORIZKI, COACH NEVILLE LONG.

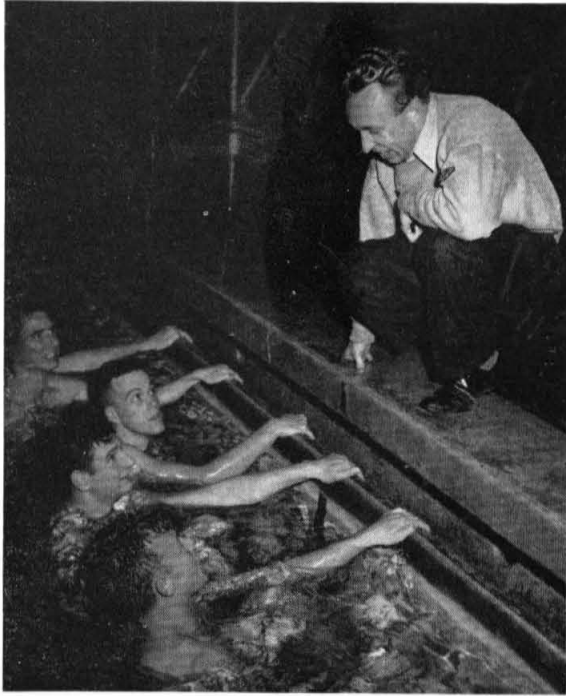


WATER POLO

Tech's entry in the gimme-the-ball-before-I-drown-you division was one of the fightingest outfits in the conference. Skip the won-lost column—and the boys who traded fingers for fins have an excess of credit at the fight window.

Dixon, Palmer, and Stert banged the basket consistently. Eschner, Harris, Waters, and Hall shined in the open water, Harris to the extent of getting All-State honorable mention, and Eimer and Libbey made many fine saves as goalies. Big gun UCLA barely took a 9-6 thriller.



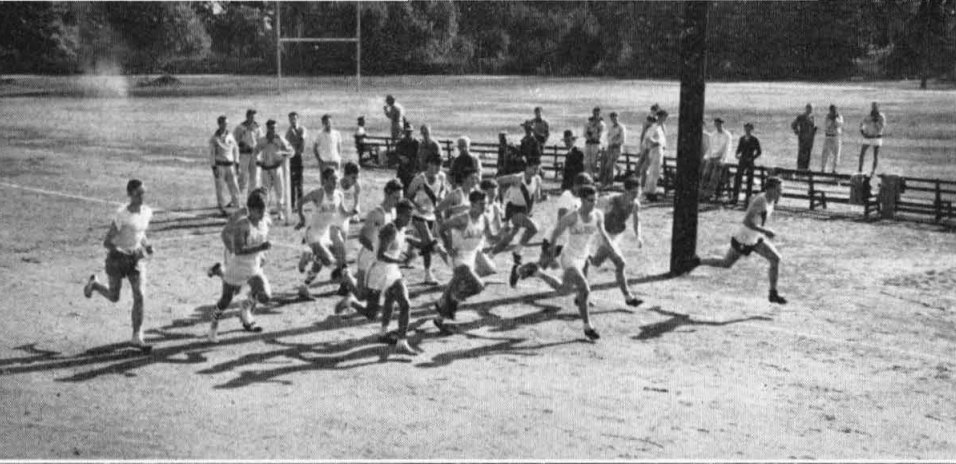


COACH BOB MERRICK

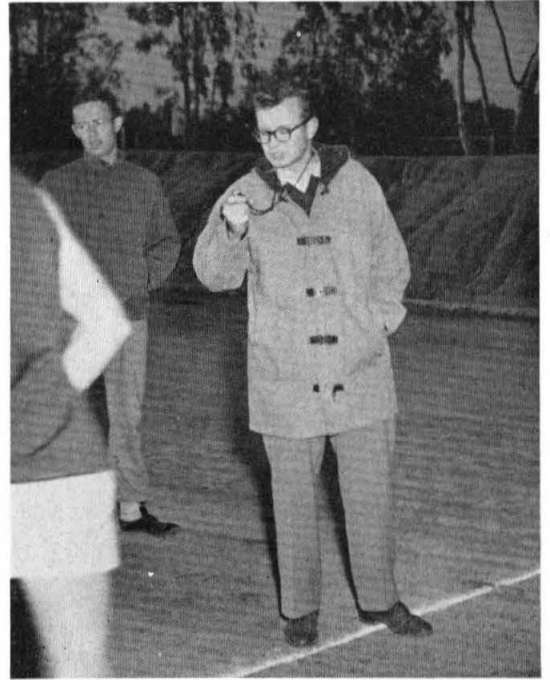


COACH BOB MERRICK, DICK SCHOEN, BOB WALQUIST, AL ESCHNER, DICK LIBBEY, BOB WATERS,
BOB STERT, BILL HARRIS, BRAD HOUSER, CAPTAIN BILL DIXON, JOE CURRAY, MANAGER OLLIE
GARDNER.

FRED SCHNEIDER, JOHN WHITTLESEY, JIM ENSLOW, TOM WATERS, BILL PALMER, MIKE HALL.



COACH BUD CARROLL



CROSS COUNTRY

BILL LANSDOWN, ERLÉ BROWN, DON PETERSON, CARL ANDERSON, DOUG BROWN, DICK CORNELIUS, JACK MARSHALL, COACH BUD CARROLL,
JARED ABELL, DON ASQUITH, MIKE SELLEN, LARRY NOBLES.



Lead by Co-captains Jack Marshall and Don Peterson, the Beaver Leather Lungers finished second in Conference competition.

The season opens with a loss to Compton J. C. (39-21) over the three mile course. . . The Varsity revived and won victories in dual meets with Oxy (27-28), Santa Barbara (27-28) and Pomona (19-36). The Engineers also won a three-way meet with the Tigers and the Gauchos (39-40-41).

Jack Marshall, Don Peterson, Doug Brown, Mike Sellen, and Larry Nobles comprised the scoring team.



LARRY NOBLES, MIKE SELLEN, CO-CAPT. DON PETERSON, DOUG BROWN, CO-CAPT. JACK MARSHALL

BOB COBB, FROSH CAPTAIN, WINS THE CONFERENCE MEET



FROSH

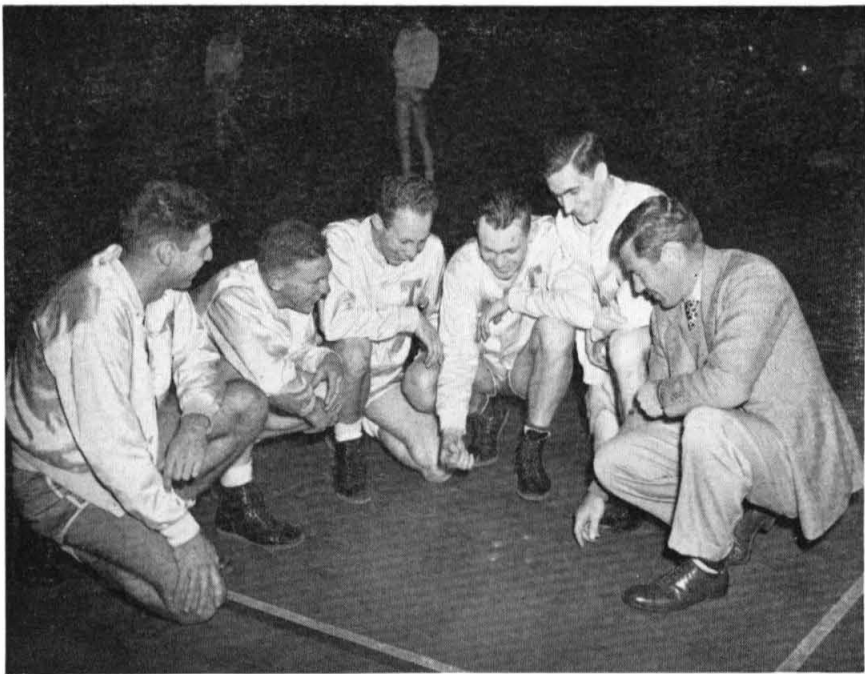
The frosh squad outran all competition and finished a superb season as conference champs. Outstanding performers were: Bob Cobb, Dick Smyth, Ray Bowerman, Walt Edwards, and Bob Kurland.



FROSH SQUAD

STANDING: MGR. JOE BOOKIE, BILL SAMPSON, RAY BOWERMAN, WALT EDWARDS, CHARLIE STEESE, COACH BUD CARROLL.

KNEELING: BOB KURLAND, RITCHEY NEWMAN, BOB COBB, DICK SMYTH



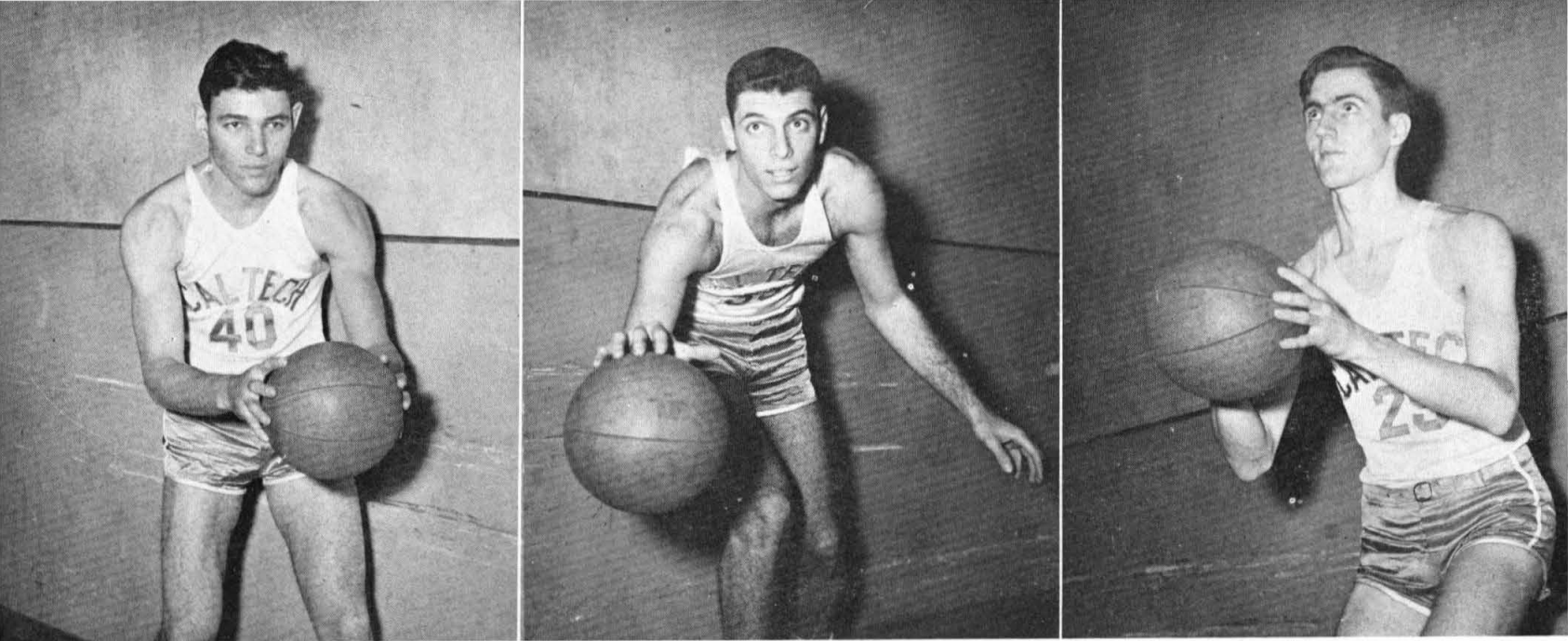
PAUL SALTMAN, DON FURTH, JAY MONTGOMERY, TED BOWEN, AND BILL COX
GET THE WORD FROM COACH CARL SHY

The varsity basketball team started the season in championship style, suffered the injury of its two starting forwards, Don Furth and Ted Bowen, and finished the season in a tie for last in the conference. The team played a tight defensive game all year, showing a better defensive record than co-champion Oxy. Statistics show that our average league game was lost by only four points, a tight season in any conference.

Big Bob Stokely was elected captain and also made first string all conference guard. Paul (goon) Saltman played a rugged game at center, and was leading the scoring columns until opposing coaches mastered his jump-shot. Bill Cox and Jay Montgomery played excellent defensive ball at the guard spots, while Manuel (Tex) Bass and Hal Tyson took over the forward spots on injury of Bowen and Furth.

VARSITY



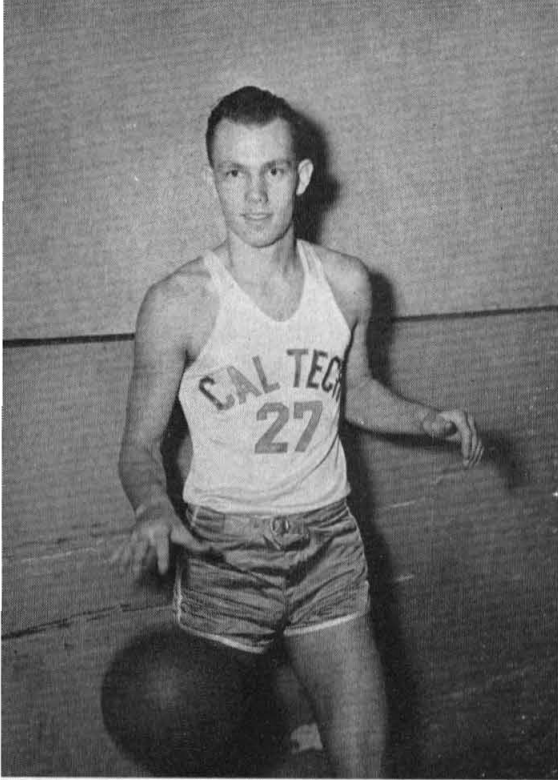


MANUEL BASS, PAUL SALTMAN, BILL COX

BASKETBALL

TYSON, BASS, SALTMAN, BOWEN, COX
 MGR. SMOOT, WILLIAMS, BAKER, MONTGOMERY, OTTESTAD, COACH SHY.
 VREELAND, SCHOEN, HOLDITCH, GREENWOOD, FURTH



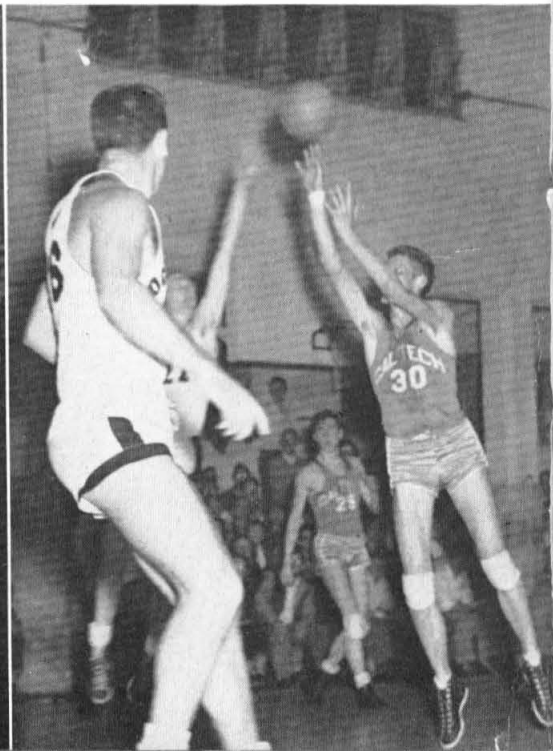
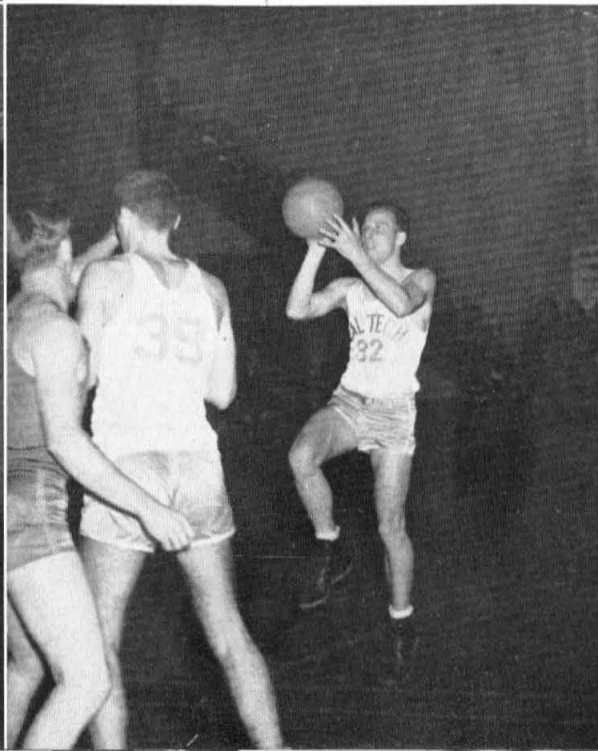
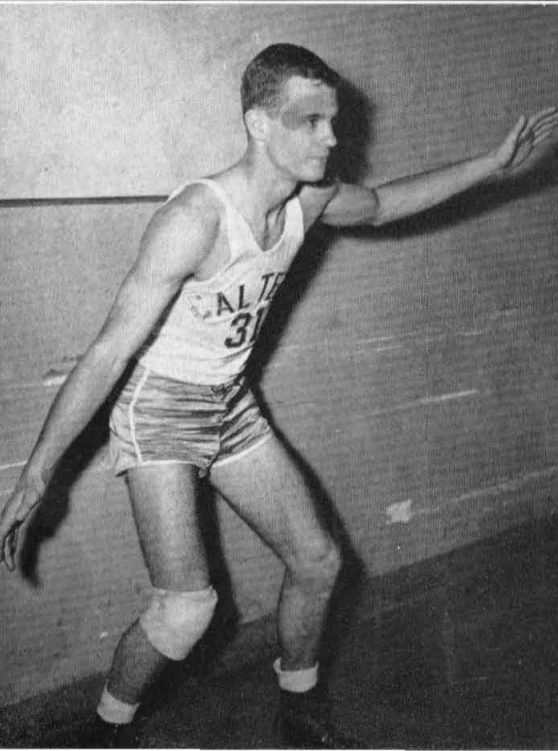


