



HUMANITIES LIBRARY

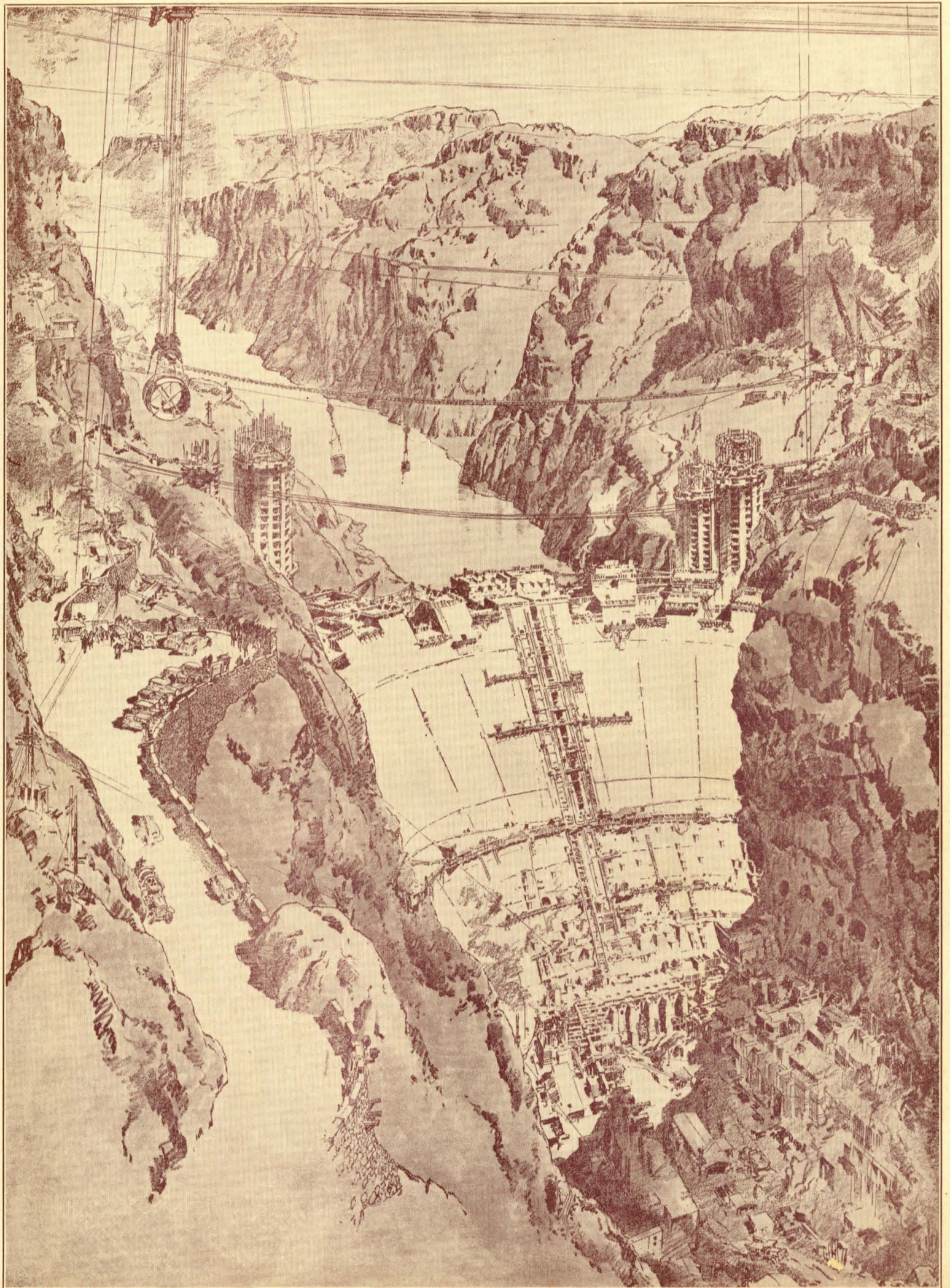
*The California Institute
of Technology*

HUMANITIES
LIBRARY



*Almost every phase of existing human knowledge
has contributed in some manner toward the planning,
construction, and use of Boulder Dam, largest and
most recent man-made reservoir.*

Drawings are by Mr. Charles H. Owens, *Los Angeles Times* staff artist, and are reproduced through the courtesy of the *Times*.

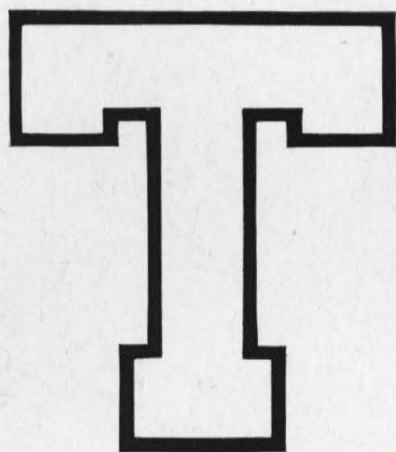




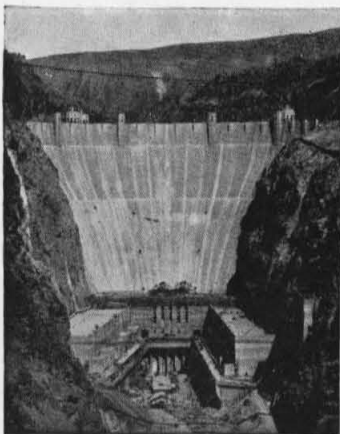
BLACK CANYON

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B I G



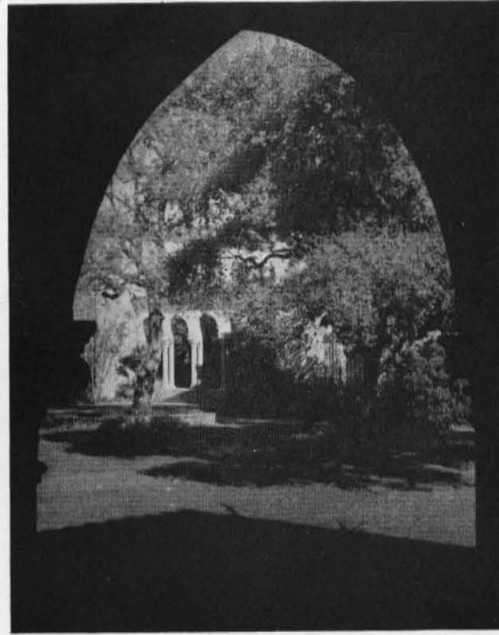
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PASADENA