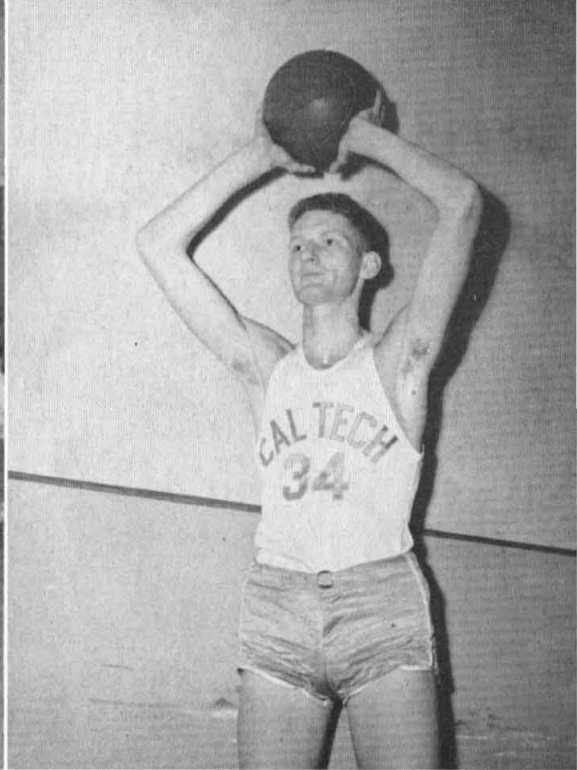
TED BOWEN
JAY MONTGOMERY
HOWELL TYSON

MANAGERS BOB SMOOT
AND CLAY ENGLAR

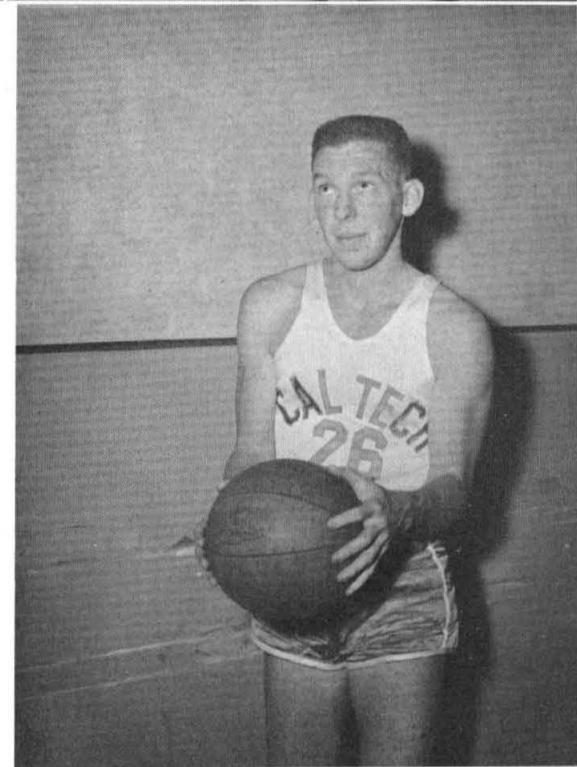


BASKET



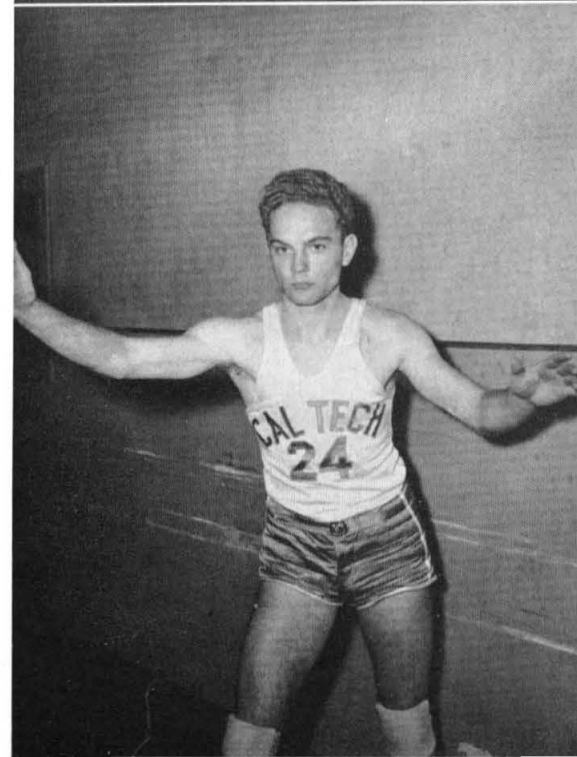


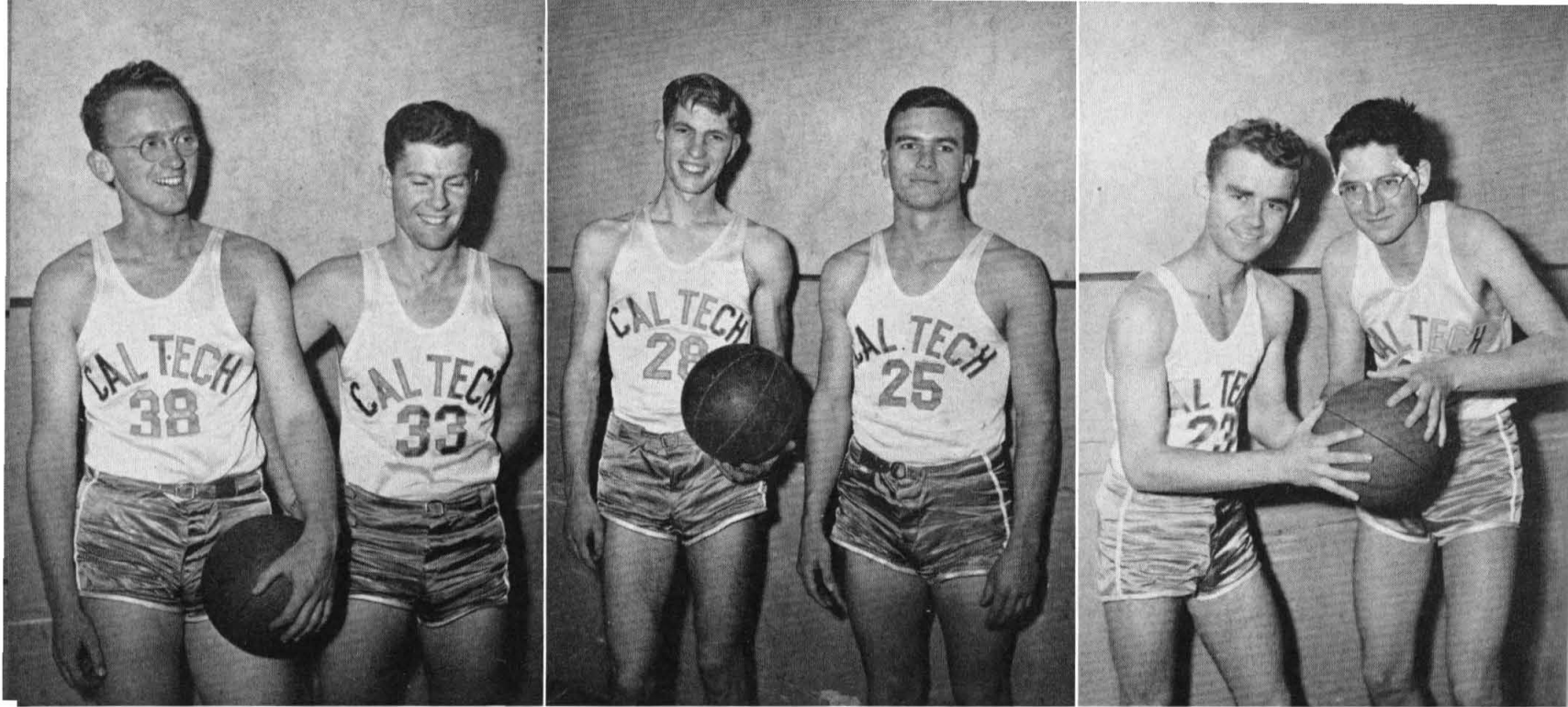
BALL



CAPTAIN BOB STOKELY
DON FURTH
DON GREENWOOD

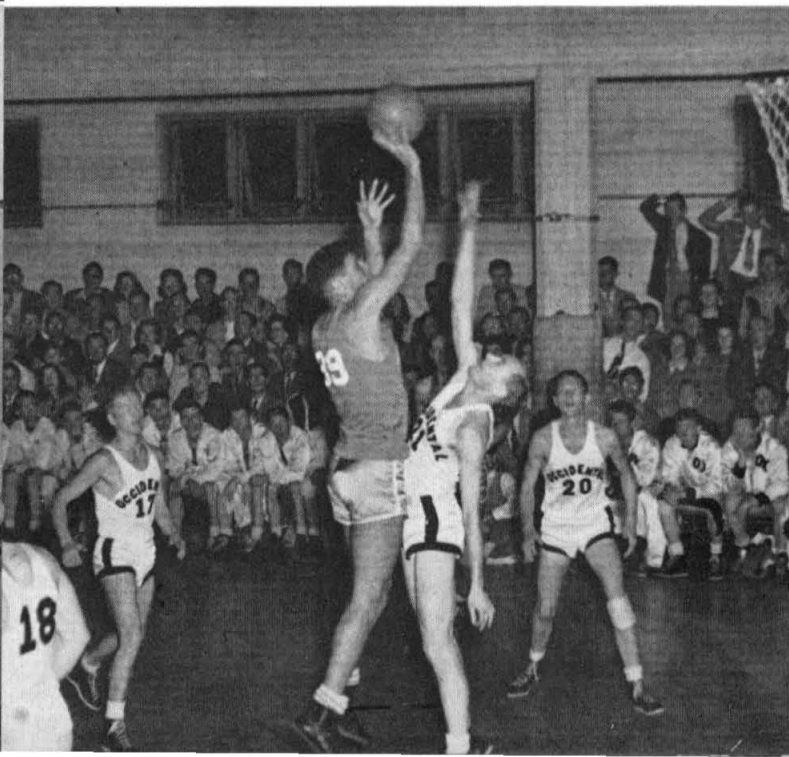
JACK MULLEN





JIM HOLDITCH, JOE WILLIAMS, THAD VREELAND, DON BAKER, JACK OTTESTAD, DICK SCHOEN

BASKETBALL



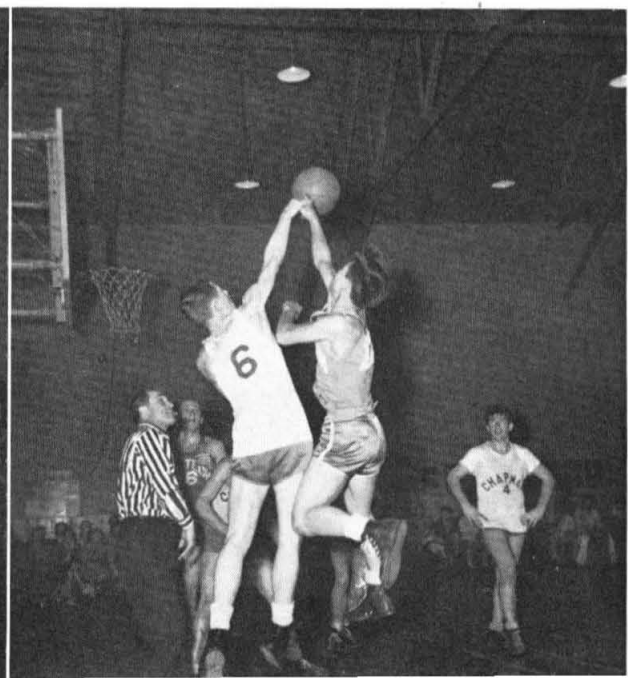
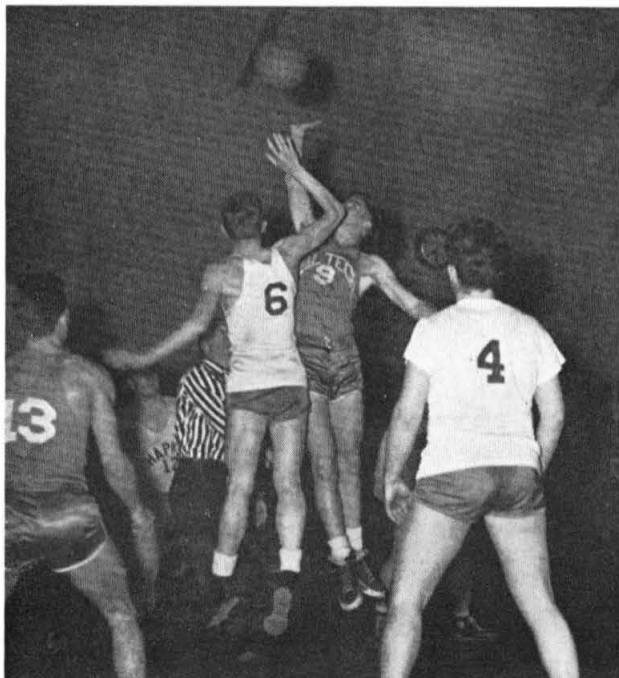


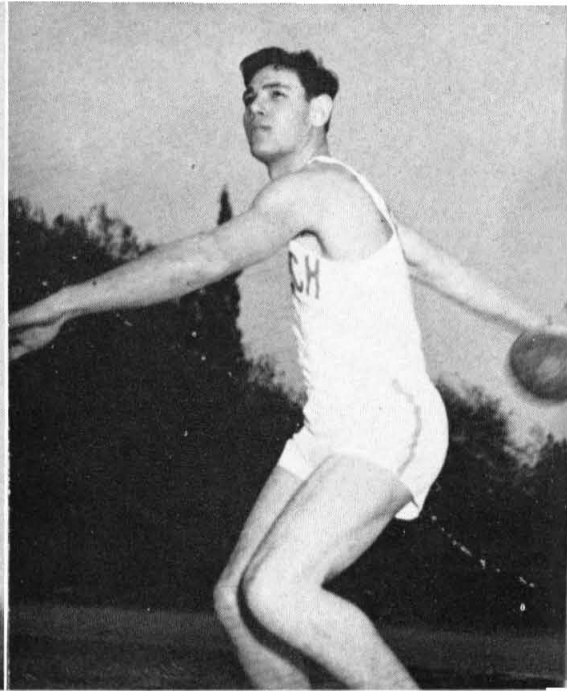
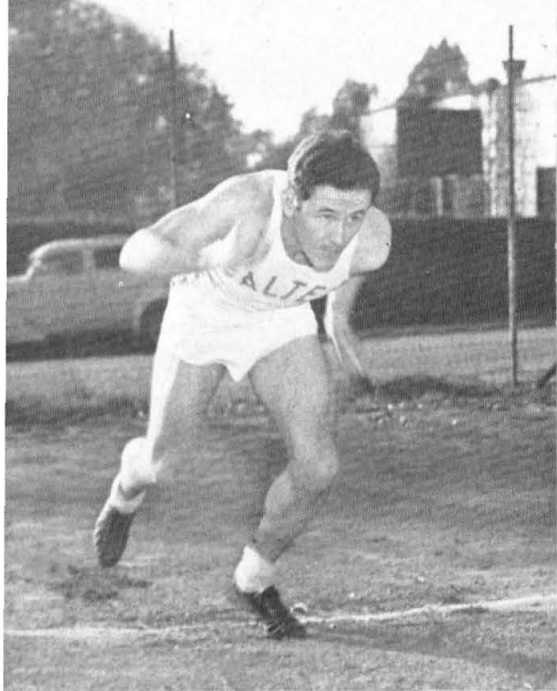
COACH ED PREISLER, MGR. EARL HEFNER, BUD FRIESE, AL SERENO, THORNE BUTLER, DICK LIBBEY, ED STERN, RAY GREUTERT, MGR. JOE MANGIN.

HIROSHI KAMEI, DEAN DAILY, STEVE PARDEE, DICK BREWER, JOHN FEE, NOEL REED, JACK MARTIN

FROSH

With Al Sereno as Captain and Thorne Butler as high point man, the Frosh cagers finished third in the conference. Outstanding were Dick Libbey, Dick Brewer, George Friese, and Ray Greutert; all good men for next years' varsity.





BOB FUNK, ELROY CHINN, MANUEL BASS

VARSITY TRACK

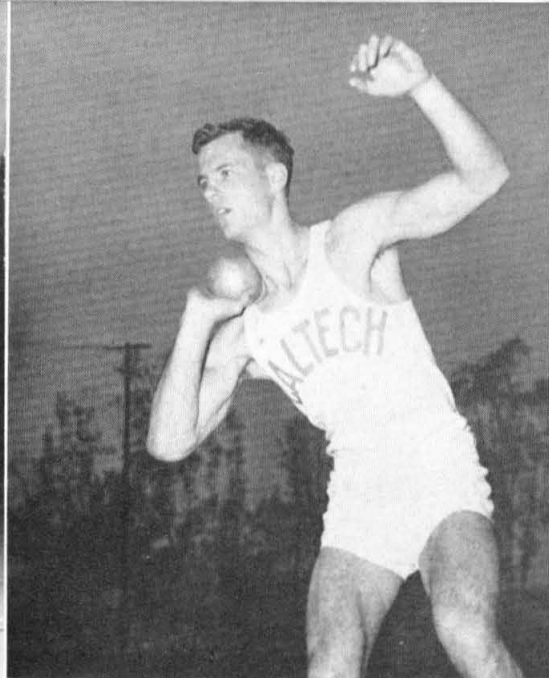
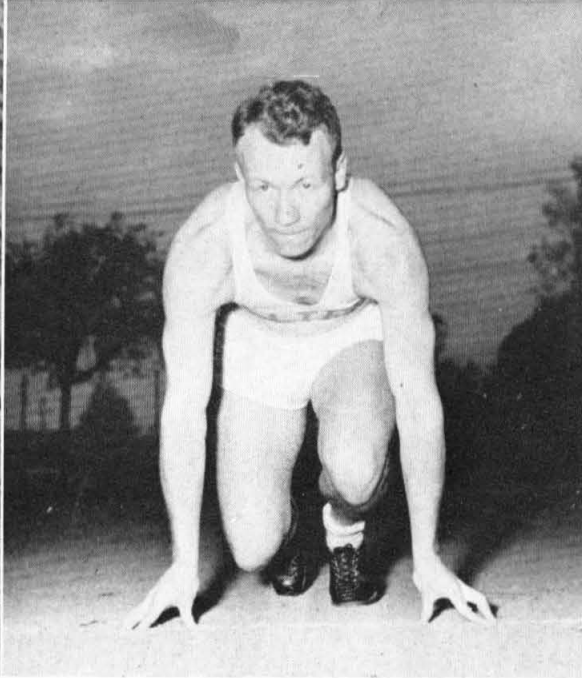
Led by school broad jump record holder Elroy Chinn and conference 880 champ Stan Barnes, the Varsity track team will complete a better than average season. Hal Tyson, Frosh shot record holder, is expected to crack the Varsity record. Also outstanding are Jack Marshall, ace miler, and Martin Walt, Frosh pole vault record holder. In the sprints, Bullet Bob Funk and Dave Madden are leading the field. Sophomore Dwight Schroeder is the top hurdler and he also doubles in the broad jump and sprints. Manuel Bass is throwing the discus out of the lot, and high jumpers Radoy Heggland and Win Soule are nearing six feet. The mile relay team composed of Bill Sylvies, Erle Brown, Dick Cornelius and Stan Barnes will do well in conference competition.



COACH ANDERSON, GEORGE BROWN, BILL SYLVIES, DICK CORNELIUS, WIN SOULE, MARTIN WALT, FERNANDO CORBATO, BILL SIMONS, ERLE BROWN, COACH DOC HANES.

MGR. BUD CARROLL, TOM HAMILTON, ODELL CARSON, RADOY HEGGLAND, JACK MARSHALL, DOUG BROWN, JOHN KARIOTIS, DWIGHT SCHROEDER, ELROY CHINN.

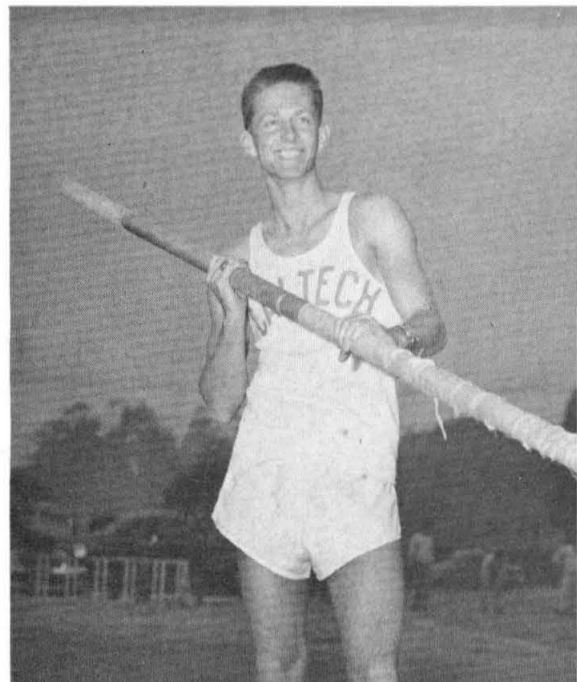
BAIN DAYMON, CHARLES SHALLER, DON PETERSON, STAN BARNES, WAYNE HERZIG, DAVE MADDEN, BOB FUNK.



STAN BARNES, ERLE BROWN, HOWELL TYSON

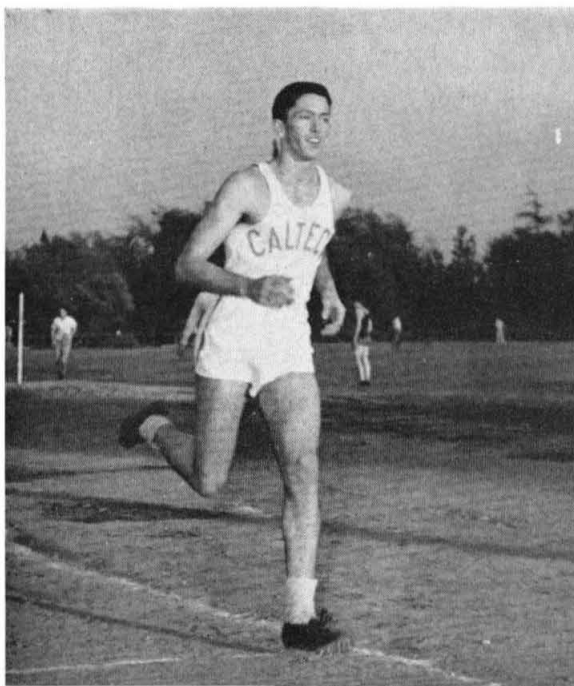


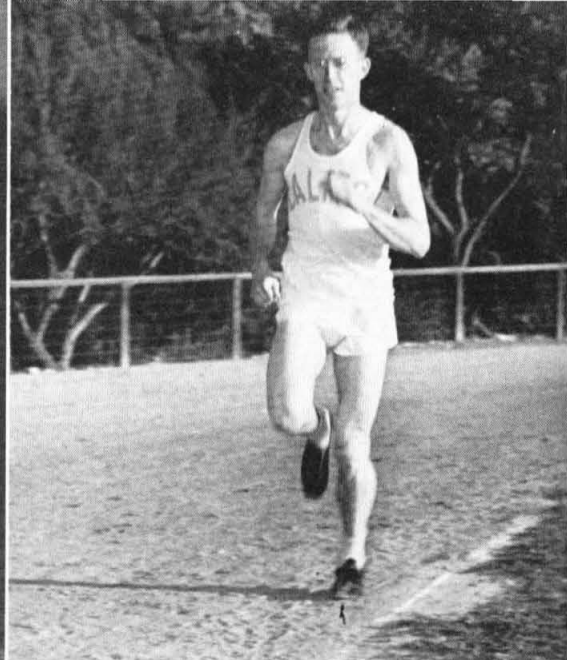
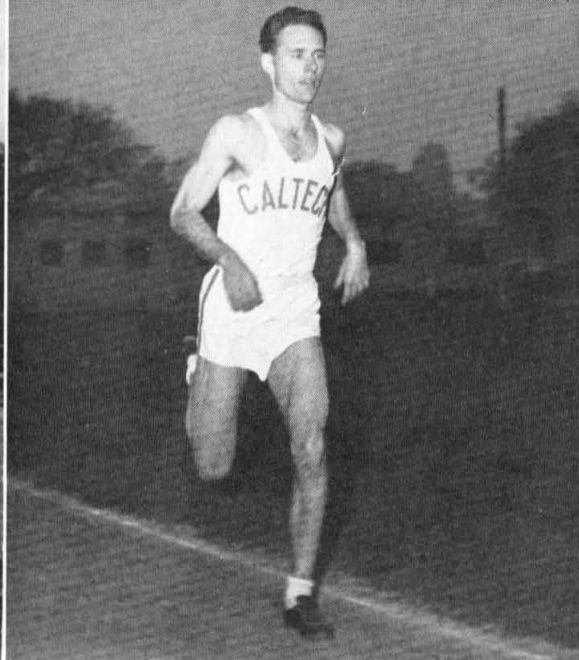
MANAGER BUD CARROLL, TRACK COACH DOC HANES,
FIELD COACH MASON ANDERSON



MARTIN WALT
DWIGHT SCHROEDER
JACK MARSHALL

T R A C K



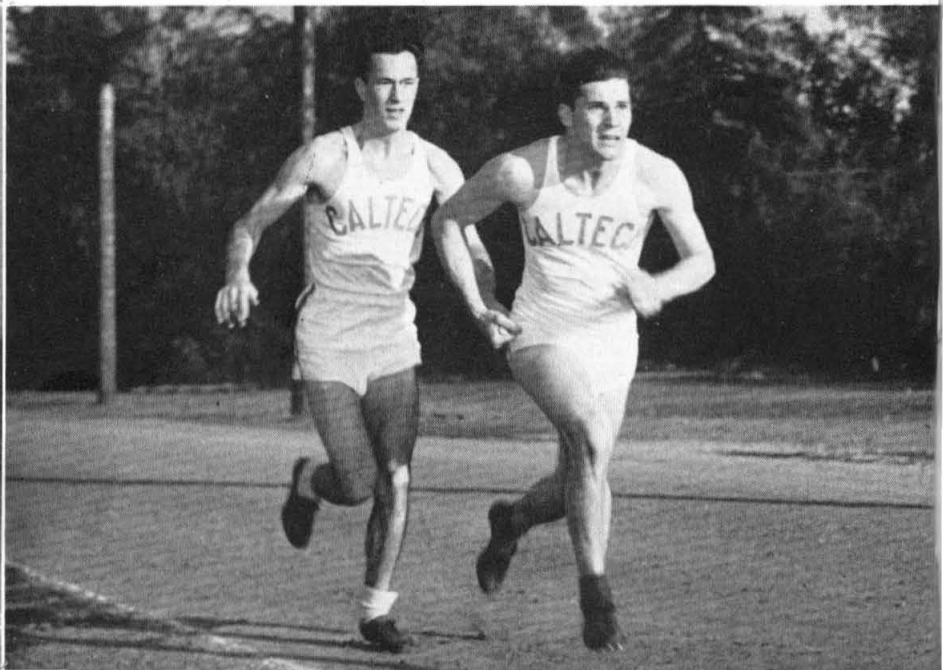


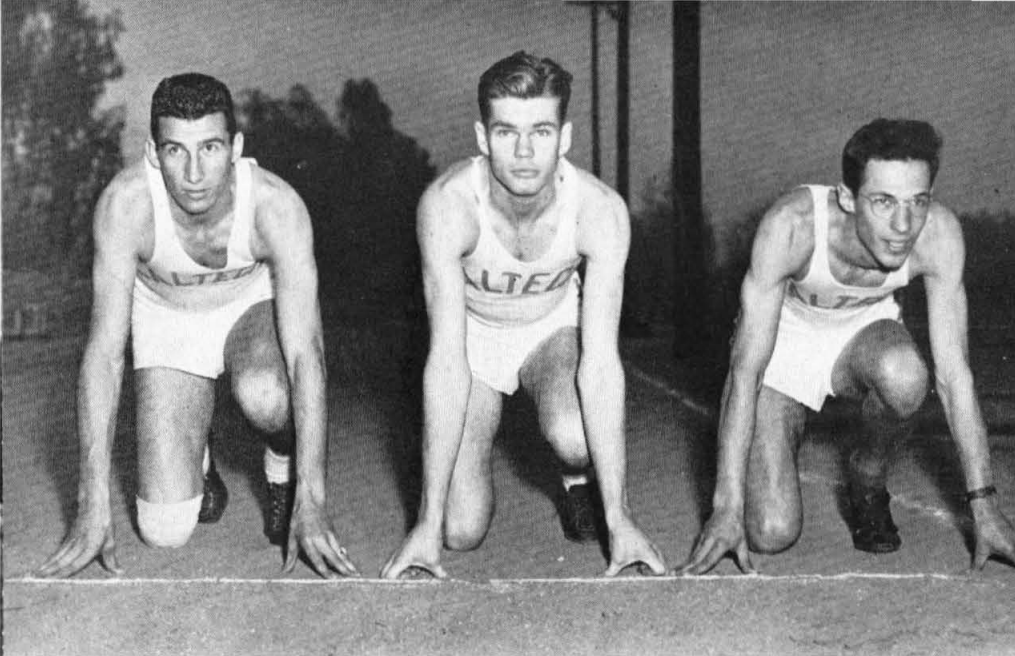
BILL SIMONS, DOUG BROWN, DON PETERSON



VARSITY TRACK

JOE GREEN AND MIKE SELLEN, DICK CORNELIUS AND ODELL CARSON,
DAVE MADDEN PASSES TO CHUCK SHALLER

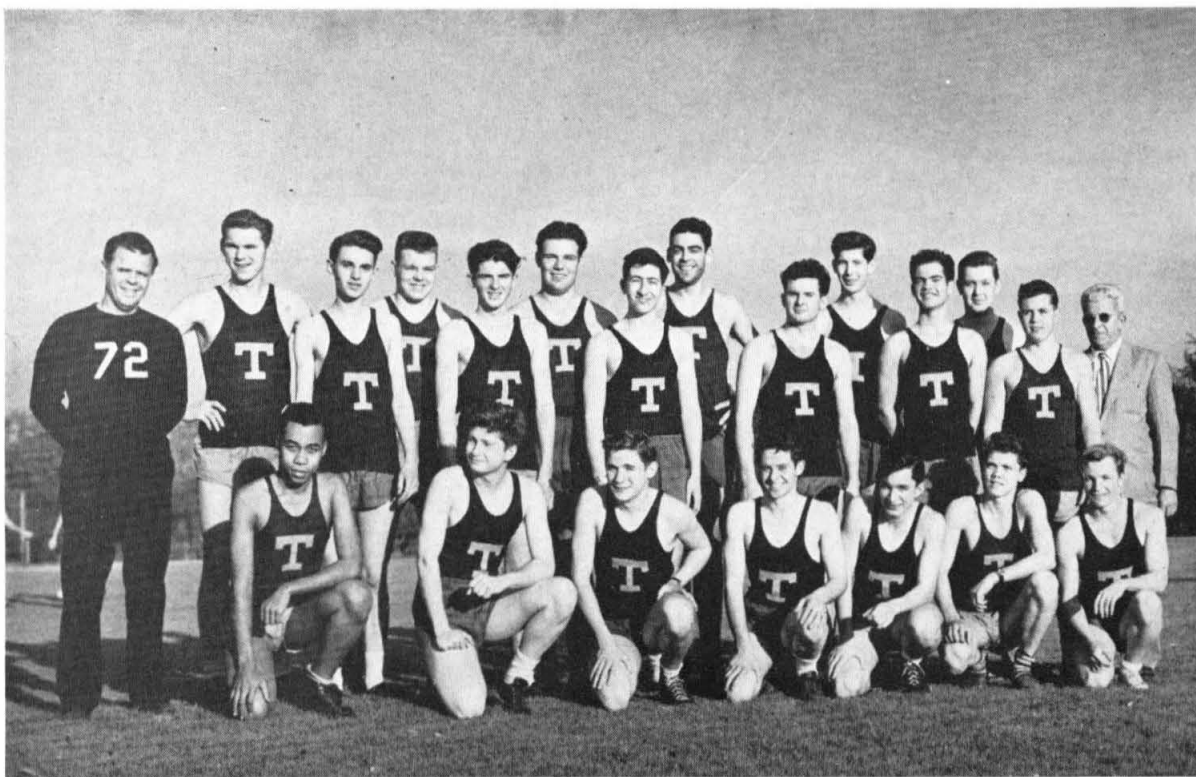




GEORGE BROWN, WAYNE HERZIG, JOHN KARIOTIS, BILL SYLVIES, FERNANDO CORBATO

FROSH TRACK

The Frosh track squad is strong in the weights, with Art Miller leading the conference in the discus and shot, closely followed by John Lewis. Outstanding in the distances are Bob Cobb and Dick Smythe, while Walt Edwards shines in the middle distances.



COACH ANDERSON, KEN BERG, RAY BOWERMAN, JOHN LEWIS, WALT EDWARDS, ED MILLER, BOB KURLAND, ART CUSE, JIM LUSCOMBE, JIM GILLETT, SERGIO RODRIQUEZ, FRED EISEN, BILL BARBAT, DOC HANES.

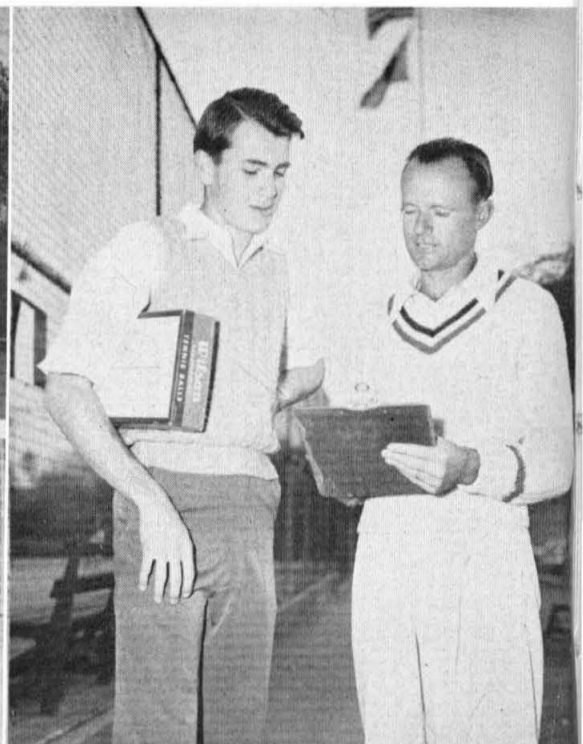
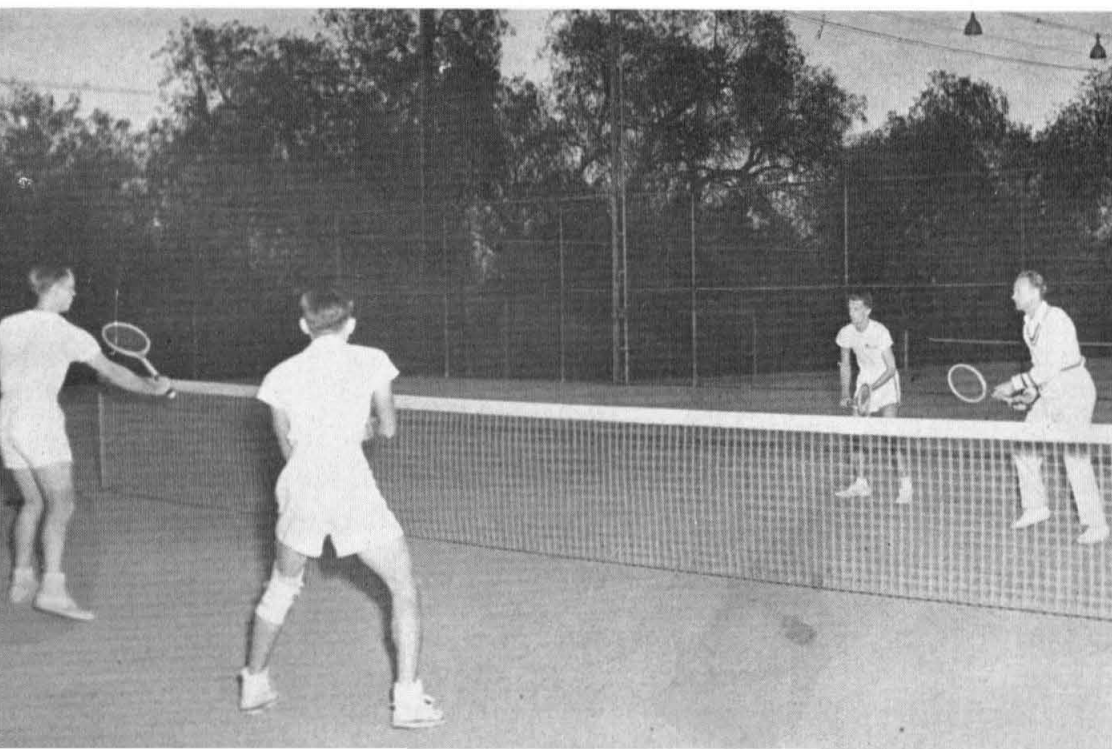
JIM DENTON, DICK SMYTH, DALLAS PECK, BOB COBB, BILL SAMPSON, WALT HARTUNG, CHARLES PAULSON.

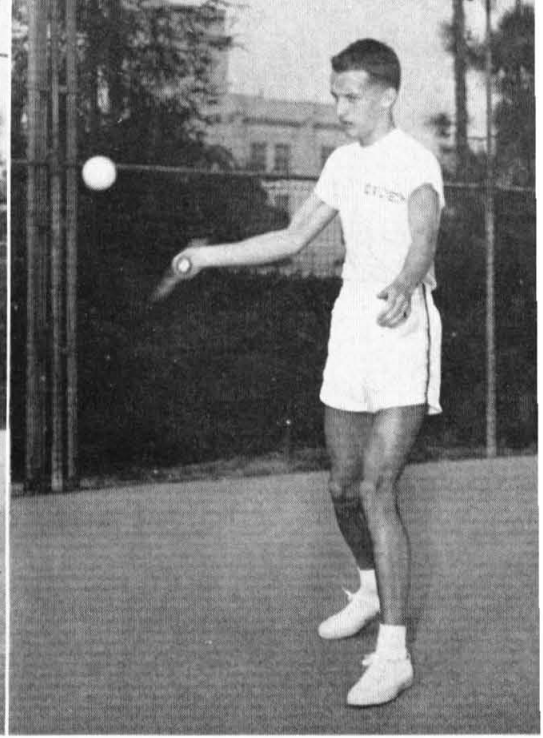
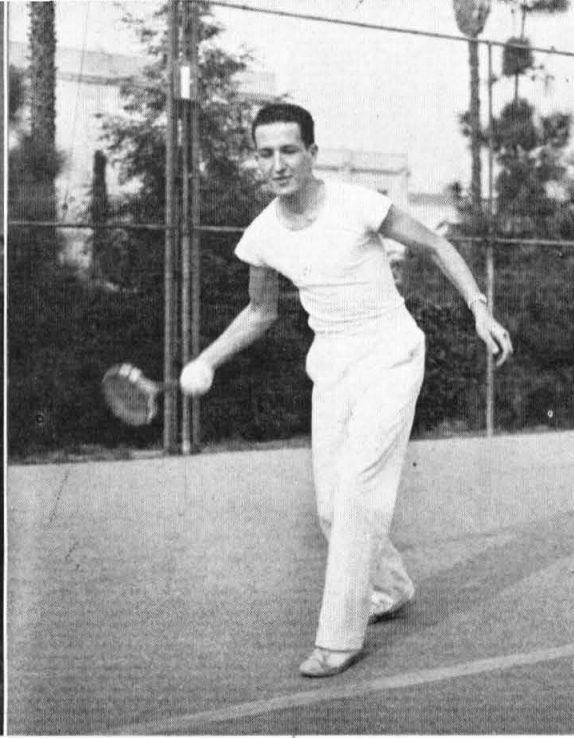


COACH JOHNNY LAMB, MAURICE RATTRAY, FRED GUNTHER, JACK POINDEXTER, TOM LANG, JIM SUHRER, J. C. BEAR, ED ALEXANDER, BILL WOODS, MANAGER DON STILLMAN.
 BILL SHIVAR, PHIL LAMSON, BLOUKE CARUS, CHARLIE VADHANAPANICH, LARRY NOBLES, BOB FISHER, HOWARD LEWIS.

TENNIS

MANAGER DON STILLMAN AND COACH JOHN LAMB

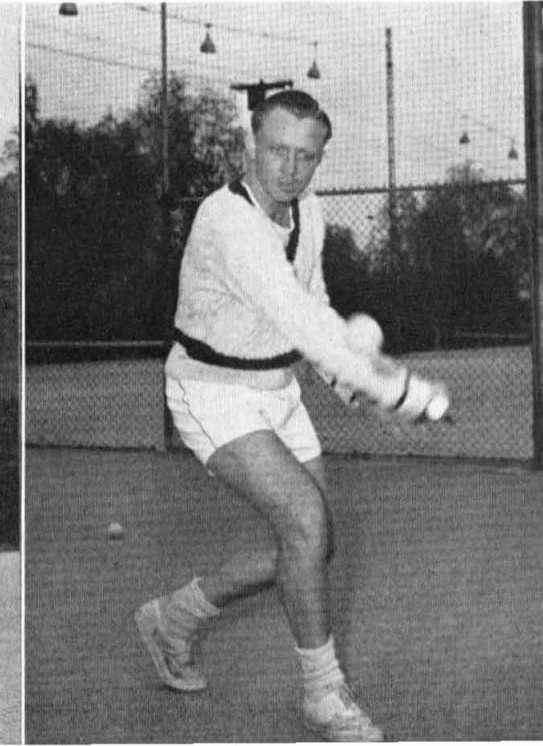
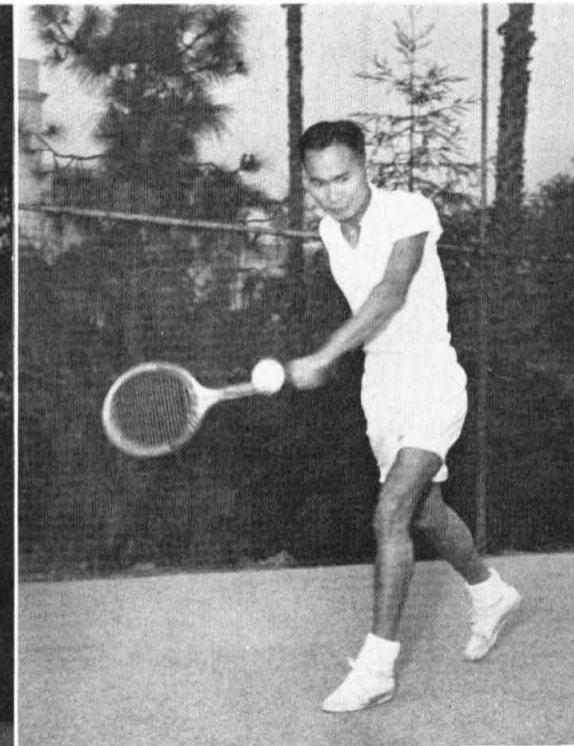
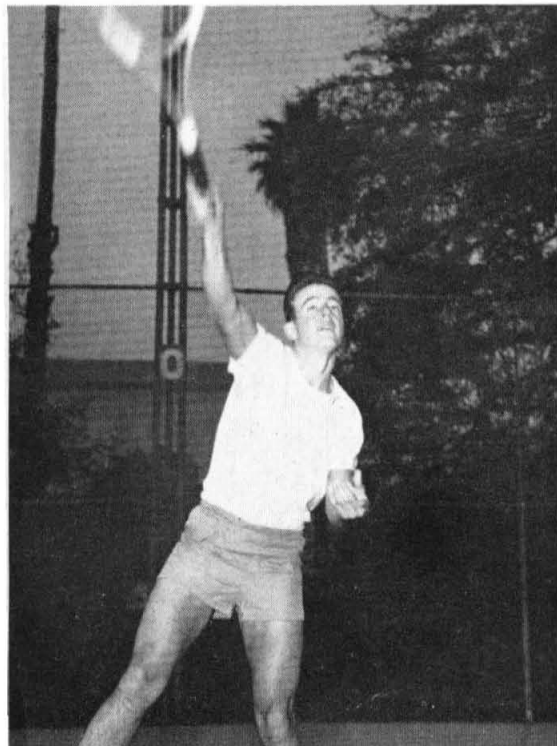