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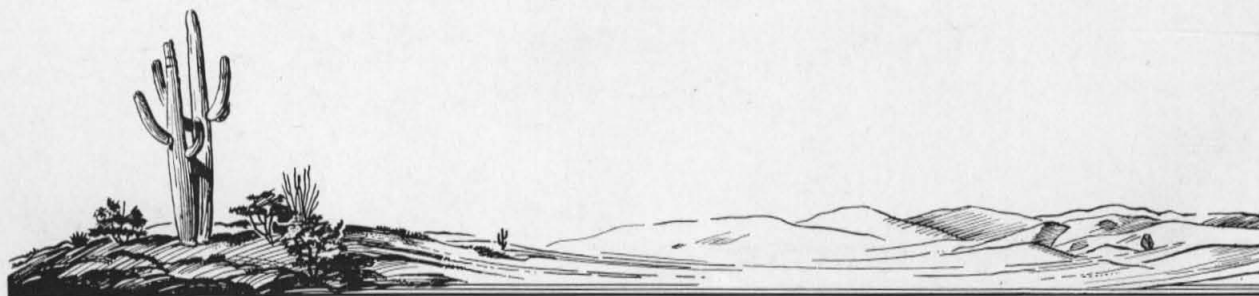
JOHN TREANOR
Institute Associate

DONALD THOMAS WEBB
of the Class of 1939

P R O L

Pioneering represents the arduous expansion of man's frontiers, in which physical exertion must be coupled with a vision of the future's attainment and an intellectual contest against man's environment. The borders of this nation have been continually widened by pioneers . . . hardy, venturesome explorers . . . lone, isolated families of settlers clearing the forests, erecting crude dwellings, tilling their plots of land . . . men and women with courage, determination, ability, and optimistic persistence.

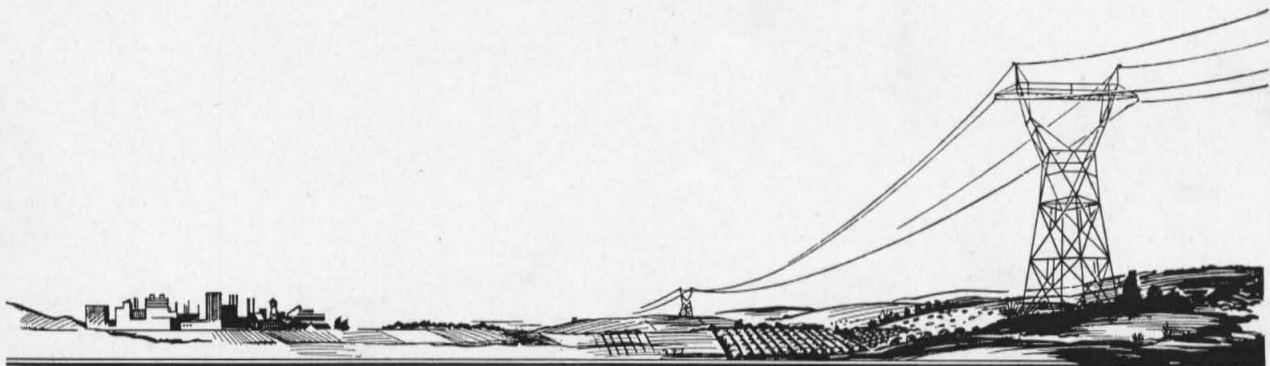
So well and so completely have the geographical pioneers accomplished their work that the pioneer, as an explorer or a settler, ceases to exist. The pioneers of today,

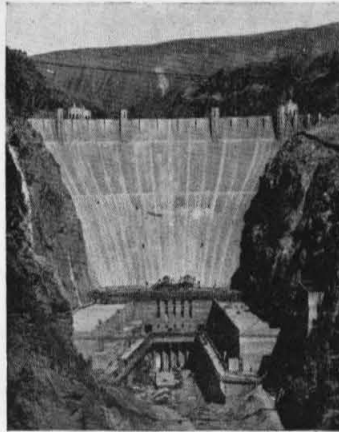


O G U E

with the perfection of the existing surroundings as their goal, also work toward mastery over the forces of nature. Pioneers of this type conceived and created Boulder Dam.

Power is being provided which will contribute by its use in manufacture to the satisfaction of human wants; water will be distributed over the Southwest so as to maintain a great population, both directly and by irrigation of land now cultivable, formerly desert. Flood control and silt deposition demonstrate man's progress in overcoming the irregularities in nature. Superlative in its measure of human achievement, Boulder Dam stands forever as a man-made monument to modern engineering.





C O N T E N T S

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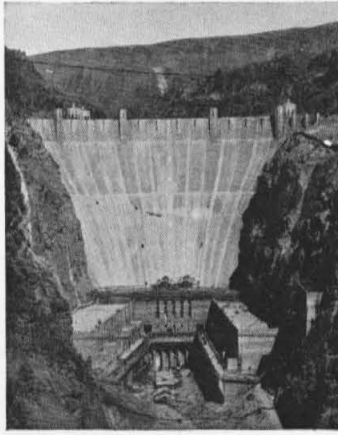
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FACULTY



IN 1933

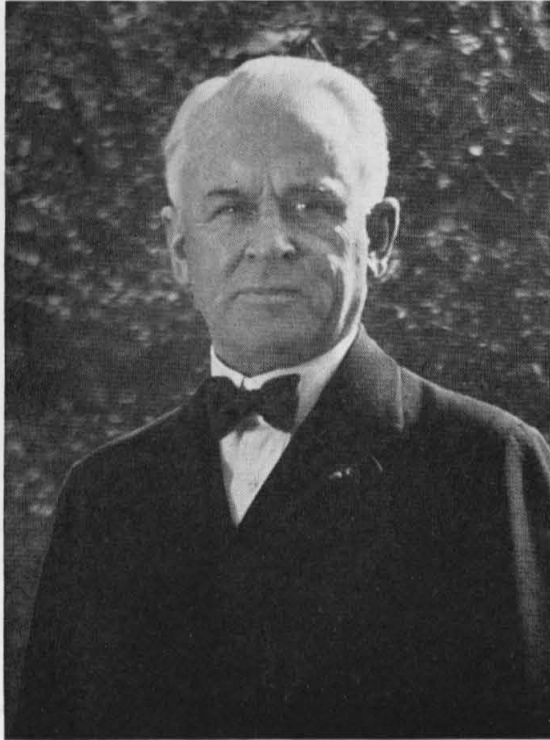


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ATHENAEUM



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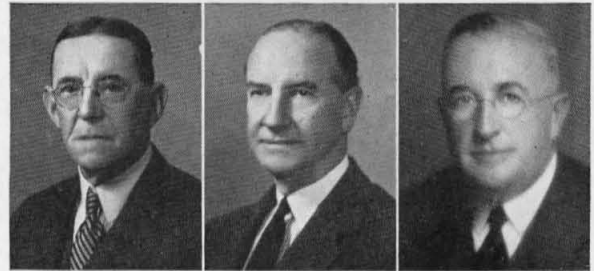
All the internal administrative and educational policies of the Institute are in the hands of the Executive Council, whose members represent the Trustees and faculty. In addition to Dr. Millikan, the members of the Council are Messrs. Allan C. Balch, George E. Hale, Thomas H. Morgan, Harvey S. Mudd, William B. Munro, Arthur A. Noyes, and Henry M. Robinson. Mr. E. C. Barrett serves as secretary.