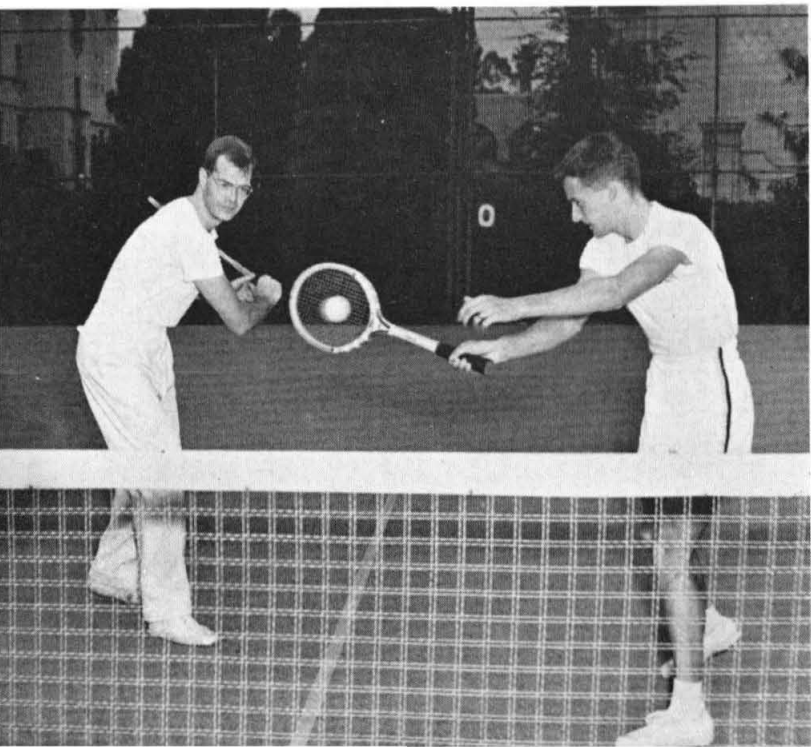
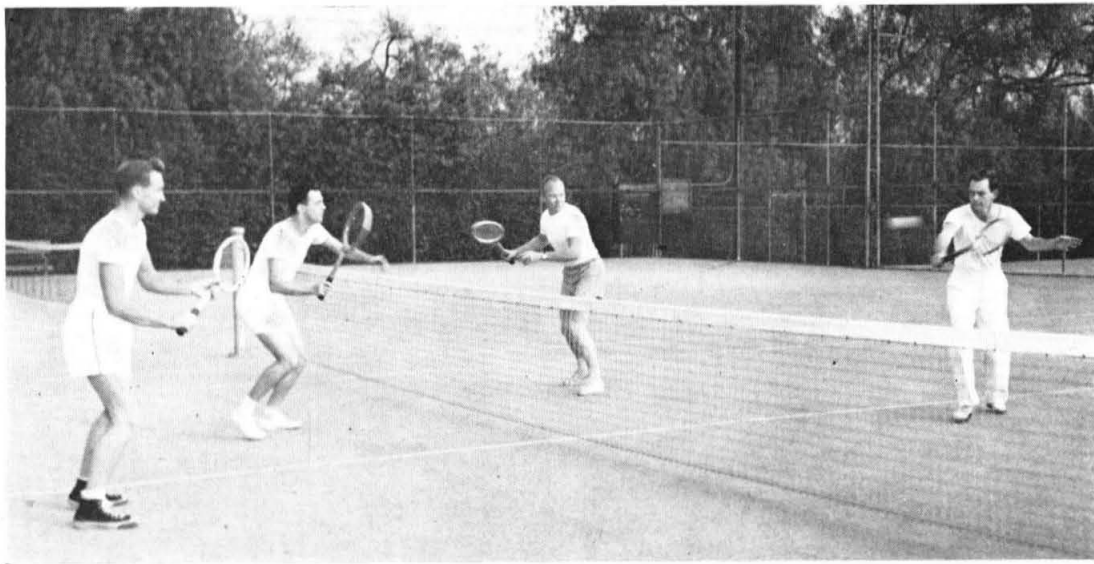
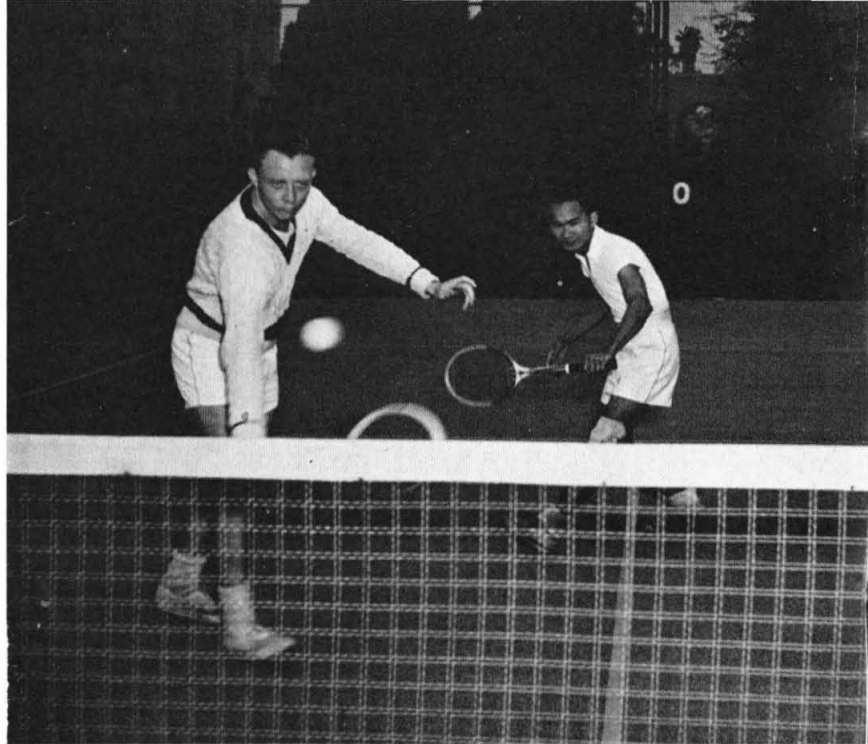


BOB FISHER, ED ALEXANDER, LARRY NOBLES

The Beavers swept a practice opener from Loyola 9-0, but prepared to face stiffer '48 conference competition. Every starting slot on the squad was well contested and team spirit ran very high. Guided by able Johnny Lamb, the team might well go places in 1948, especially with the help of last year's lettermen Jim Suhrer, Ed Alexander, Charlie Vadhanapanich, and Larry Nobles.

PHIL LAMSON, CHARLIE VADHANAPANICH, BILL SHIVAR

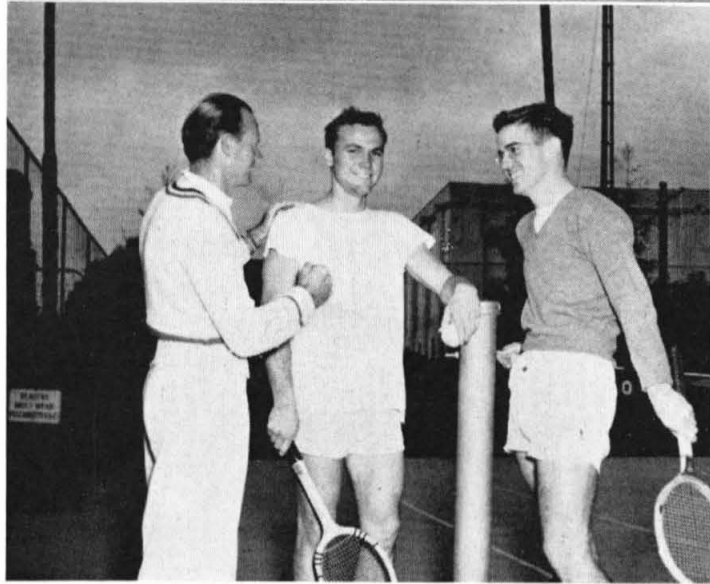
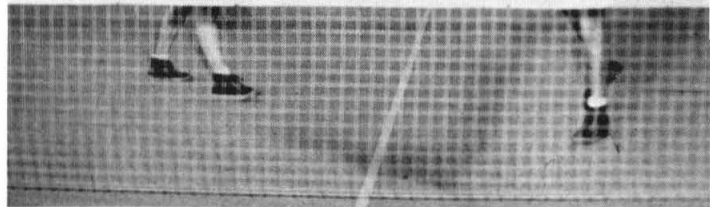
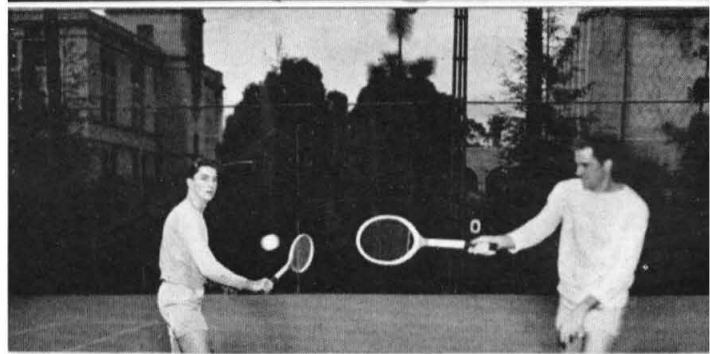




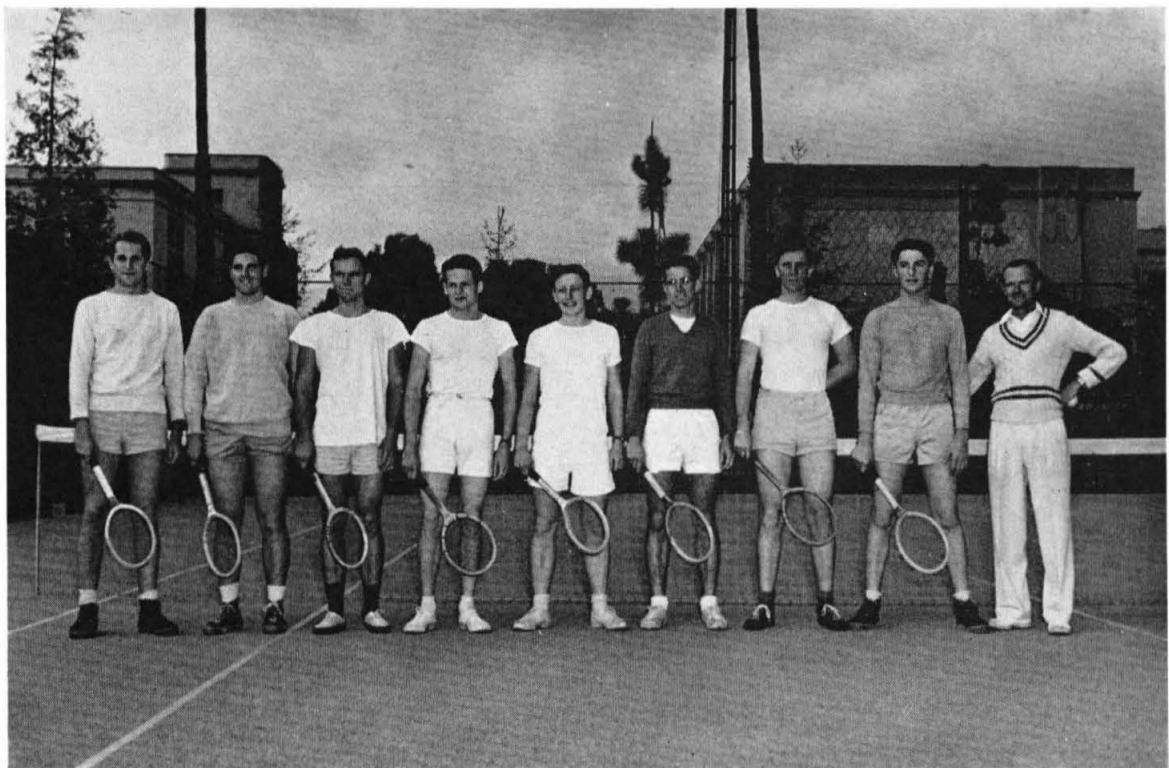
FROSH TENNIS

Tech's tennis future looks bright, for budding young racketeers on the frosh squad were numerous and promising. Getting off to a slow start the junior netmen gradually picked up in tempo and finally turned in a fine season.

Blanchard and Martin shined in court play—and all the team members felt lucky to have the varsity mentor, Johnny Lamb, dishing out valuable pointers to the team.



THORNE BUTLER, BOB MUNRO, DEAN BLANCHARD, DICK MARSH, STEVE PARDEE, HUGH MARTIN, LINN CROSSWHITE, DON SCHMID, COACH JOHNNY LAMB





STRAUSS, WHITE, DALTON, CHAFFEE, JOHRDE, HARRISON, WINCHES
TER.

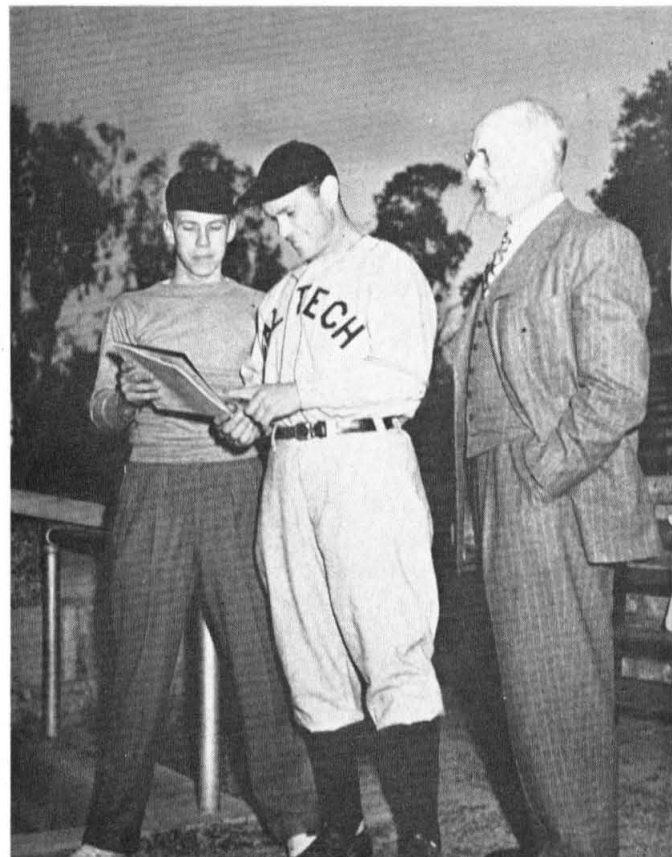
NORMAN, BUTLER, MORRISON, BURKHOLDER, PATTERSON, HEDRICK,
POLLACK, MOORE.

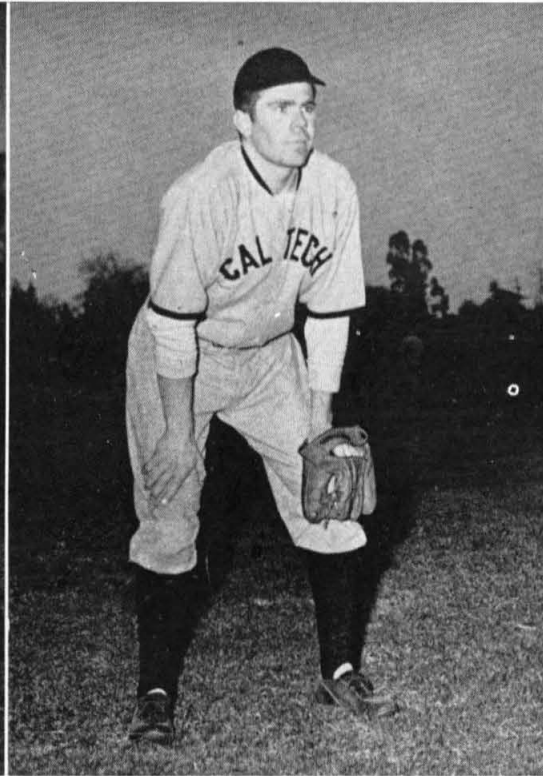
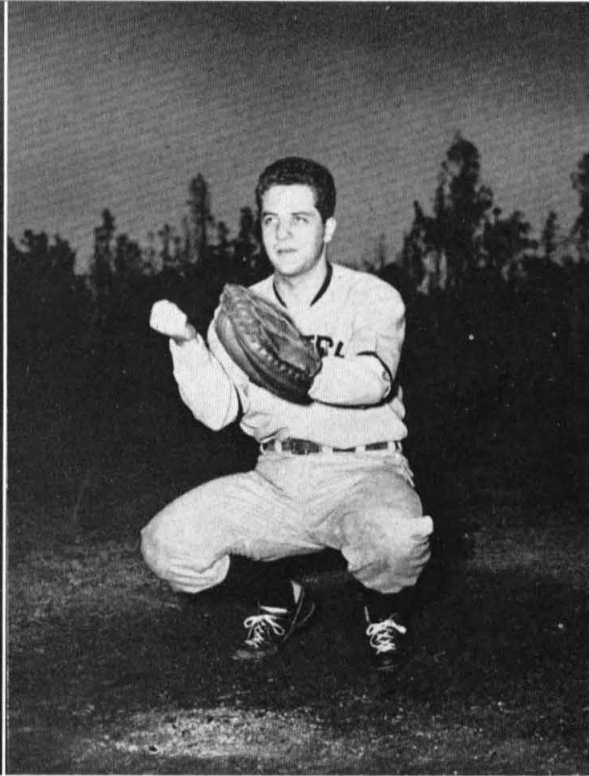
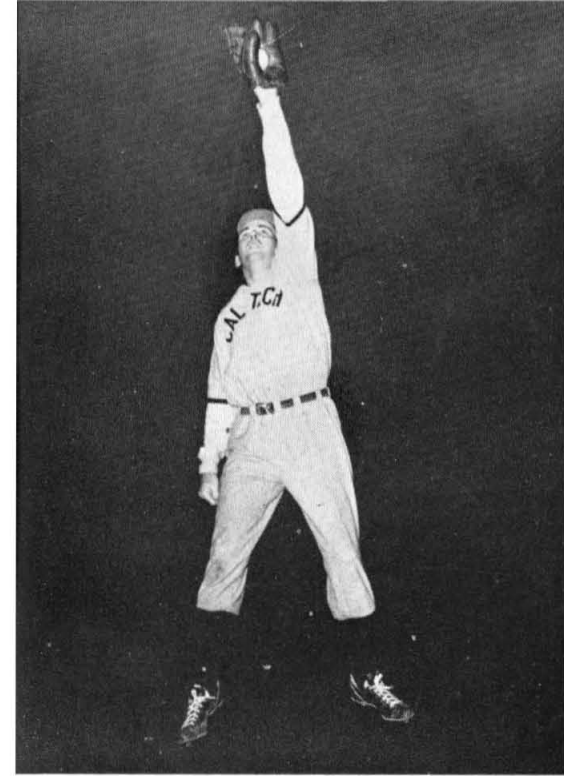
PREISLER, KACHADOORIAN, WILLIAMS, BRAYFORD, SMITH, JARMIE,
SPAULDING, BOUTELLE.

BASEBALL

Under the new management of Ed Preisler the hidiers seem at the time of this writing to be shaping into a going concern. The only concrete data is a recent practice victory over P. C. C. by an 11-9 margin. For the length of time the boys have been practicing, their playing was good, though the pitching and fielding was rather slow. With lettermen Morrison, Norman, Butler, and Strauss comprising the infield there should be comfort for the pitchers we seek. Chaffee seems to be well on the way as a hurler and with Hedrick, who has lettered as an outfielder but has mound ambitions, we have the beginnings of a fine pitching staff. Petrulas behind the plate, Patterson and Smith in the outfield for another year, fill out the team that last year started cold but finished hot and are out this year to show that it was no accident.

MANAGER TOM MOORE, COACH ED PREISLER, AND HAL MUSSELMAN



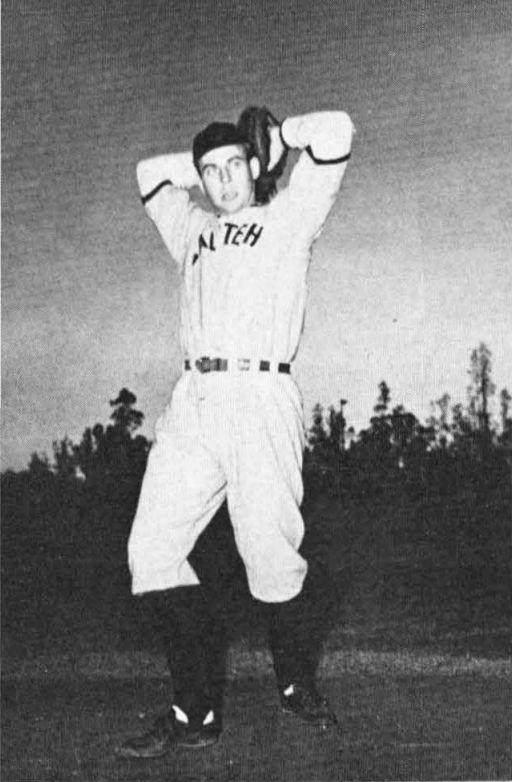


MORRISON, PETRULAS, PATTERSON

BASEBALL

HEDRICK AND STRAUSS, NORMAN AND BUTLER



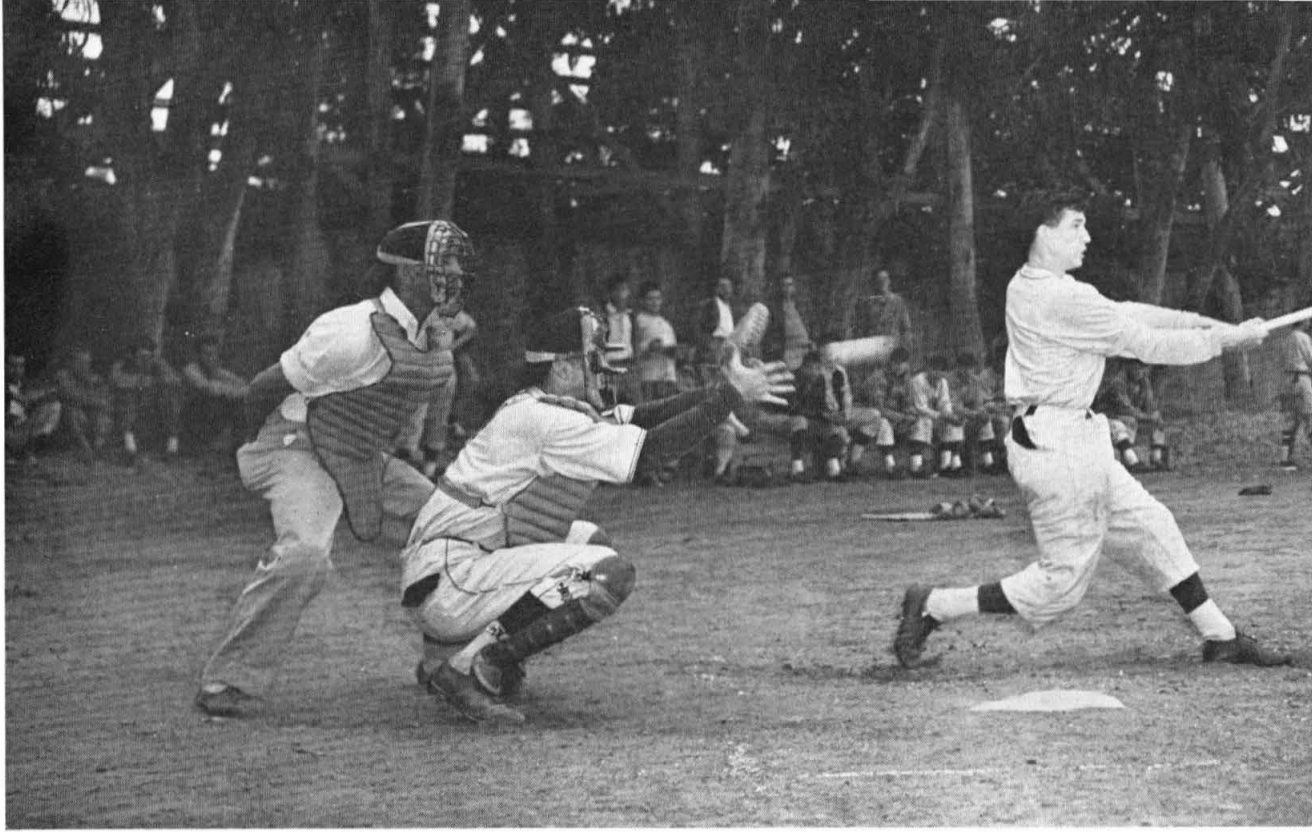


SPAULDING, HARRISON AND WILLIAMS

BRAYFORD AND SMITH, BOUTELLE AND KACHADOORIAN

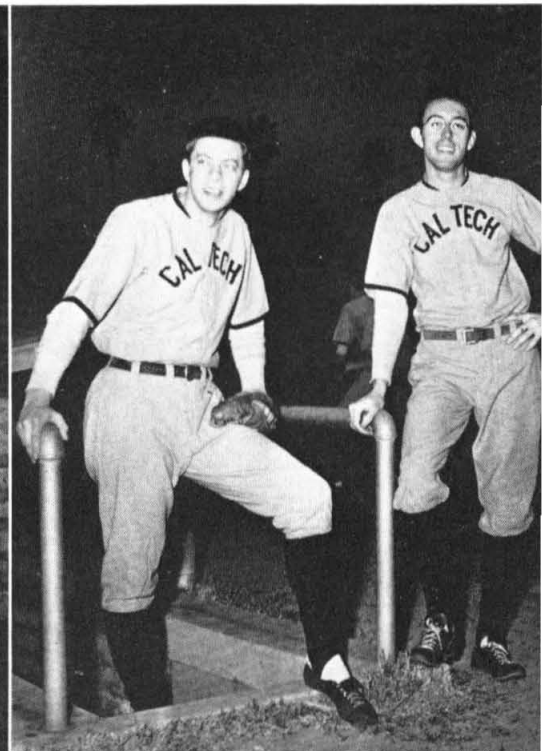
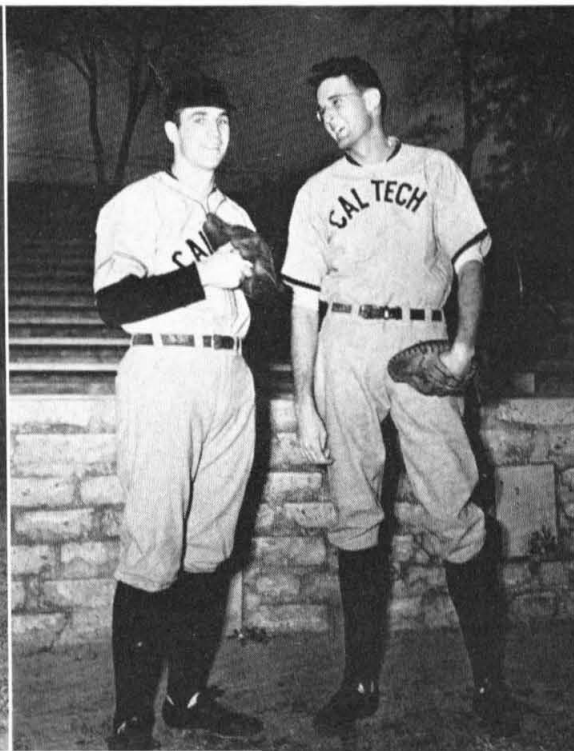


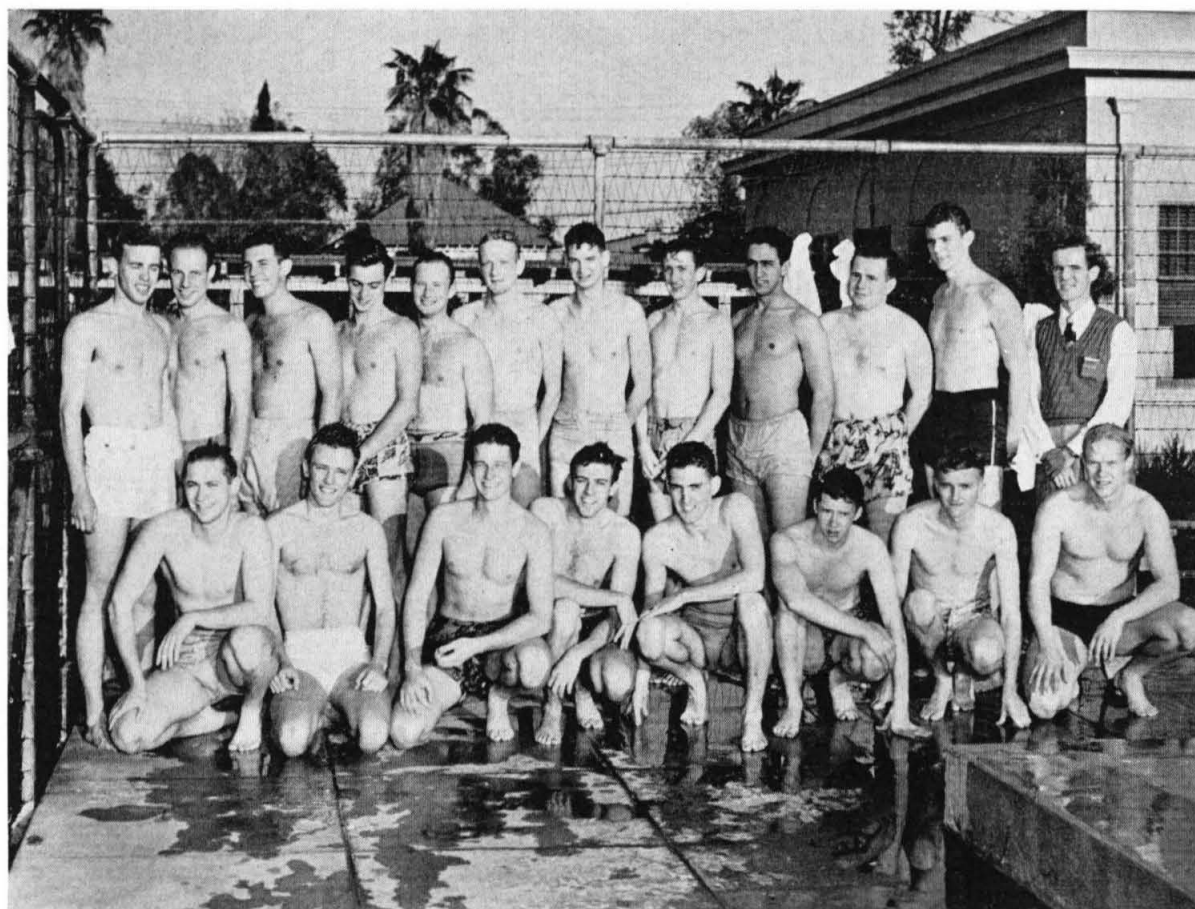
WINCHESTER AND JARMIE



BASEBALL

POLLACK AND BURKHOLDER, CHAFFEE AND DALTON, JOHRDE AND WHITE





JOE CURRAY, JAY MONTGOMERY,
AL ESCHNER, B. WATERS, T.
WATERS, BILL DIXON, DICK
SCHOEN, KEN HAMMOND, STAN
BOICOURT, FRED SCHNEIDER,
DICK LIBBEY, STAN HARRISON.

BILL HARRIS, ED MITCHELL, DICK
FAIRALL, BILL PALMER, MIKE
HALL, PETE HOWELL, SID JONES,
NOEL REED.

SWIMMING



COACH BOB MERRICK, MANAGER STAN HARRISON

As the '48 splash season got under way, Tech offered a fighting threat in competition through virtually every event.

Conference breast stroke champion Bill Palmer returned with Stan Boicourt to push him on in the butterfly battle.

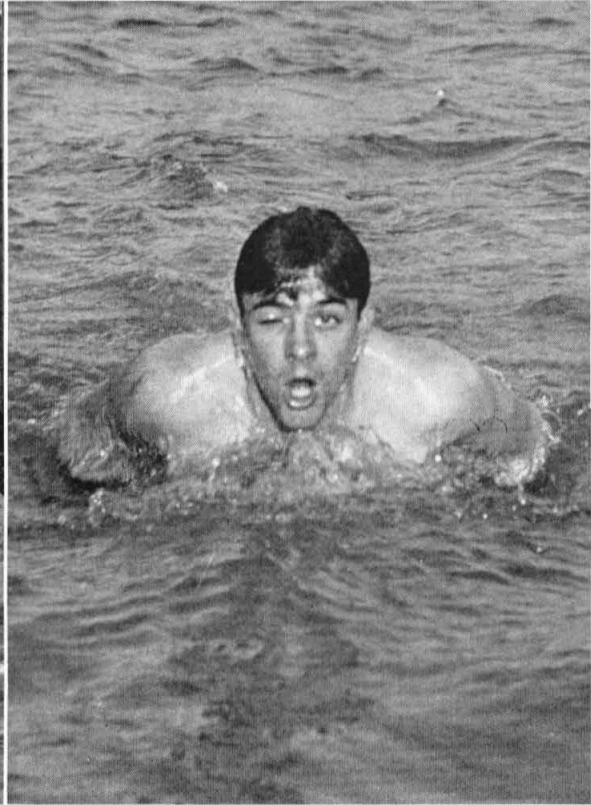
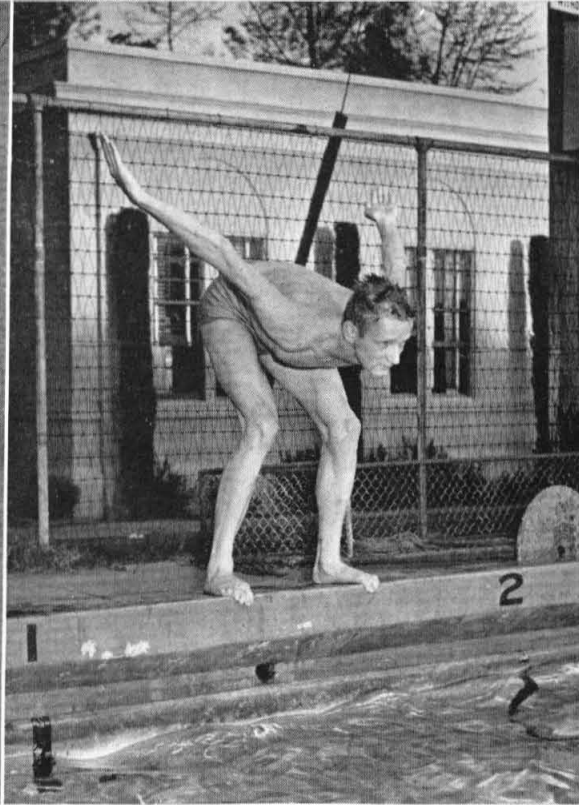
Led by conference champion Jay Montgomery, Mike Hall and Bill Harris provided plenty of power in the backstroke department.

Tech's medley relay team members returned to defend their crowns as conference champs. Palmer and Montgomery teamed with Joe Curray to paddle the 300 yard distance in winning time.

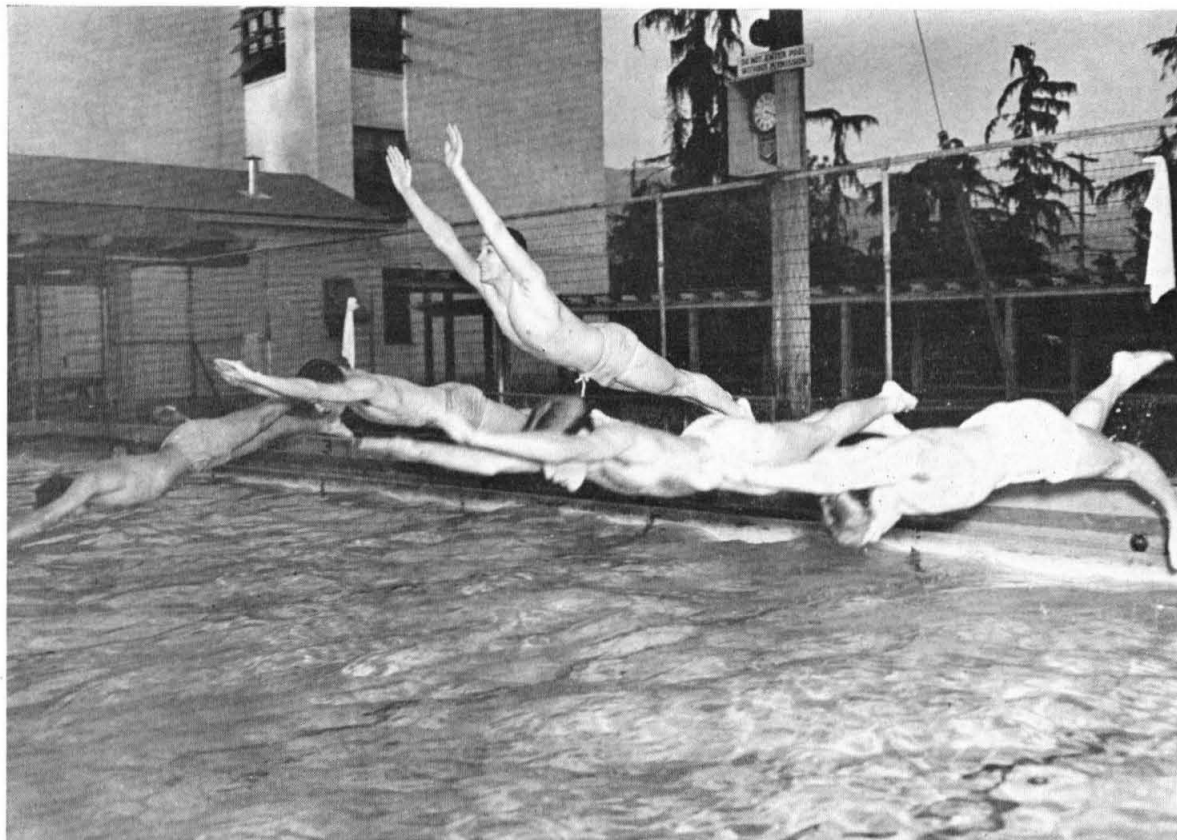
Freestylers Chuck Murphy, Ed Mitchell, Bill Dixon, and Al Eschner promised Tech a good showing in the choose-your-stroke-but-get-there-first event.

The high and low boards were kept busy by divers Tom Waters and Ken Hammond.

Conference swimming promised to be tough. But Coach Bob Merrick's squad intended to show everyone that Beavers just naturally take to water.



JAY MONTGOMERY, BILL DIXON, BILL PALMER



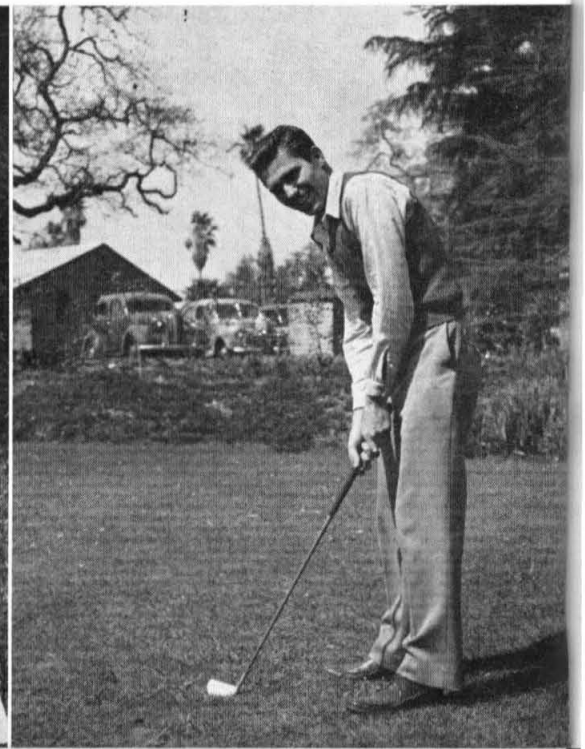


JOHN KOSTELAC, MARTY MARTINEK, ED REVAY, HARRY MOORE, BOB BENTON, JACK MOFFAT, VIRGIL SIMS, SAGE BURROWS, DON BARRIE

GOLF

Returning lettermen Moore, Revay, Benton and Burrows made the Beaver's birdie and eagle hopes soar. Digging divots deeper every day in a close race for the remaining starting slots, Barrie, Kostelac, Sims, Moffat and Martinek strengthened the squad immensely.

Conference Tournament runner-up in '47, Tech aimed for a high link record in '48, too.



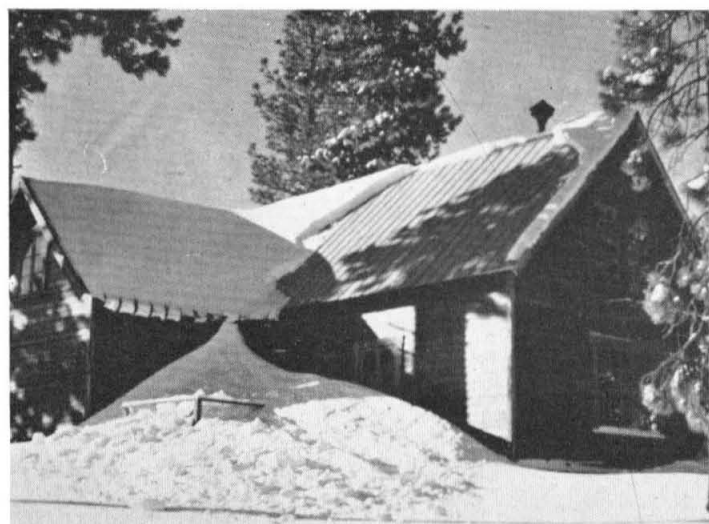


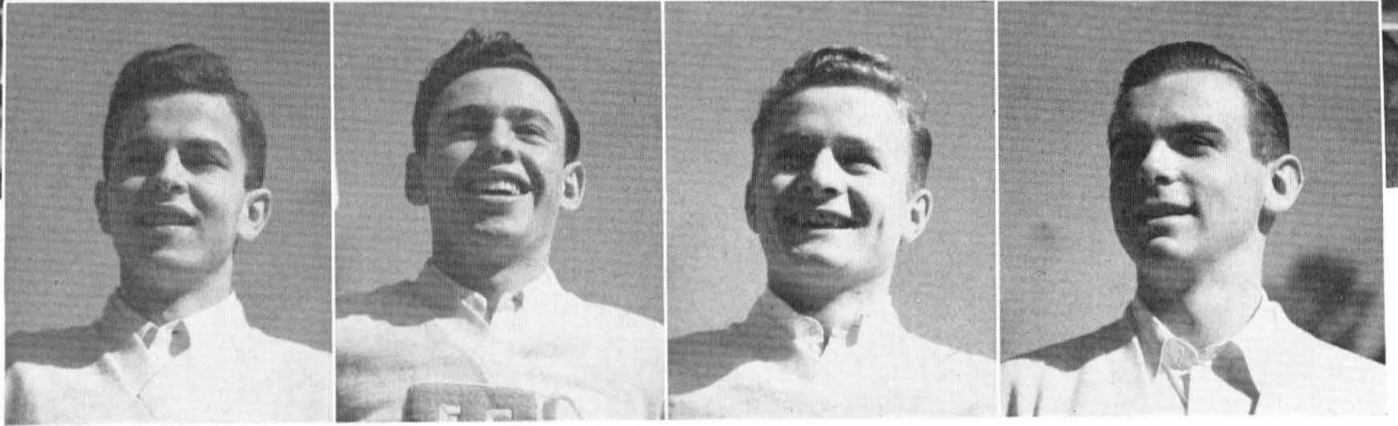
ED MATZNER, BILL JARMIE, TOM STIX, BOB WALQUIST, DON HIBBARD, DAVE HAYWARD, BOB POINDEXTER, RONALD QUANDT, FRED DRURY, JIM WILCOX, JIM BLOM, JACK WILLIS, RUPERT VREUGDE, WIN SOULE, TOM LANG, JOHN LEWIS
 JOHN RICHARTZ, ROBERT SMITH, MARTIN WALT, FERNANDO CORBATO, DEAN BLANCHARD, BOB TERRIERE, CHUCK SHALLER, JOHN ROACH, JACK MARTIN, BOB BROWN, DAVE ELLIOTT, MARVIN BLAIR, OLLIE GARDNER, PETER PRICE
 PRESIDENT SAGE BURROWS, ROGER ANDERSON, BOB MITCHELL, DEAN JOHNSON, DICK SCHUSTER, JEFF WILLIAMSON, BOB HEPPE, DICK FERRELL, BLOUKE CARUS

SKI CLUB

Spurred on by a huge number of snow enthusiasts ski club members this season schussed their way to a first and two seconds in meets with SC and UCLA and other schools.