The Board of Trustees is more concerned with the external relations of the Institute, and especially with its business affairs. Several members of the Board have served for long periods, and have been, through their ideas and efforts, responsible in a large measure for the evolution and growth of the Institute into its present status.

Without administrative duties, but organized in recognition of a common philanthropic interest in Tech, the California Institute Associates number two hundred prominent residents of Southern California. Mr. James R. Page is their president.



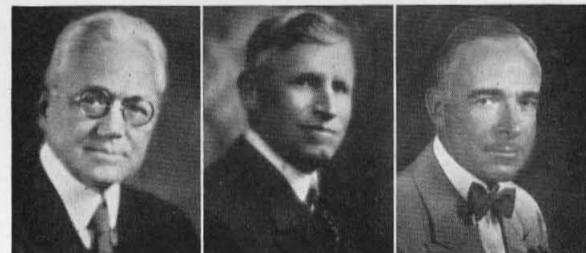
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ADMINISTRATIVE OFFICERS



PHILIP S. FOGG, *Registrar* . . . just got this job . . . an economist of note . . . breathes and talks of economics . . . has little faith in New Deal . . . always wears a dark suit . . . and a straight face . . . has a somewhat nasal tone in his voice . . . plays with key on his watch chain . . . has made registration a good deal shorter . . . is pointing toward decreasing line at business office . . . if he does, student body will look to him as second Allah . . . teaches Accounting . . . has degrees from Stanford and Harvard . . . former Fleming associate . . . never gets excited . . . has a hard time deciding what to do about "cuts" . . . personally admits he doesn't care . . . "But I'm registrar" he tells himself . . . so what? . . . does nothing about "cuts" . . . shhhhh!



EDWARD C. BARRETT, *Comptroller* . . . the business man of and for the Institute . . . and always busy . . . has a wide range of interests . . . sympathetic toward the student body . . . and responsible for the granting of financial aid to students . . . responsible for Tech's weathering the depression . . . because he knows his stocks and bonds . . . and chooses efficient assistants for the Business Office . . . and keeps up to date on every phase of the school's administration . . . works hard, long hours . . . and is really devoted to the prestige and growth of Caltech.



FREDERIC W. HINRICHS, JR., *Dean of Upperclassmen* . . . a West Point man . . . and everybody knows it . . . barks when you knock on his door . . . "Come in!" . . . most fellows are scared even before they know . . . are almost shaking after they hear that command . . . a hard man to really know . . . teaches applied "mech" . . . can talk on everything under the sun . . . well read . . . requires a lot of coaxing before he really talks . . . "When Bryan was running for president!" and then he's off . . . a great man, and sympathetic . . . once you get to know him!



JOHN R. MACARTHUR, *Dean of Freshmen* . . . the first man the Frosh really know at Tech . . . a sharp clap and a highish voice and the Frosh history lecture is under way . . . section leaders are his idea, and ideal . . . wails when anybody's absent . . . also teaches German . . . and French . . . is respected and loved by everybody . . . for his simple ways . . . for his understanding manner . . . for his polished mind . . . for his amazing memory . . . knows everybody from time they step into school until years after they graduate . . . first names as well as last . . . and everybody in school is glad they know him . . . and what's more, they all do!

PHYSICS

To provide adequate instruction in the very important sciences of physics and mathematics the faculties of these departments number among their members some of the most capable and illustrious men on the campus. Heading the division is Dr. Millikan, one of the two Nobel Prize winners on the campus, whose recent work in cosmic ray phenomena has attracted world-wide attention. During the past year he has been assisted by Dr. Victor Neher in mapping the world-distribution of cosmic ray intensities at sea-level, and by Dr. Carl Anderson, who has conducted an investigation of the altitude effect on bursts of the rays atop Pikes Peak.

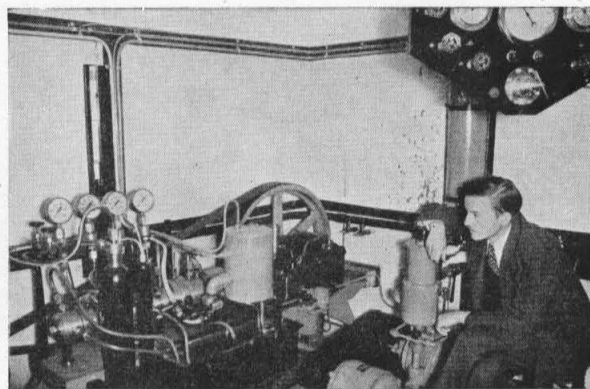
The remaining members of the department have not been idle. In addition to their teaching labors, they have been occupied with original research. Professor I. S. Bowen and Dr. William V. Houston have continued their respective works on nebular spectra and the fine structure of hydrogen spectra. The latter has also contributed a theoretical paper on nuclear structure. Dr. Smythe and his associates have been occupied with research on the subject of isotopes. Drs. Potapenko, Goetz and Du Mond have respectively studied ultra-short waves, metals at low temperatures, and the Compton Effect.

MATHEMATICS PROFESSORS (Right)

Morgan Ward, Luther E. Wear, Harry C. Van Buskirk, Harry Bateman, Eric T. Bell.

PHYSICS PROFESSORS

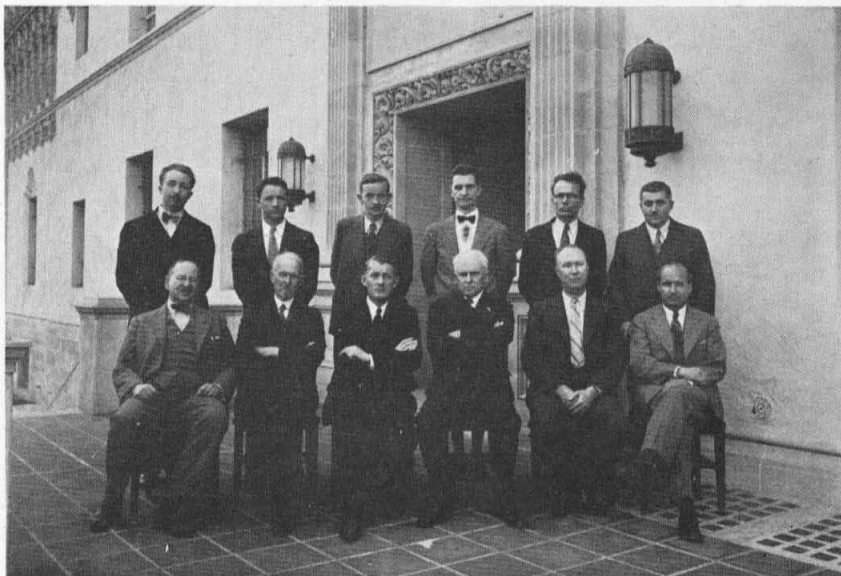
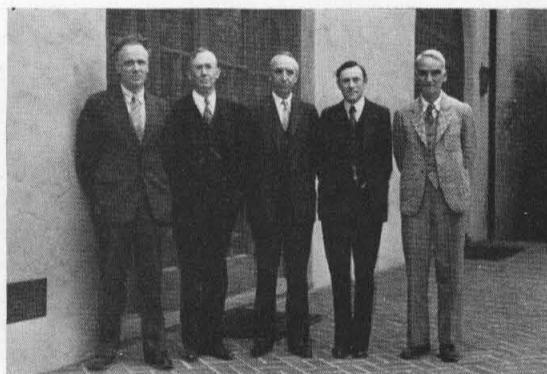
(Rear) Jesse W. M. DuMond, H. Victor Neher, Alexander Goetz, William R. Smythe, Ira S. Bowen, Gennady W. Potapenko; (Front) Paul S. Epstein, Samuel J. Barnett, Charles C. Lauritsen, Robert A. Millikan, William V. Houston, Ernest C. Watson.

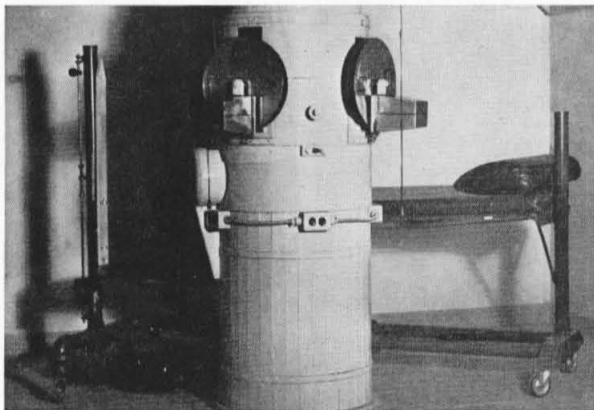


(Above) Dr. Goetz with hydrogen liquefaction equipment.

MATHEMATICS

Teaching calculus to freshmen and sophomores is only a part of the work of the mathematics department, whose members pursue advanced research in various phases of the field, applied as well as theoretical. Higher math is now finding application in physical, electrical, and aerodynamic problems.



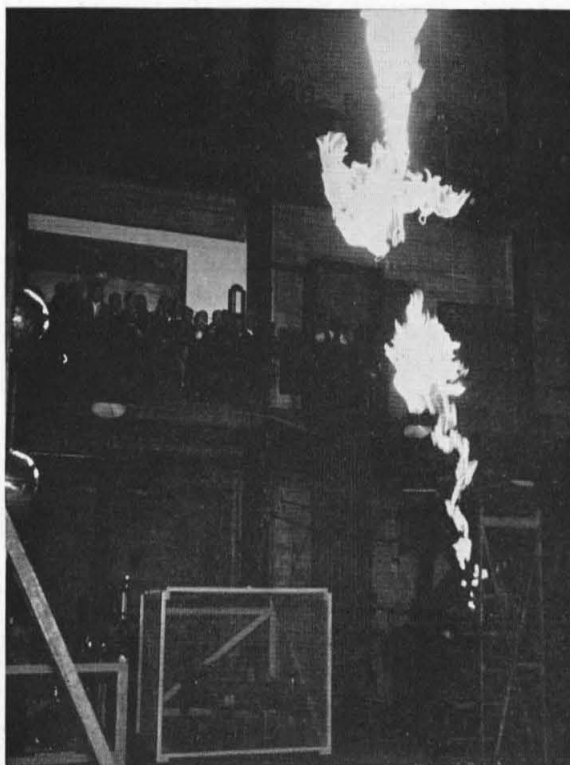


X-Ray Tube

RADIATION

The Radiation Laboratory, designed by Dr. C. C. Lauritsen, has done much important nuclear research. Using up to one million volts on X-ray tubes, many of the lighter elements have been made radioactive and the energies of the positron, the neutron, and of gamma rays have been measured. Application of X-rays to the therapeutic research has gone on all year in cooperation with L. A. General Hospital, and other hospitals, many cancer patients being treated regularly under the supervision of Drs. Mudd, Emery, Stewart-Harrison, and Levi.

High Voltage Discharge



ELECTRICAL ENGINEERING

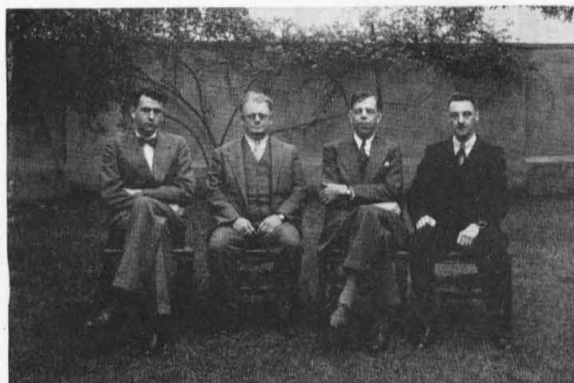
As part of the educational activity of the Electrical Engineering department, several valuable original studies in high voltage and high frequency fields have been undertaken. Among these studies has been the development of the sparkless sphere gap voltmeter for measuring very high voltages. Simon Ramo, aided by Louis Rader and G. B. McCann, has succeeded in bringing this meter to a high degree of perfection. The experimenters feel that they can offer the results of their studies—soon to be published in "Electrical Engineering"—as a new standard for accurate high voltage measurement.

In other fields, J. W. McRae has been making interesting studies of high frequency effects on insulating materials; Raymond Griest has built a high speed oscillograph capable of recording photographically transient phenomena occurring in a few millionths of a second; and John Pierce is working on a centralized antenna system to provide better radio reception for the student houses.

Professors Sorenson, Mackeown, Maxstadt, and Lindvall, besides their educational work, have undertaken much outside engineering consultation. Under Professor Sorenson's supervision, tests of insulators and switches for the Metropolitan Water District were made in the High Voltage Laboratory, using the million volt surge generator located there.

ELECTRICAL ENGINEERING PROFESSORS

Frederick C. Lindvall, Royal W. Sorenson, S. Stuart Mackeown,
Francis W. Maxstadt.