Big step of the year was the club's discarding its status as an independent campus organization. Skiers became recognized as team aspirants of an official minor sport—thus providing due recognition for their zeal and ability.





BRUCE HEDRICK; BILL SEIDEN; BRUCE ROBINSON; DICK ROEHM, HEAD YELL LEADER



JOYCE, JUNE, GINGER, AND VIRGINIA

THE 200" TELESCOPE

By DALE VRABEC

In marked contrast to the general trend of instrumental technology to progress in a conservative manner to larger and more powerful apparatus, was the stupendous leap from a telescope of 100" aperture to the 200" telescope, which immediately posed such a host of problems, never before met in mechanical and optical engineering, as to constitute a major challenge to the ingenuity and perseverance of scientists and engineers, and skill of master craftsmen.

That this challenge was accepted and the problems solved, has been demonstrated by the successful completion of the 200" telescope, an instrument of staggering proportions, but watch-like precision, embodying the most recent innovations in engineering technology, and as far advanced beyond any of its kind, as the modern jet-propelled plane is over its kindred propeller-driven aircraft.

The problem of the design of a telescope is to provide a rigid mounting for the various optical components that will maintain their alignment with each other to very exacting tolerances, and be able to direct them at any object in the sky, and to track this object as it moves across the heavens. The solution of these problems has resulted in a variety of telescope tube and mounting designs.

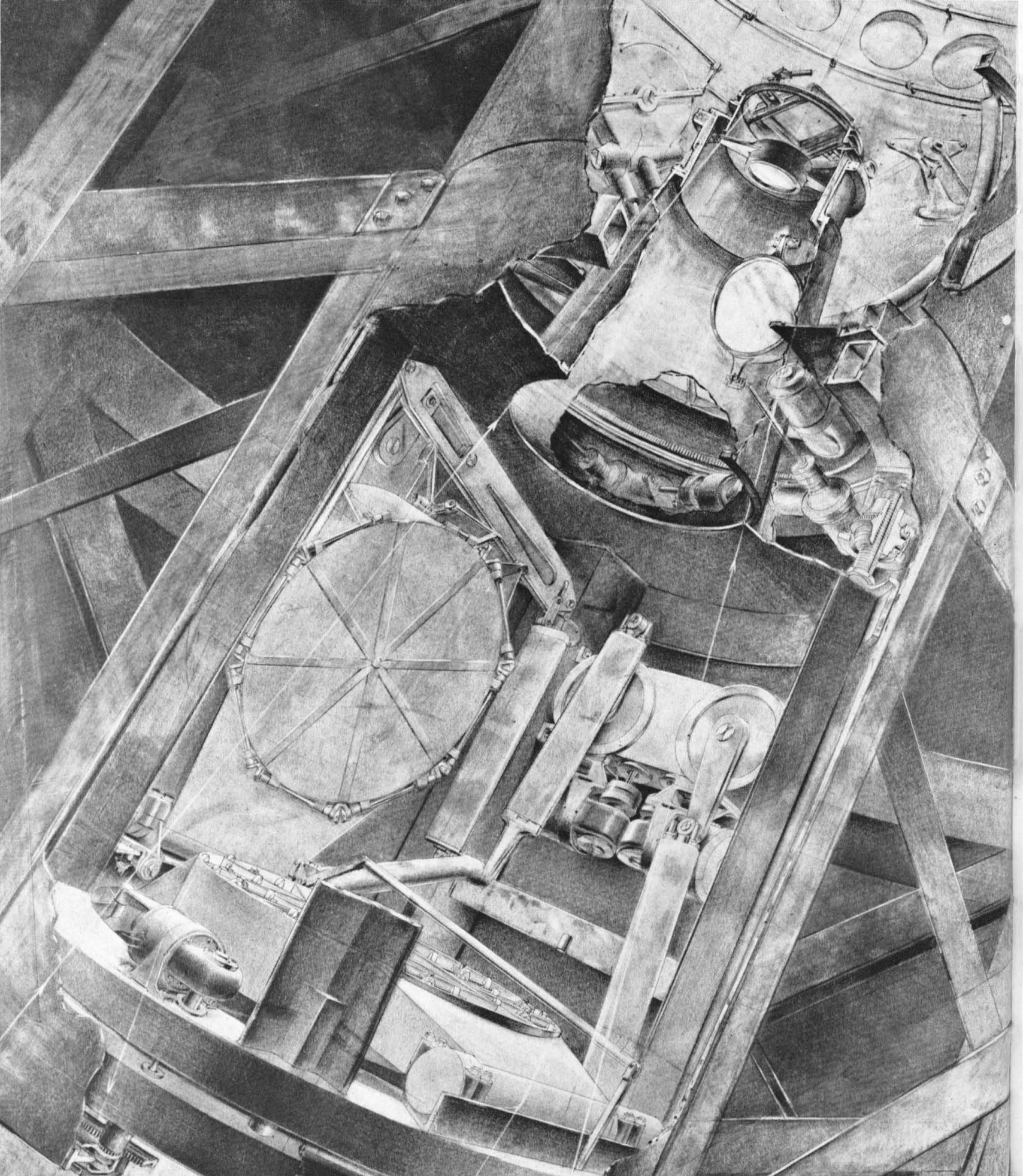
The 200" telescope tube consists of a square center section from the corners of which lead sixteen 20" I-beams which converge and join rings at eight points above and eight points below, the former supporting a framework to which an observing cage is attached, the latter, the cell bearing the 200" mirror. As we shall later see, the optical design of the telescope requires light to pass unobstructed along a plane through the axis of the telescope tube and the mid-line of the south side of the tube, and a slot, the length of the tube, is provided, incorporating in the construction of the tube, two extra I-beams which extend parallel to each other for the length of the tube, and which define the slot. This structure, weighing 140 tons, has proven to be very rigid; moreover, the slight flexure is such as to maintain strict alignment of the optical components at all times.

The telescope tube is supported by a gigantic yoke which rotates about a polar axis parallel to the earth's axis of rotation. The yoke consists of two 10½' diameter cylinders, spaced 35' apart, and which, at their north end, join a gigantic horseshoe bearing, 46' in diameter, whose machined periphery rests upon two-pairs of oil pads, and to the south, join a rectangular crosspiece, at the center of which is located a machined hemisphere, 84" in diameter, which bears against three oil pads. By forcing oil under several hundred pounds pressure between the bearing surface and the pads, a very frictionless bearing is formed, and 50 pound feet of torque suffice to easily rotate the 500 tons of rotating parts.

Rotation in declination about an axis at right angles to the polar axis is provided by hollow ball bearing spindles attached to the center section of the telescope tube by spoked trunions which prevent binding of the tube by pressure from the yoke. A 14' worm wheel at the west end of the declination axis provides motion in declination, and two 14' worm wheels attached to a polar axis shaft beneath the south bearing, provide setting or slewing, and tracking motion about the polar axis.

All of the above features are revolutionary in telescope design, and it will be seen that this departure from convention applies to most of the features which shall be described.

The most important component of the telescope, the 200" mirror, is radical in its construction. In contrast to ordinary telescope mirrors, which are ground from solid disks of glass, the 200" disk was cast with a ribbed, cellular back, which greatly increases the rigidity of the disk, and at the same time decreases the weight considerably. This design permits the insertion of 36 supporting members directly into the back of the mirror, and these serve to preserve the accurate figure of the mirror for all observing positions. It had been found that the performance of existing telescopes had been seriously limited by the sensitiveness of the mirrors to slight changes in temperature, which distorted their figure. The combination of low temperature coefficient of expansion Pyrex glass and a cellular mirror structure which permitted no part of the disk to be over four and a half inches thick, facilitating



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TWO HVNDRED INCH TELE SCOPE *1938*

thermal equilibrium, resulted in a mirror which was very inert to changes in temperature. When finally tested, the mirror showed no departure from a perfect parabolic figure of over two-millionths of an inch.

The optical design of the 200" telescope is basically similar to that of the larger reflecting telescopes already in operation, and the only difference arises from the large size of the instrument, which permits a radical departure from convention, namely, that the observer may ride inside the telescope, itself. Basic reflecting telescope design incorporates three principal optical combinations, which provide three effective focal lengths. The three corresponding image scales, and the different positions of the observing stations, render each particularly suitable for certain types of investigation, and, consequently, increase the versatility of the telescope.

In reflecting telescopes, it has been a matter of basic design to intercept the converging cone of light from the primary mirror with a flat mirror just inside the focus, so that the focus is brought out to an accessible position at the side of the tube. The light lost in the extra reflection is a necessary sacrifice for accessibility of the image. In the 200" telescope the flat mirror has been dispensed with, and the image is formed 55' from the primary mirror, inside a prime focus cage which is suspended within the tube of the telescope, itself. The observer rides inside the cage, and for the first time is able to work directly at the prime focus of the mirror, which gives an F-ratio of F:3.3.

An effective focal length of 267' at F:16 is provided at the Cassegrain focus located at the back of the 200" mirror. In this case, light converging to the prime focus is intercepted by a 41" convex mirror mounted in the prime focus cage, which returns it to a focus behind the primary, after passing through a 40" hole at the center of the latter. An observer at this station rides atop a hydraulic pedestal mounted on a truck, which rolls on the observatory floor, and controls the movement of this affair to follow the motion of the telescope.

Provision has been made for a flat mirror to be mounted upon the end of a 36" diameter tube, attached to the primary mirror cell, and extending up through the 40" Cassegrain perforation in the 200" mirror to the point of intersection of the three principal axes of the telescope, the right ascension and the declination axes, which are the axes of rotation of the telescope, and the optical axis of the telescope. When the telescope is operated as a Cassegrain with the focus located at the back of

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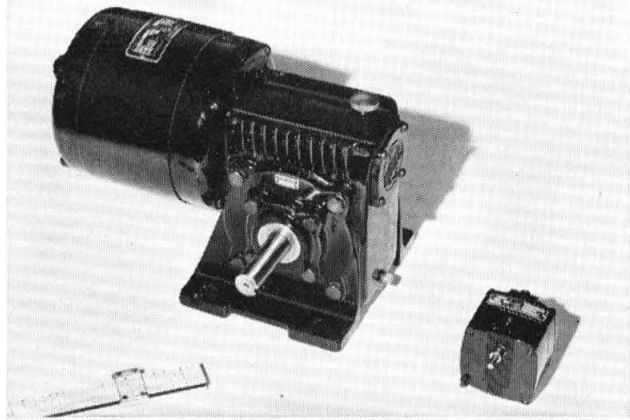
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the 200" mirror, as we have just described, the flat mirror is removed by means of a small crane, attached to the north side of the main telescope tube, and which is operated by remote control, which descends, clamps on to the flat mirror assembly, and lifts the entire affair out to a position at the north side of the telescope, where it will not interfere with the operation of the telescope.

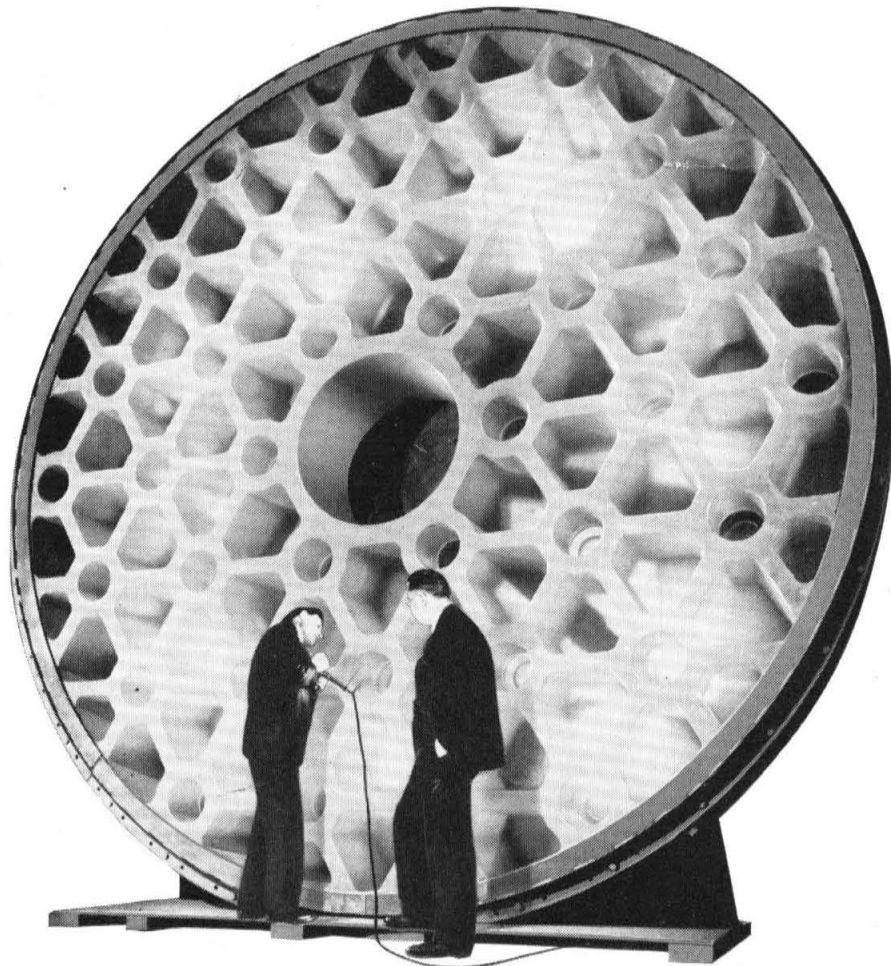
When the flat mirror is in position at the end of the tube, it can be set so that it intercepts the converging cone of light from the Cassegrain secondary mirror, and instead of allowing it to come to a focus behind the 200" mirror, diverts it along the declination axis, at right angles to its original direction, so that it comes to a focus within the 10 1/2' diameter east yoke of the telescope mounting where provision has been made for mounting a powerful spectrograph and photoelectric equipment. Again, the magnitude of the telescope is such that observers can actually work within the movable structure of the telescope, and actually "ride" the telescope as it tracks a celestial object across the sky.

A fixed focal point which remains stationary with respect to the observatory building, is provided at the Coude focus, located in a constant temperature room at the south end of the dome. By replacing the convex Cassegrain secondary mirror in the prime focus cage by a more convex Coude secondary, the equivalent focal length of the telescope is increased to 500', for which the F-ratio is F:30. The auxiliary flat mirror previously described is rotated 90° about the optical axis of the 200" mirror and adjusted so that it reflects the converging cone of light from the 32" Coude secondary along polar axis through the slot in the south side of the tube, through a hollow shaft in the south bearing, and into the constant temperature room. When observing objects to the north of +50° declination, the lower part of the telescope tube interferes with the light path and so, with the use of two auxiliary flats, the beam is by-passed around the end of the telescope, and thence it passes into the Coude observing room. The increased light path necessitates the use of a Coude secondary, slightly more convex, and 36" in diameter which increases the effective focal length of the telescope by the necessary amount.

A remarkable advance in telescope design is the fact that all of these mirrors are permanently attached to the telescope, and are interchanged by remote control, making possible switch-overs in the optical setup of the telescope in a matter of minutes, whereas most telescopes require the interchanging of whole sections of the tele-

THE EYE THAT SEES

6,000,000,000,000,000,000,000 MILES



Tomorrow a new door to the secrets of the universe will begin to open. A door through which astronomers will be able to see 6,000,000,000,000,000,000,000 miles into space—twice as far as ever before. It is the giant telescope atop Mt. Palomar, so powerful that the canals of Mars, if there are any, will for the first time be photographed.

It all began 12 years ago when Corning cast the glass for the famous 200" telescope mirror—the world's largest piece of glass—after most experts said it couldn't be done.

For this big disc Corning scientists developed a special glass—the only practical material that would insure the permanence, stability and accuracy demanded by the telescope's designers. This glass is similar to that used for Pyrex ware and Pyrex industrial glass piping. Making the disc was a job Corning took in its stride, because it is accustomed to finding practical solutions to all kinds of glass problems. Its research laboratory has contributed to the development of more than 37,000 different items, ranging from simple custard cups to tele-

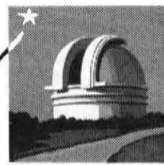
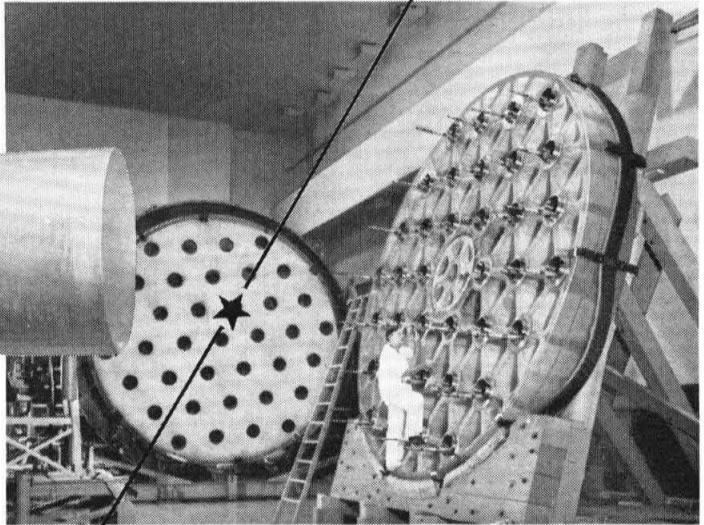
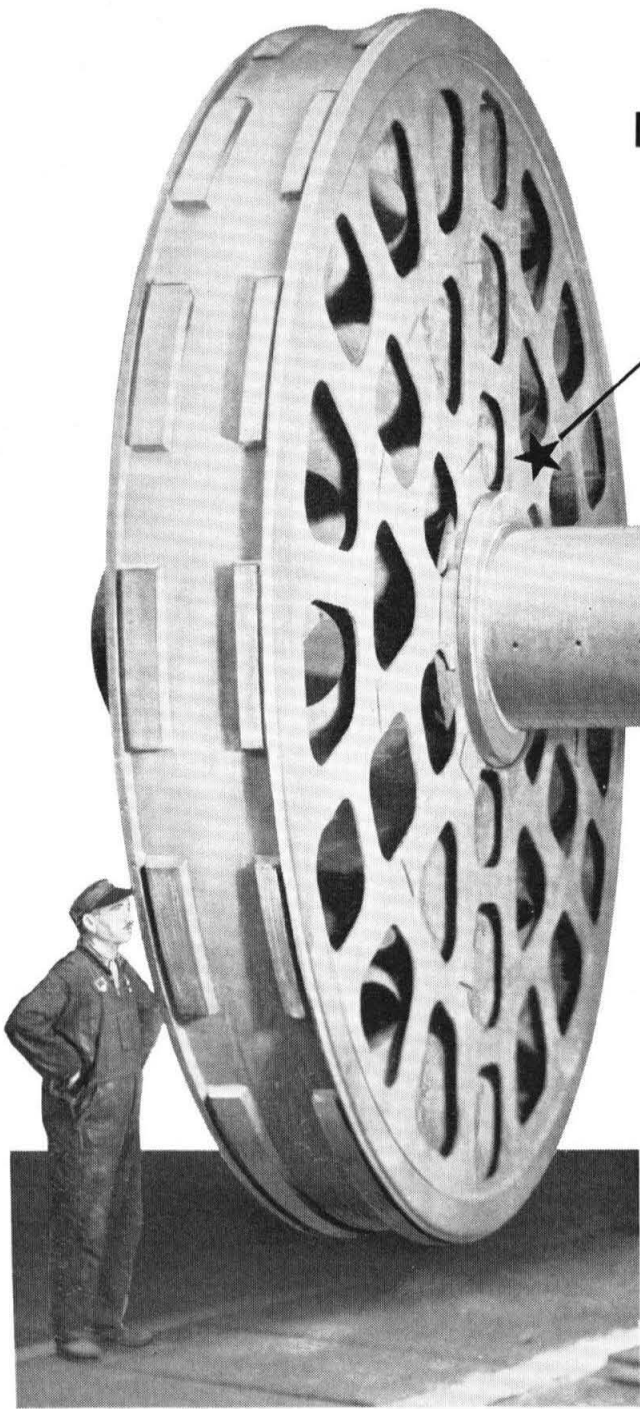
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scope tube, an operation which takes considerably longer, and which requires a crew of men to perform during the daytime. To maintain a strict balance of the telescope at all times, each time a mirror is raised or lowered, an elaborate counterweight system automatically preserves the center of gravity of the tube. These changes in the optical system of the telescope are necessary in order to meet the demands of various types of astronomical observations.