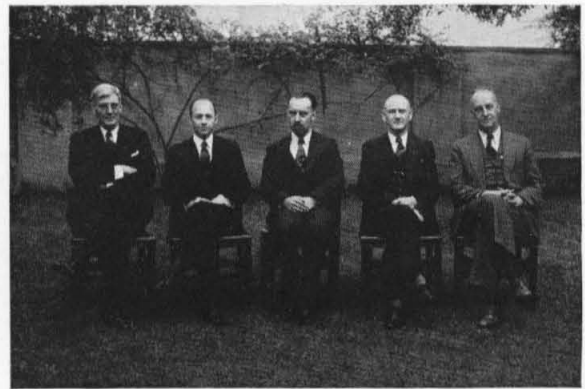
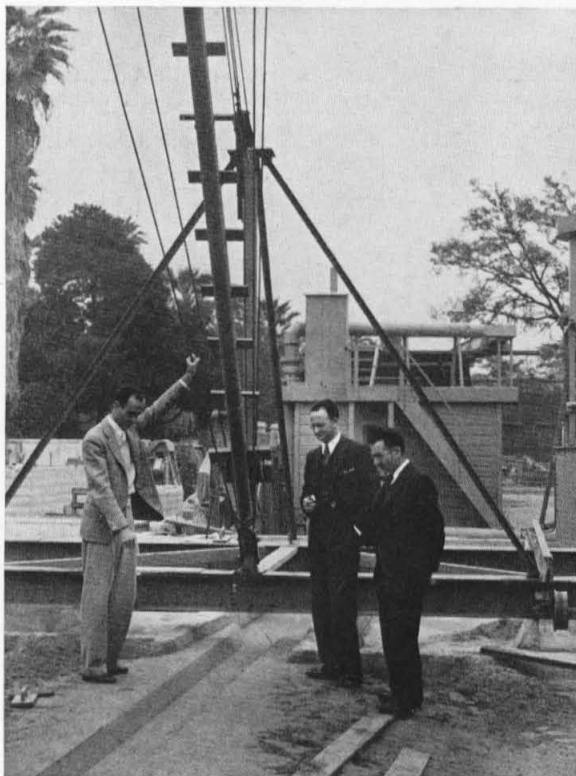
CIVIL ENGINEERING

Civil engineering professors have during the past year been especially active in professional work outside of the classroom, thus serving not only the students but also the community. The advent of water from the Colorado River to this area has given rise to several important problems. Exact knowledge is being substituted for guesswork every day.

Professor Franklin Thomas, chairman of the Division of Civil and Mechanical Engineering, is head of a special Water Committee for the Metropolitan Water District; this group must develop a plan for the use and conditions of sale of water on the coastal plain when it becomes available with the completion of the aqueduct in 1939.

Professor R. R. Martel, known for his work on steel structures, is now making an analysis of the stresses and the economic distribution of material in the casings of large pumps. This data is necessary for the design of the pumps to be built for the Aqueduct. The pumps will handle pressure heads up to 440 feet, and

Soil Erosion Study



CIVIL ENGINEERING AND MECHANICS PROFESSORS
Frederic W. Hinrichs, Jr., Fred J. Converse, R. R. Martel, Franklin Thomas, William W. Michael.

volumes of 200 cubic feet per second; driving motors of 12,000 horsepower each will be necessary.

In the field of earthwork, Professor F. J. Converse is working on the carrying powers of soils for building foundations. He has also been investigating the form of wall and column supports best adapted for safe and economical use in foundation structures. Professor Converse represents Tech at the Soil Mechanics Conference at Harvard in June.

Professor W. W. Michael has recently become vice-president of the Educational Division of the American Road Builders Association. Under his direction, civil engineering was also applied in assisting the astrophysics department; last summer four of last year's seniors, Griffiths, Jennison, Meneghelli, and Schwartz, surveyed the entire top of Palomar Mountain to make possible the most satisfactory location of the telescope and accompanying buildings.

Working with the Soil Conservation Service of the federal government, the Division is conducting extensive investigations of soil erosion. A new laboratory is being completed north of the old dorm. Dr. Vito Vanoni is in actual charge, while Professors Knapp and Von Karman direct the project.

Investigations include work on stream transportation, material wear, stream cutoffs, detention dam spillways, and other specific problems. Field study is under way on pilot channels of the Little Colorado River and on artificially formed arroyos near Gallup, New Mexico.



MECHANICAL ENGINEERING PROFESSORS

(Rear) Ernest E. Seehler, Herman J. Stoever; (Front) Donald S. Clark, Robert L. Daugherty, W. Howard Clapp, Robert T. Knapp.

Cooperation in industrial and governmental work also enlarges the scope of mechanical engineering study at the Institute. Professors Daugherty, Knapp, and Von Karman have been directing the testing of pump models for the Metropolitan Water District, in the west part of Guggenheim Laboratory. Power for the pumps comes from the motor-generator set which was installed for operation of the wind tunnel, the largest such unit on the campus. The findings of this laboratory have improved and simplified dump design, lowering the costs of installation and operation.

\$700,000 have been saved from present first costs, with that much more saving in machinery ultimately to be installed. Close to \$100,000 per year will be saved in power consumption alone. Weight and length readings have been used to measure pressures, rates of flow, and torques; speeds are accurately regulated for an electrical dynamometer of 500 horsepower capacity and 5555 r.p.m. maximum speed.

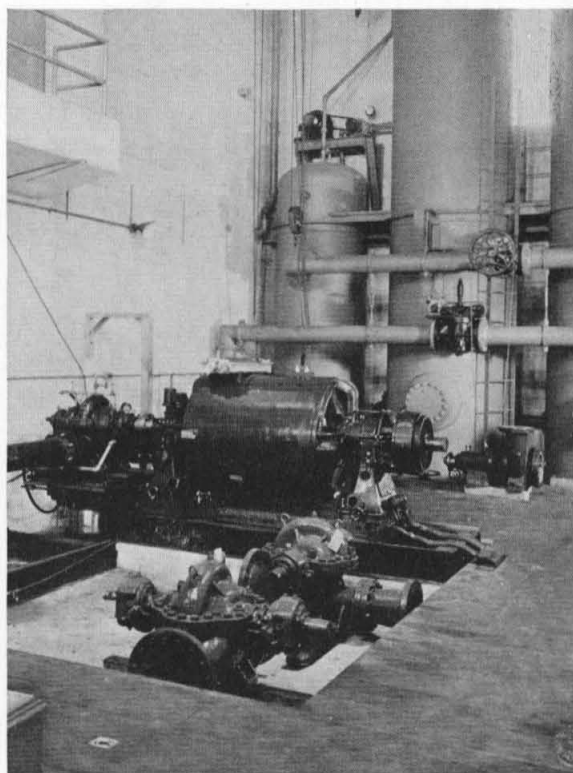
Hydraulic engineering, a boundary field between civil and mechanical engineering, is represented not only by the work of the Soil Conservation Service, but also by research carried on in cooperation with the Los Angeles County Flood Control District. The tide pond allows study of river, harbor, and beach problems, and is provided with a wave machine. For investigation of rapid turbulent flow on high gradients, analogous to steep stream channels, a long channel platform has been built.

MECHANICAL ENGINEERING

Dr. Donald S. Clark has conducted an elaborate program of metallographic study involving the structures of metallic alloys and the effects of heat treatment. Assisted by Dr. Gottfried Datwyler, he has developed a testing machine for applying instantaneous impact loads on steel samples; dynamite is used as the driving force, and speeds of 250 feet per second have been obtained. Microscopic studies of specimens have assisted in the determination of the crystal structures of metals.

Advanced studies are also in progress in the fields of machine design, under Professor W. H. Clapp; thermodynamics, power plant design and analysis, internal combustion engines, refrigeration, heating and ventilating, air conditioning, and steam turbines. Facilities are provided in a laboratory just east of the boiler plant for undergraduate work on hydraulic and heat engineering machinery. Industrial inspection trips and investigations are included in the work of several undergraduate courses.

Pump Testing Laboratory



AERONAUTICS

The personnel of the Daniel Guggenheim Laboratory of Aeronautics was vigorously active during the last year. The staff members and the thirty-five or more graduate students have undertaken a great deal of original research into various phases of airplane design; and the huge wind tunnel has been in continuous use.

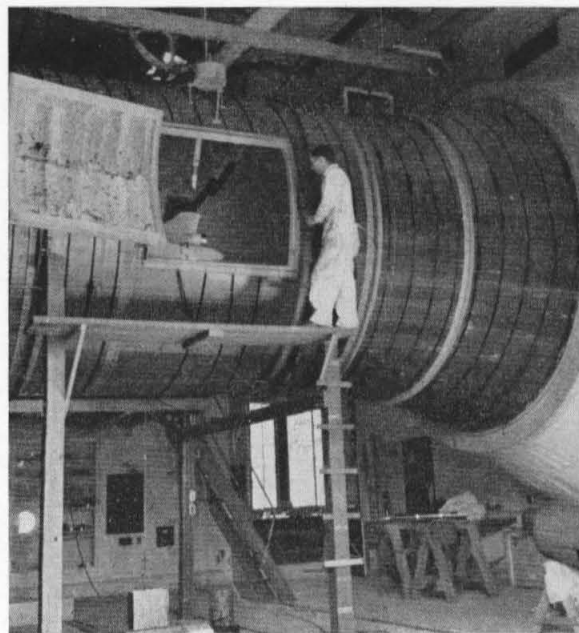
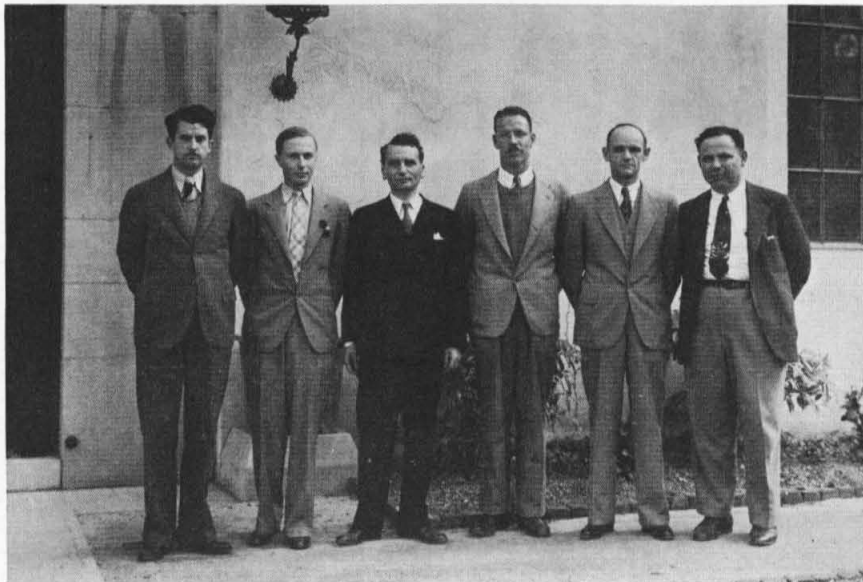
For example, two navy men, Lieut.-Commander Bolster and Lieutenant Fleming, have tested in the tunnel the effects of the propellor on the performance of the plane itself, using a one-sixth scale model of an airplane powered with a twelve horsepower electric motor; while study of the ground's proximity on the performance of ships while landing or taking off has been conducted by Mr. William Sears.

Testing work for all the big aeronautical companies was an important item in the laboratory's activity. Proposed new ship designs have been studied for Douglas, Boeing, Lockheed, and several others.

METEOROLOGY

Most important among the recent widespread activities of the Meteorology Department has been the development of the Radiometeorograph. This instrument, a combined 1.5 meter radio transmitter, barograph, thermograph, and hydrograph, weighs one pound, including small storage batteries for the transmitter. Attached to a free balloon it will broad-

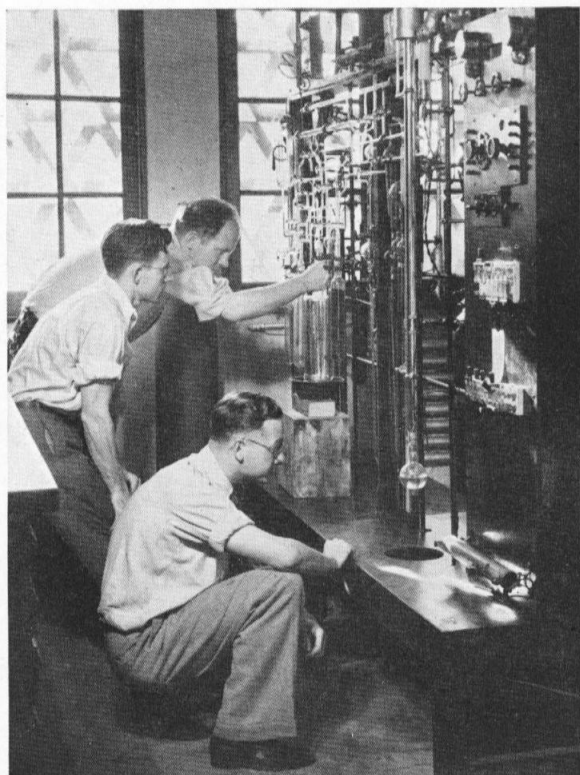
AERONAUTICS PROFESSORS
Irving P. Kriek, Ernest E. Seehler,
Theodor von Karman, Clark B.
Millikan, William H. Bowen, Arthur
L. Klein.



Wind Tunnel

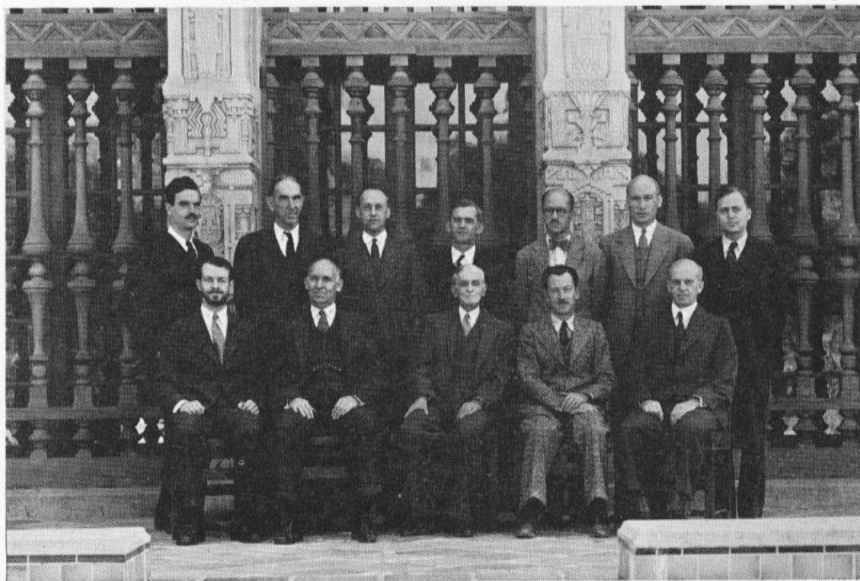
cast, by calibrated signals, weather conditions at any altitude. The device, developed by Captain Carl Meyer of the Army Signal Corps and Mr. L. E. Wood, has worked successfully to an altitude of 90,000 feet, promises to revolutionize methods of obtaining weather data. "A most important contribution," says Dr. Krick.