The prime focus will, in general, be used for direct photography and photographic photometry, and in many cases, specially designed correcting and enlarging lenses will be placed just in front of the photographic plate to improve the performance of the mirror. Extremely fast, low dispersion spectrographs for nebular work will also be operated at this station. Spectrographs ranging from fast, low dispersion instruments to prism and grating spectrographs of medium dispersion will be used in conjunction with the Cassegrain focus behind the 200" mirror. A fairly high dispersion spectrograph will probably be mounted inside the east yoke where it will be used with the alternate Cassegrain focus at which a pendulously suspended platform will supply the need for a fixed mounting for special apparatus. Finally, very high dispersion spectrographs and sensitive thermopiles will be housed in the constant temperature Coude room.

One of the interesting features of the telescope is the setting and driving mechanism which greatly facilitates and increases the efficiency of the operation of the telescope. Conventional observatory procedure is to set the telescope to the declination of the object to be observed, adjust the hour angle of the telescope to the difference between the right ascension of the object and a convenient sidereal time, somewhat in advance of the actual time, so that once this adjustment has been made, the observer can wait until the time which he used in his calculations, at which time the telescope is clamped into the driving mechanism, whence it tracks the object. The declination and hour angle readings are taken off graduated circles on the two axes of the telescope, and to read them often causes considerable inconvenience.

The 200" telescope dispenses with setting circles and employs selsyn motors on the axes, so that it is an easy matter for the follower motor at the control desk to actuate easily read position indicators. Declination is, as a result of this, read directly at the control desk. A similar setup on the polar axis would indicate the hour angle of the telescope, but it is desirable to be able to read the right ascension for which

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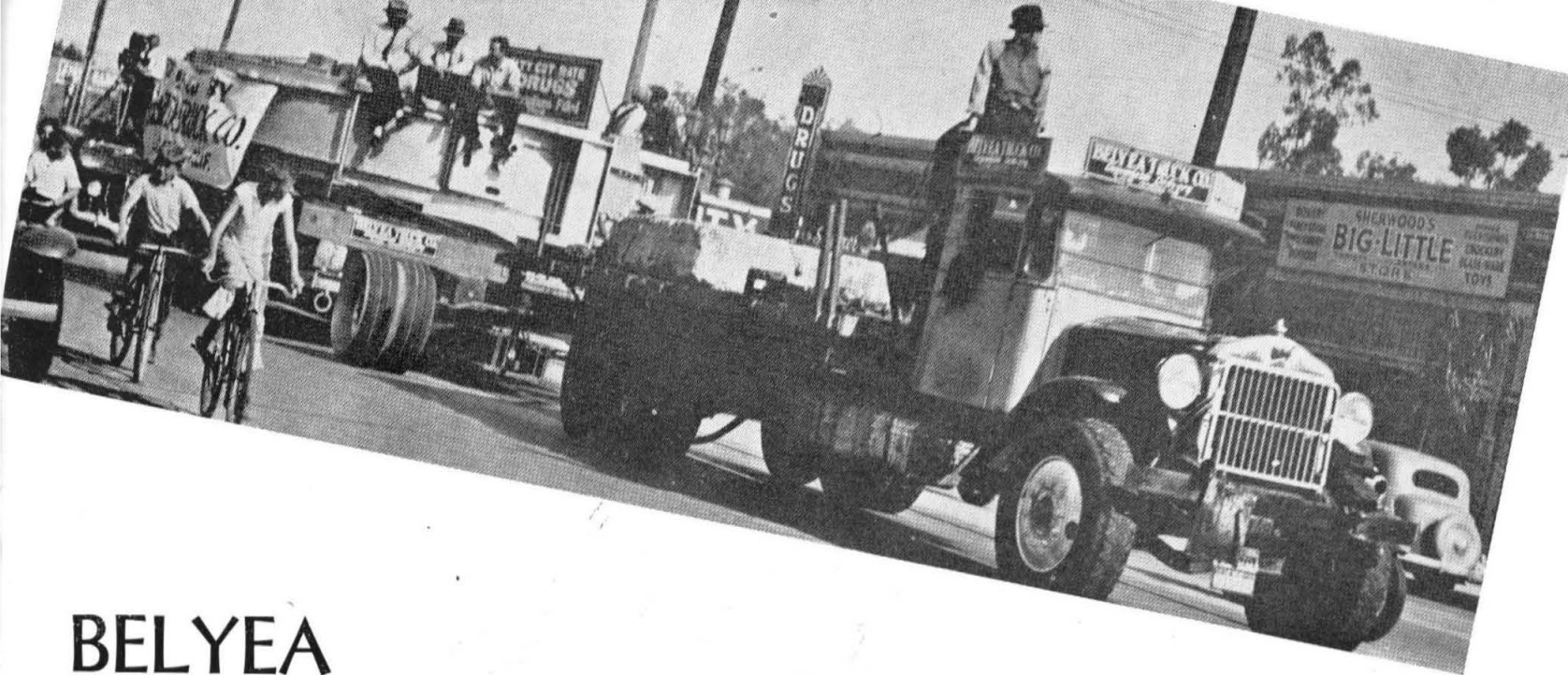
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the telescope is pointed. This is accomplished simply by driving the right ascension indicator dials through a differential, and to superpose a sidereal time motion to the dials in the opposite direction. The result is that when the telescope is at rest, the right ascension dials indicate a constantly changing right ascension, as they should, because objects of continuously increasing right ascension are continuously passing across the field of the telescope, but when the telescope is tracking an object, the right ascension dials indicate constant right ascension, the selsyn rotation due to the motion of the telescope, exactly cancelling the sidereal rate also imposed upon the differential. Setting the telescope is accomplished by merely setting the known position of the object to be observed on a second set of dials, whence the telescope can be made to automatically swing around at fast motion speed until the difference between the setting and position indicators becomes small, whence the motion is slowed down until the two sets of indicators read identically, at which time the driving mechanism takes over. The setting is accurate to 5 seconds of arc, an accuracy more than sufficient to locate a sought for object at the center of the field of the telescope.

In order to accurately track a celestial object, a number of variable factors must be taken into account, for a star does not exactly follow a circle of constant declination as it moves across the sky, nor is its diurnal rate constant. Atmospheric refraction, dependent upon the altitude of the star above the horizon, the temperature, and barometric pressure, produces calculable variations in the diurnal rate, and the declination of a celestial object. To compensate for these variations, as well as minute errors in the tracking worm wheel, and flexure of the mounting, an intricate driving mechanism and computer has been devised. The telescope is driven by a 1/12 horsepower synchronous motor, supplied with current from a very accurately controlled vibrating string Warren frequency standard, the frequency of which can be conveniently varied. By means of cams and riders controlled by an aneroid barometer and a thermometer, the necessary corrections are imposed on the Warren frequency standard, and thence upon the driving worm. A very slow motion is also supplied through a declination drive to compensate for the change in declination caused by atmospheric refraction.

A lot more could be written about the 200" telescope, but we have covered the principal features of what has proven to be the largest and costliest single instrument of scientific research.



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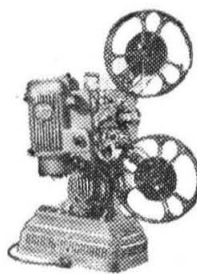


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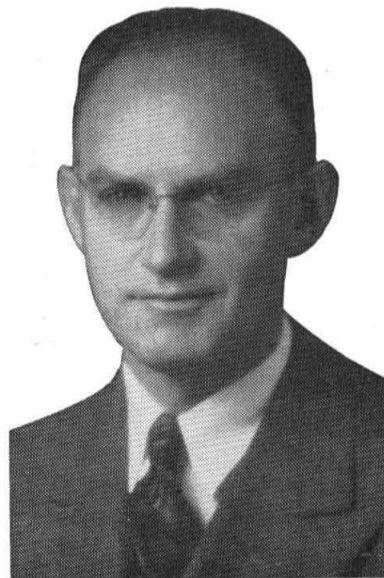
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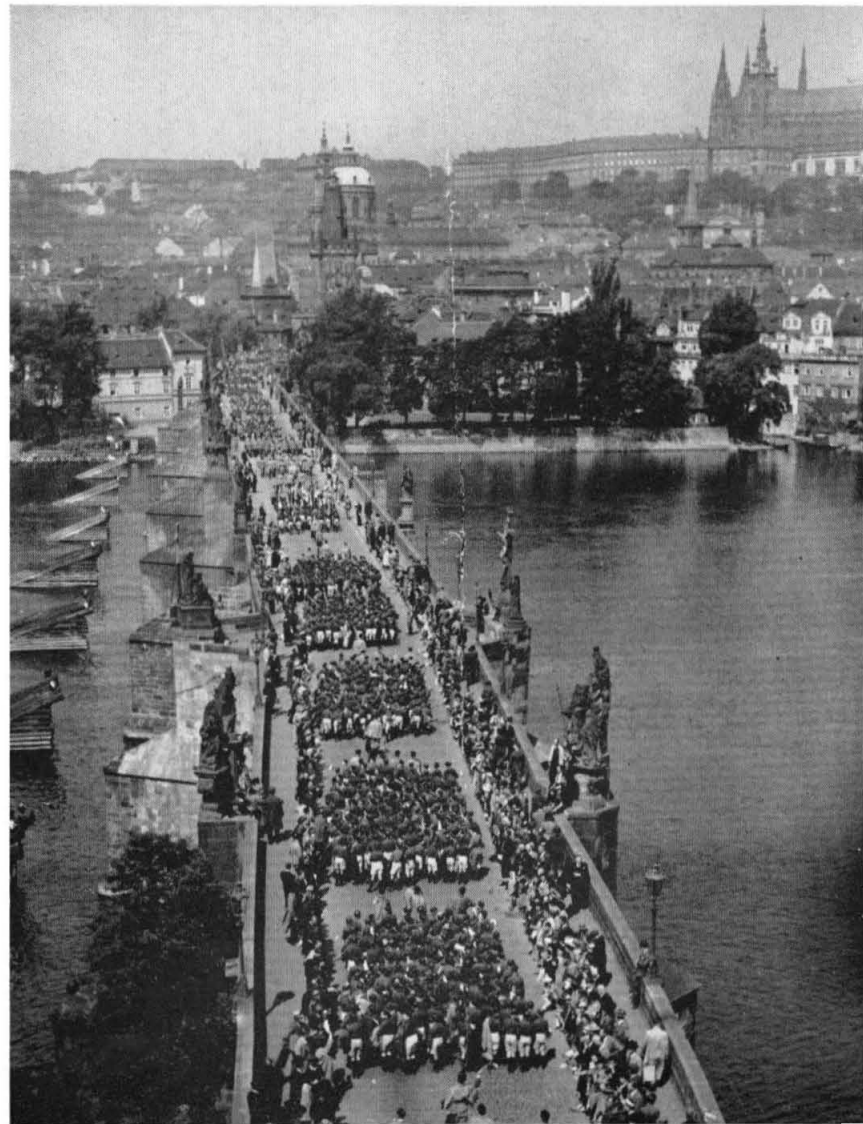
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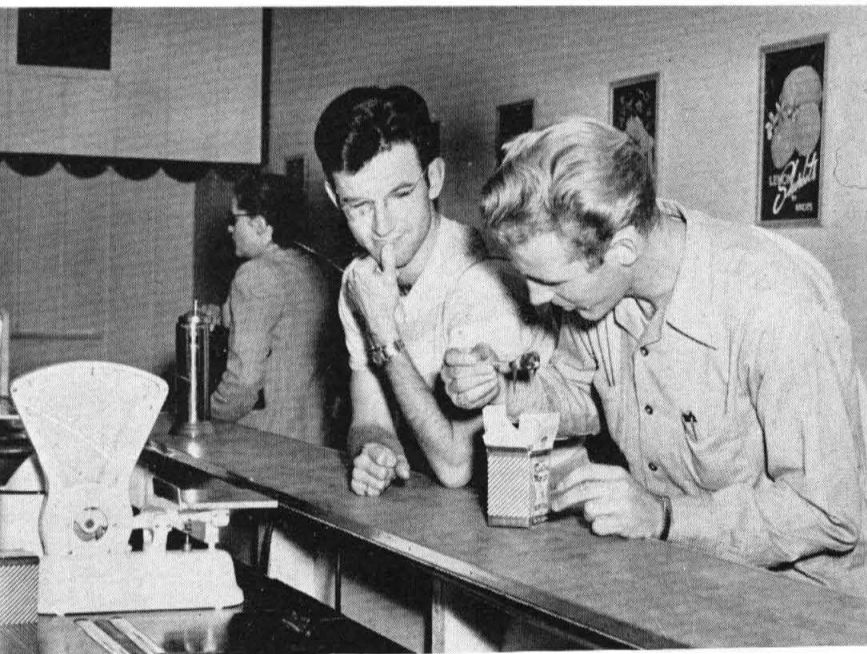
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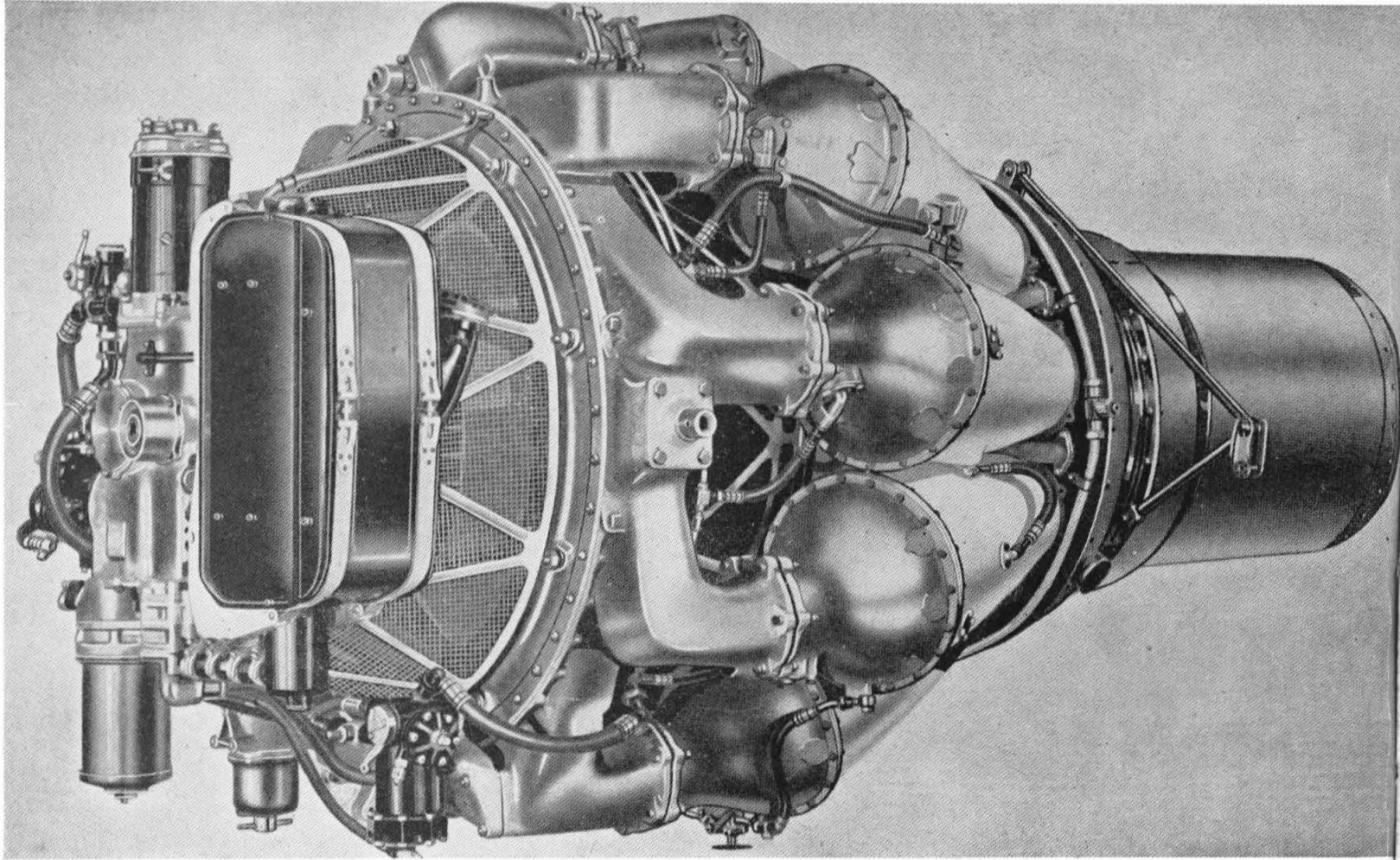
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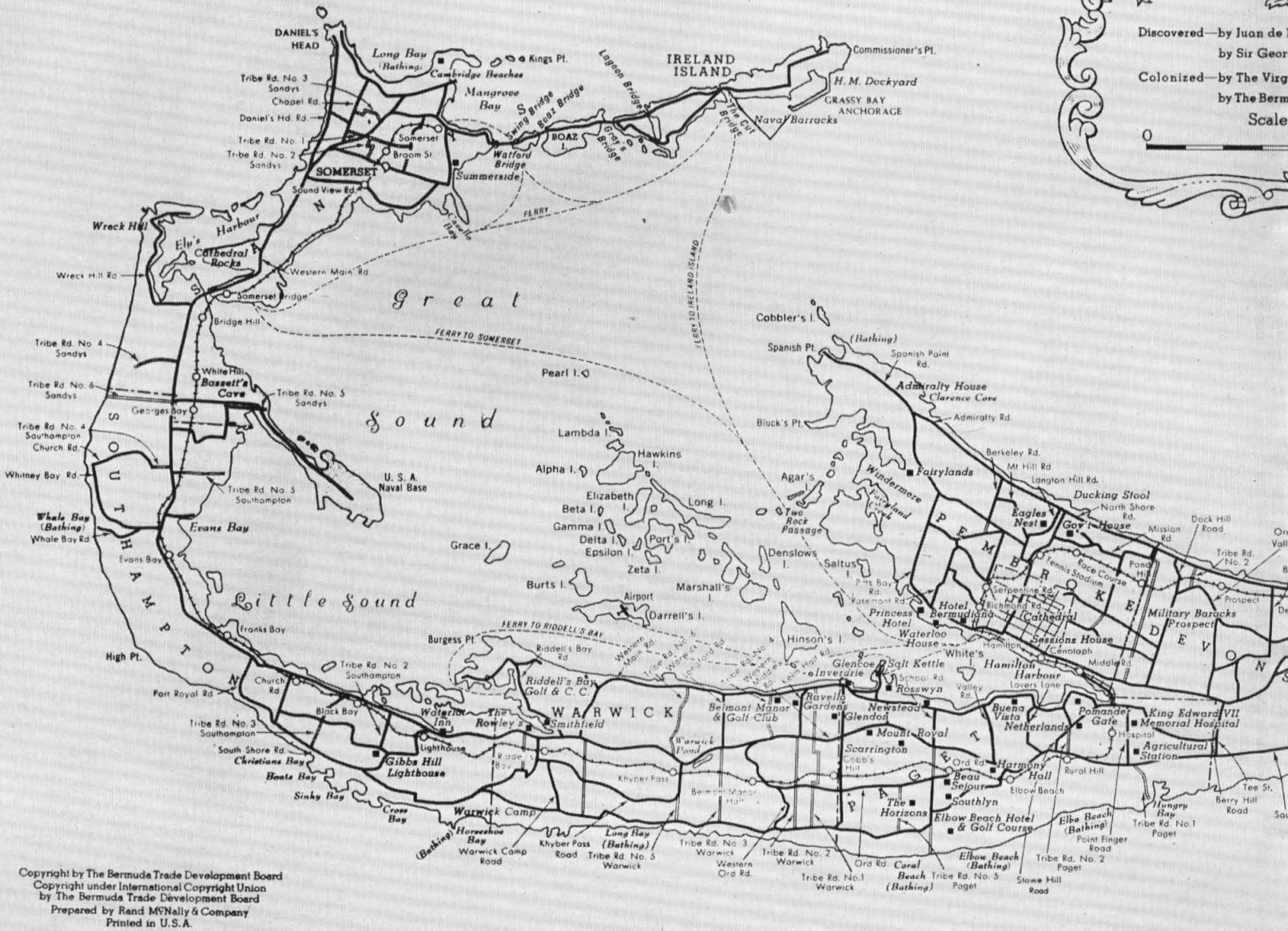
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You can go to Bermuda swiftly, by plane . . . or leisurely, by ship. The following steamship and airline companies offer regular and frequent services to the Islands.

- Furness Bermuda Line, 34 Whitehall Street, New York City
- British Overseas Airways Corporation, 420 Madison Avenue, New York City
- Colonial Airlines, 51 Vanderbilt Avenue, New York City
- Pan-American World Airways System, 80 East 42nd Street, New York City
- Canadian National Steamships, 497 Boylston Street, Boston, Massachusetts
- Trans-Canada Airlines, Toronto and Montreal

The fare is: by boat, \$90 up round trip; by plane, \$126 round trip; both plus the 15% U. S. Tax.

WHERE TO STAY

Visitors of all tastes can find in Bermuda exactly what they desire in the way of hotels and guest houses. Those who desire gaiety, dancing and contact with numbers of people naturally go to the larger hotels; those who seek a quieter mode of life go to the smaller hotels and guest houses. All hotels and guest houses, wherever located, are convenient to the main lines of travel and the bathing beaches. Several have swimming pools. Write to the Bermuda Trade Development Board for rates.