Weather forecasting, nationwide, and training of meteorologists for many agencies continue as important phases of the Department's work.



Ethane Purification for A.P.I. project

Research under Dr. William N. Lacey, professor of chemical engineering, has been chiefly directed toward the measurement of physical and thermodynamic properties of hydrocarbon mixtures. This investigation is conducted by Dr. Bruce H. Sage, with several assistants and graduate students. The work is financed by the American Petroleum Institute.



CHEMISTRY

Within a few years Gates Chemical Laboratory will be enlarged by the construction of a new unit to the west. The Division of Chemistry and Chemical Engineering has as its chairman Dr. Arthur A. Noyes, internationally known for his contributions in analytical and physical chemistry.

Thermodynamic data for equilibria of compounds of fluorine and the other halogens and for the higher oxidation states of silver, cobalt, and other metals; together with rate measurements of photochemical reactions and on artificially produced radioactive materials, make up the work in physical chemistry.

In the field of structural chemistry, studies of X-ray diffraction photographs and band spectra by Drs. Pauling and Badger have contributed to the knowledge of molecular dimensions and the justification of the quantum mechanics.

Professor Lucas, whose recently published text on organic chemistry included a physical and structural approach to the subject, directs research upon the chemical reactions of unsaturated compounds and on the structure of complex naturally-occurring materials. Two visitors to Gates have worked in this field this year, Dr. Alfred E. Mirsky of the Rockefeller Institute, on proteins, and Professor Dwight C. Carpenter of Cornell. Dr. Charles C. Coryell has investigated the structure of the porphyrin complexes found in blood and chlorophyll.

CHEMISTRY PROFESSORS

(Rear) Joseph B. Koepfli, James E. Bell, William N. Lacey, Don M. Yost, Ernest H. Swift, Arnold O. Beckman, George W. Wheland;
(Front) Linus Pauling, Howard J. Lucas, Arthur A. Noyes, Roscoe G. Dickinson, Stuart J. Bates.

BIOLOGY

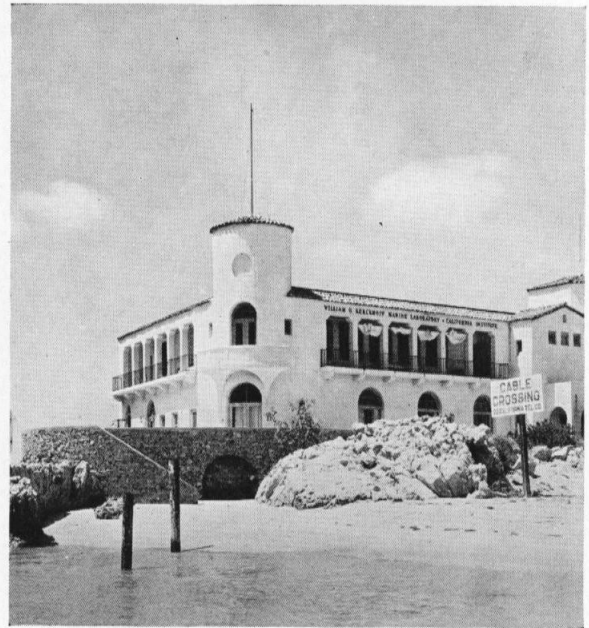
Work in genetics, which has been extensively pursued by the Division of Biology for many years, is being actively continued under the direction of Dr. Morgan. During last summer, under a Rockefeller Foundation grant, Dr. Dobzhansky went on an extensive collecting tour to supplement former collecting in Alaska, Canada, Oregon and Washington. This year his trip included the Rocky mountain region from Montana to New Mexico and Mexico City. The material he brought back is being used by Dr. Sturtevant for a detailed study of different racial types of *Drosophila pseudoobscura* in an attempt to find how a species may evolve into a new species.

At the Marine Station at Corona del Mar, several undergraduates worked last summer mainly on the comparative anatomy of vertebrates, but also familiarizing themselves with many types of marine animals. In addition, several visiting professors worked on special problems; investigations were conducted by Dr. Wiersma and Dr. van Harreveld on the reaction of the claw muscles of crayfish, crabs and other crustaceans.

In the department of plant physiology, work on the growth hormones in plants has led to several important discoveries concerning both the chemical nature of the substances and the way in which they bring about an increased or decreased rate of growth in different parts of the plant.

BIOLOGY PROFESSORS

(Rear) Hugh M. Huffman, Frits W. Went, Anthonie van Harreveld, Cornelis A. G. Wiersma, Sterling H. Emerson; (Front) Thomas Hunt Morgan, George H. Parker, George E. MacGinitie.



Marine Laboratory

Under the direction of Dr. Borsook biochemical studies have been made on the origin of uric acid in animal tissues. Work on Vitamin C has also been continued, especially on the relation between the oxidation of the vitamin and its function in the animal organism. Dr. Huffman has determined the free energies of a number of physiologically important substances; and his work in this field is to be extended for several years.



Geophysical Blasting

The Southwestern United States provides a variety of geological formations and deposits of animal remains; thus there are available many fields of research for the Division of the Geological Sciences. During the past year Dr. John Peter Buwalda, Chairman of the Division, has studied Southern California fault blocks extensively to gain a more detailed knowledge of the geologic structure of the whole Pasadena region. Dr. Buwalda has also devoted some attention to the dams and tunnels of the Colorado River Aqueduct.

GEOLOGICAL SCIENCES

Dr. Beno Gutenberg's studies of earthquakes indicate that many originate from depths as great as 400 miles, recent work showing that they are produced by slips on faults in much the same way that shallow earthquakes develop. He has also attempted to determine the character of shaking at many different points during one quake, noting different frequencies or rates of vibration.

A cave in Mexico has, under Dr. Chester Stock's direction, yielded large quantities of bones of extinct animals, preserved by being buried in the dust and sand. Dr. Ian Campbell and Dr. John H. Maxson have been studying Grand Canyon formations in a laborious research involving much scaling of cliffs and reconnoitering through difficult localities. They have found that the very oldest rocks in America were formed in much the same way as the younger formations. For further studies, a boat trip is now contemplated down the Canyon.