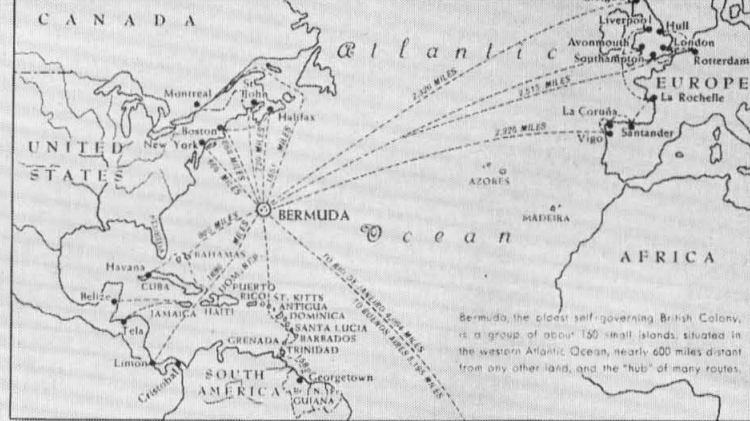
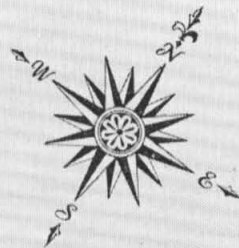
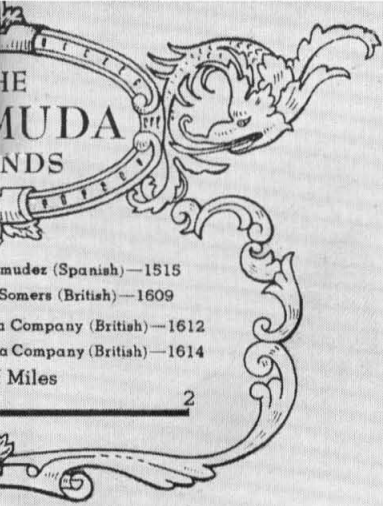
WEATHER IN BERMUDA

TEMPERATURE—Mild and equable, Bermuda's average temperature over a period of 25 years has been 70.7 degrees. No sudden changes and no great rise or falls occur, the daily range of temperature being 10 degrees. Frost and snow never occur, and extreme heat and humidity are rare. During 1947 the absolute minimum was 48.0 degrees in March (highest that month 72.0 degrees) and the absolute maximum was 91.6 degrees in July (lowest during that month, 72.1 degrees).

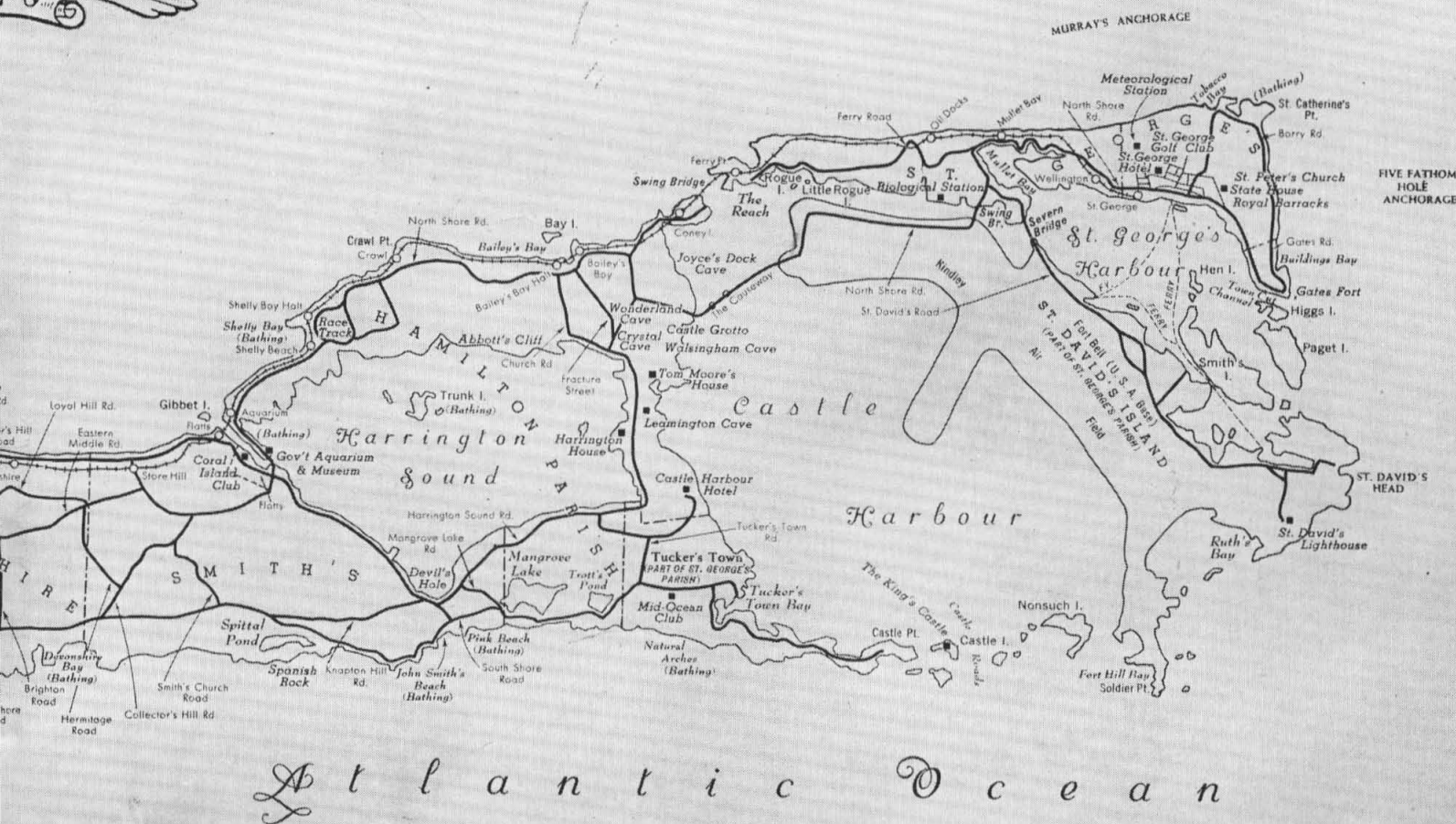
WIND—The prevailing breezes are southerly, with an average velocity of 12 m.p.h. This insures cool breezes at all times, giving cool nights and making "warm" days in mid-summer seem cooler than the temperature indicates.

RAINFALL—Rainfall is usually of brief duration and the skies clear very quickly after a shower. The average annual precipitation is 56.09 inches, the month with the greatest precipitation being November, with an average of 5.43 inches, that with the least, July, with 3.90 inches.

There is no rainy season and no month in which the rainfall is excessive, nor sufficient to interfere with the enjoyment of outdoor recreation.



Bermuda, the oldest self-governing British Colony, is a group of about 150 small islands situated in the western Atlantic Ocean, nearly 600 miles distant from any other land, and the "hub" of many routes.



Atlantic Ocean

The Latitude of Bermuda is 32°19' North—Longitude 64°49' West

THINGS TO SEE IN BERMUDA

SOMERSET TOUR—ONE DAY—Ferry from Hamilton to Somerset Island, returning by taxi, carriage or bicycle. Several interesting places in Somerset for lunch. See unique Somerset Bridge, visit U. S. Naval Base, enjoy panorama of Bermuda from gallery of Gibb's Hill Lighthouse. Afternoon refreshments at quaint Waterlot Inn.

ST. GEORGE'S TOUR—ONE DAY—Because of the length of the journey to the Town of St. George you'll have more time to see more if you go by taxi. Points of especial interest in St. George: St. Peter's Church, the old State House, St. George's Historical Society's Museum, Gate's Fort, St. David's Lighthouse.

HARRINGTON SOUND TOUR—HALF-DAY—Visit the Government Aquarium and Museum, Devil's Hole, the Caves, Tom Moore's House and the perfume factories. There are several interesting places along the way for lunch or dinner.

HAMILTON—HALF-DAY—You'll want at least a half-day to do the shops of Hamilton, and also to see the Bermuda Cathedral and visit the Sessions House, which is the "Commons" of the second oldest parliament in the British Empire.

Starting point: Visitors Service Bureau, Hamilton.

Incidentally, the Visitors Service Bureau will be glad to answer any and all questions you may have during your stay.

WHAT TO WEAR

During the warmer months (mid-March to mid-November)—cotton dresses, an afternoon dress, a long one for evening, and summer sports clothes. For men—lightweight suits, sports clothes, Bermuda shorts, white dinner jacket.

During the cooler months (mid-November to mid-March)—light wool dresses, warm suits, sweaters and skirts, sportswear, afternoon dress, dinner dress, topcoat. For men—tweed jacket, slacks, tweed or flannel suits, sports clothes, sweaters, dinner jacket, topcoat.

FACTS ABOUT BERMUDA

CURRENCY—Although sterling is the legal tender in Bermuda, American and Canadian currencies are accepted everywhere. United Kingdom Bank Notes are still not negotiable in Bermuda.

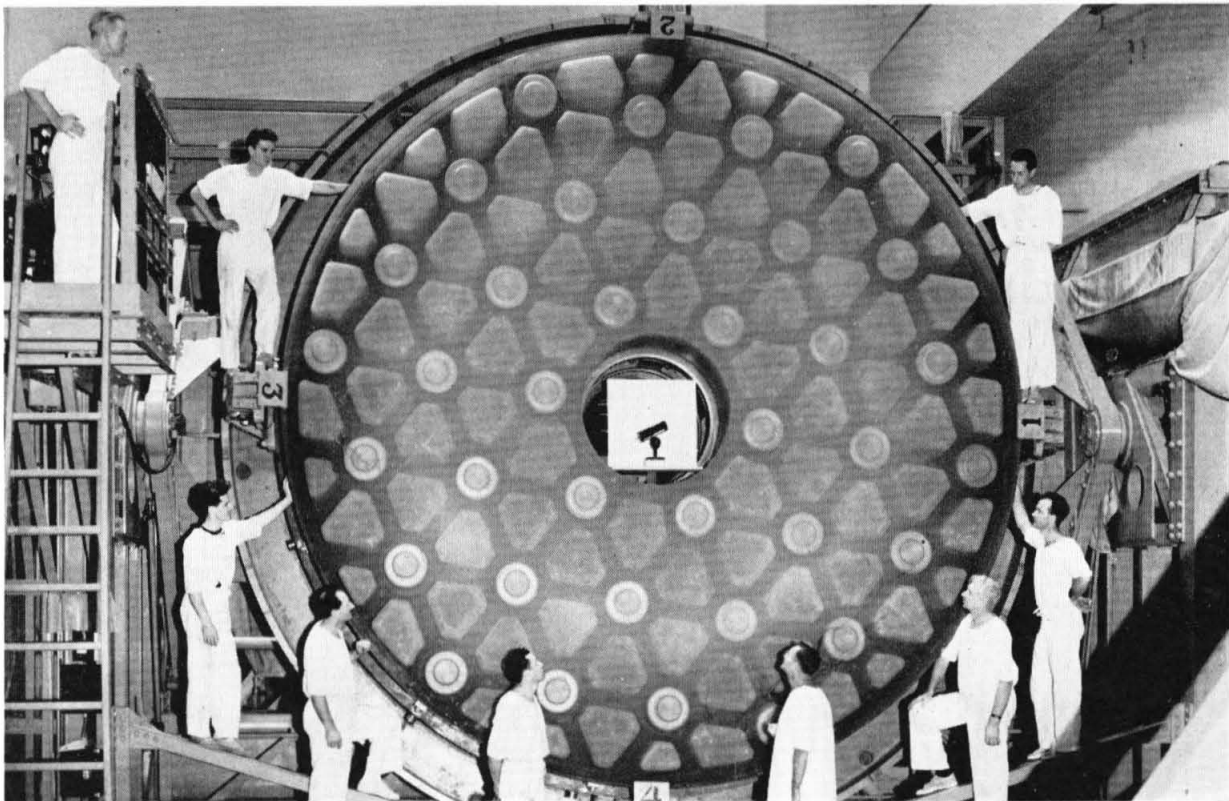
ENTRY REQUIREMENTS—No one requires passports or visas for visits to Bermuda for periods of less than eight months. United States citizens require some form of identification and proof of citizenship when returning to U.S.A.

Canadian citizens should consult their Travel Agents regarding necessary identification and travel requirements.

THE CIT ALUMNI ASSOCIATION WELCOMES THE MEMBERS OF THE CLASS OF '48

One of your greatest assets in your professional career will be your acquaintance with other Alumni who will be able and glad to help you. There is hardly a field of endeavor, from trucking to teaching, from oil to medicine, from insurance to manufacturing, from advertising to research, in which Tech Alumni are not filling important posts.

To maintain your campus friendships and to get acquainted with those who preceded you, join the Alumni Association, attend its local or chapter meetings and participate in its activities.

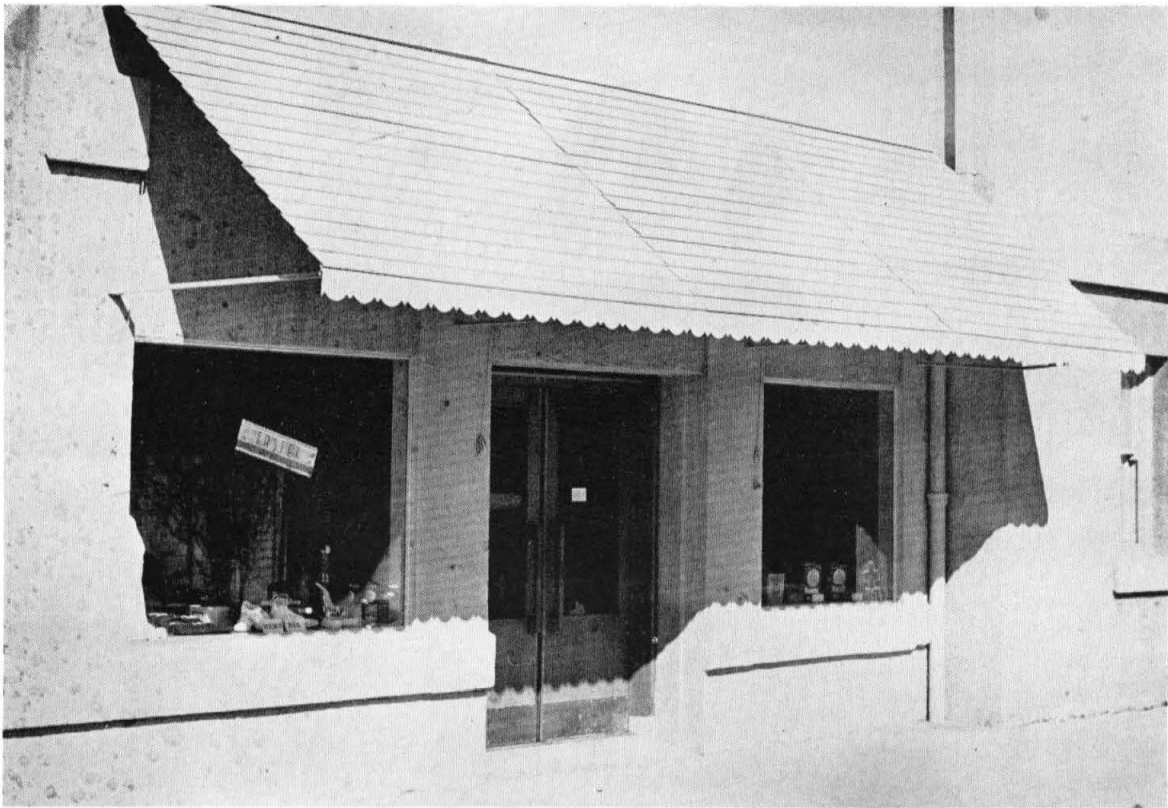


THE 200-INCH MIRROR

An exact replica of the first reflecting telescope which was made by Sir Isaac Newton in 1671 is in the center of the 200-inch mirror. The Newtonian mirror is 1.67 inches in diameter. Around the large mirror are the men at Caltech who have just completed the world's largest and most exacting optical job. Reading from left to right they are: Alexander Shepherd, Robert George Smith, Blake Mitchell, Cecil Harvey, Arthur Brown, Marcus H. Brown (Chief Optician), William Hawes, Melvin Johnson, and Lewis Brown.

JOIN YOUR ALUMNI ASSOCIATION

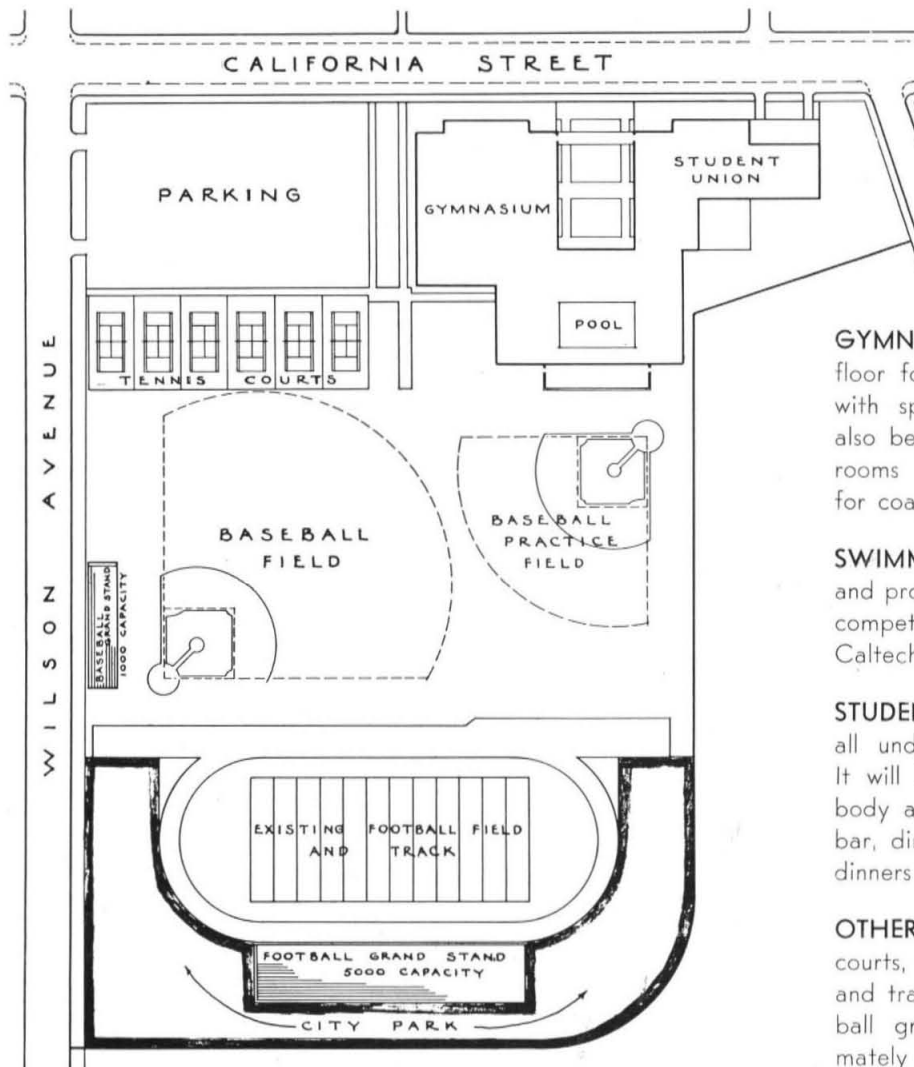
Greetings
To All Tech Men
and
Congratulations
To The Graduating Class



YOUR CALTECH BOOKSTORE

A LOOK AT THE FUTURE

As an alumnus and as a student you will be interested in the development of Tournament Park as a Caltech athletic and student activities center. Here are the plans and estimates on what it will cost to develop them.



TOURNAMENT PARK

On approximately 20 acres of land the Institute plans to put the facilities shown in the map to the left.

GYMNASIUM: This will provide playing floor for basketball and other indoor sports with spectator accommodations. In it will also be locker rooms, shower rooms, storage rooms for athletic equipment, and offices for coaches and the physical education staff.

SWIMMING POOL: Will adjoin gymnasium and provide for instruction in this sport, other competitive water sports and recreation for Caltech staff as well as student body.

STUDENT UNION: Here will be centered all undergraduate extra-curricular activities. It will have club rooms, offices for student body and Alumni Association officers, snack bar, dining facilities, floor space for dances, dinners and other social functions.

OTHER FACILITIES: This will include tennis courts, two baseball diamonds, football field and track with seats for 5,000, a small baseball grandstand to accommodate approximately 1,000 persons, and parking facilities.

As soon as negotiations with the City of Pasadena are completed, this property will be purchased. It is estimated that \$2,000,000 will be needed for construction and equipment and that an additional \$2,000,000 in endowment money will be necessary to assure sufficient annual operating income. This does NOT mean that development work will be delayed until all this money is obtained. It does mean, however, that the speed with which these facilities can become a reality will depend a great deal upon how fast financing problems can be solved. A contribution to the Alumni Association Fund is one way in which you can help.

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Lloyd

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Roy Day and The Progress-Bulletin have given this year's BIG T the utmost in service, backed by more than complete facilities. The staff was very lucky to work with a company that was experienced in publishing year-books. For once the BIG T came out way ahead of schedule. It was a feather in everyone's hat.