Dr. Horace J. Fraser has perfected methods of studying the internal structure of ores; these consist of cutting through a piece of ore, polishing the surface, then detecting mineral crystals microscopically.

The Turkish Government enlisted the services of Dr. Maxson in a year's search for oil and coal. Before going abroad in February he carried out further investigations in the geology of the Inyo Range, east of Owens Valley.



GEOLOGY PROFESSORS

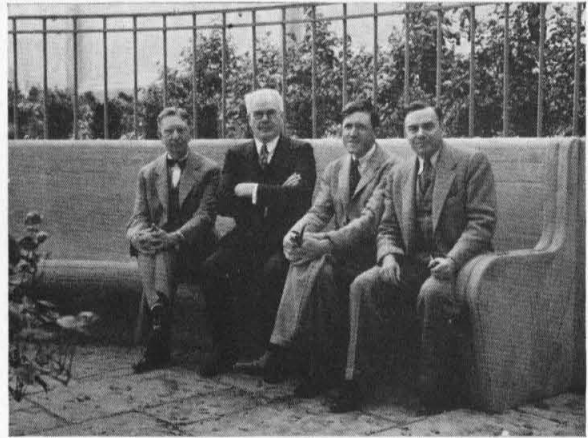
(Rear) Willis P. Popenoe, Horace J. Fraser, George H. Anderson, Eustace L. Furlong, John L. Ridgway; (Front) Ian Campbell, Beno Gutenberg, J. P. Buwalda, Chester Stock.

ASTROPHYSICS

With the recent arrival of the huge pyrex disk, active work on the Institute's 200-inch telescope has begun in the Optics Laboratory on the campus. This project, aided by grants from the General Education Board and fostered by the cooperation of the Mount Wilson Observatory of the Carnegie Institute, has done much to focus the public eye upon the Institute.

Recent work in this department has been concerned with the design and construction in the Astrophysics shop of grinding apparatus for the 200-inch mirror and the figuring of the 120-inch testing disk. Various auxiliary instruments have been made and tested, among them correcting lenses to increase the field of vision, objectives for spectroscopic work, photoelectric photometers, and radiometers, as well as a coelostat telescope to be situated in the Astrophysics Laboratory.

Under the direction of Dr. John A. Anderson of the Mount Wilson Observatory staff, the design of the telescope has been fixed upon, employing a modified yoke mounting with a cartridge-shaped house at the principal focus for the observer, and two possible Cassegrain arrangements. Actual construction work is supervised by Capt. Clyde S. McDowell of the U. S. Navy. After several years of investigation and observation, Palomar Mountain in San Diego County has been selected as the most favorable site, upon which the telescope will



ASTROPHYSICS STAFF

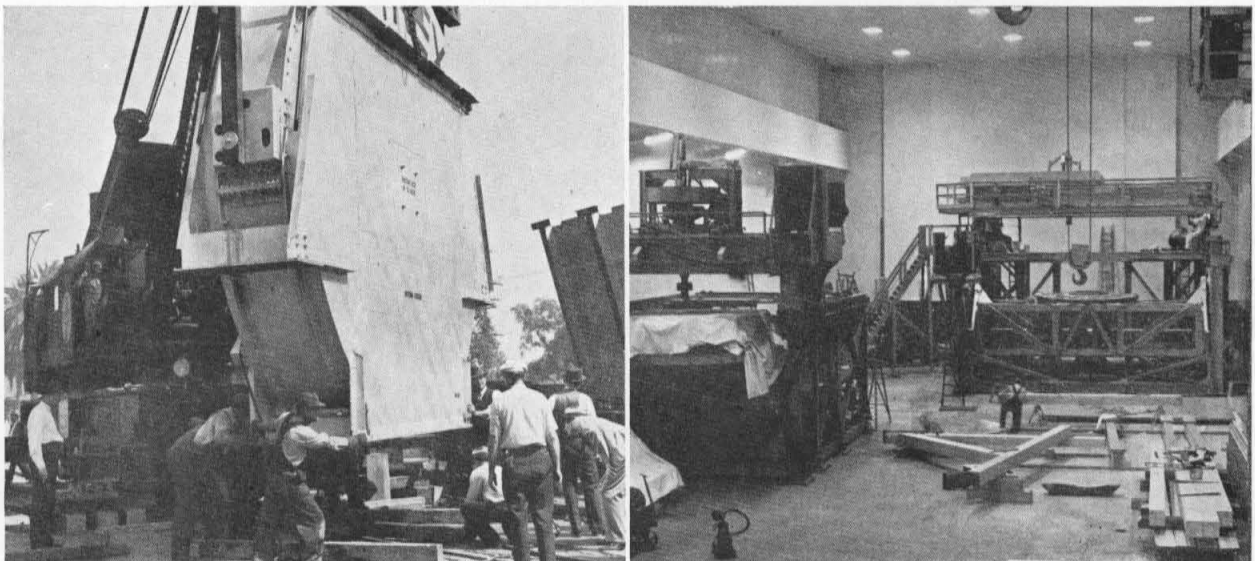
John A. Anderson, Francis G. Pease, John D. Strong, Clyde S. McDowell.

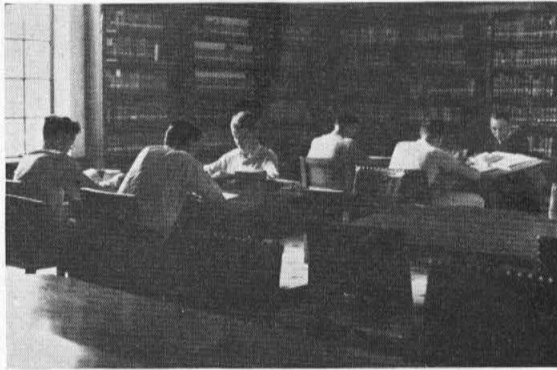
probably be erected.

Of interest is the new process for aluminizing mirror surfaces, developed in large measure at the Institute by Dr. John Strong. Tried recently on the 60-inch and 100-inch reflectors at Mount Wilson, this surface has proved most satisfactory in giving increased reflecting power and also freedom from both tarnishing and light diffusion.

It is expected that some four years will be required to finish the 200-inch mirror and following this considerable time to put the telescope into actual use. Until then we may only make estimates as to how far it will penetrate into space and speculate upon what new discoveries may be made.

The 200" Mirror's arrival — Grinding Tables in Optics Lab





Humanities Library

While the work of major interest at Tech is, of course, in the fields of technical instruction and research, a considerable portion of all curricula is given over to the study of the humanities. It is hoped that, by this relatively prolonged contact with the department, a correspondingly large influence on the student towards appreciation of the broadening subjects of history, literature, philosophy and the like. In addition, instruction is given to science students in French and German, with Italian and Greek offered as electives.

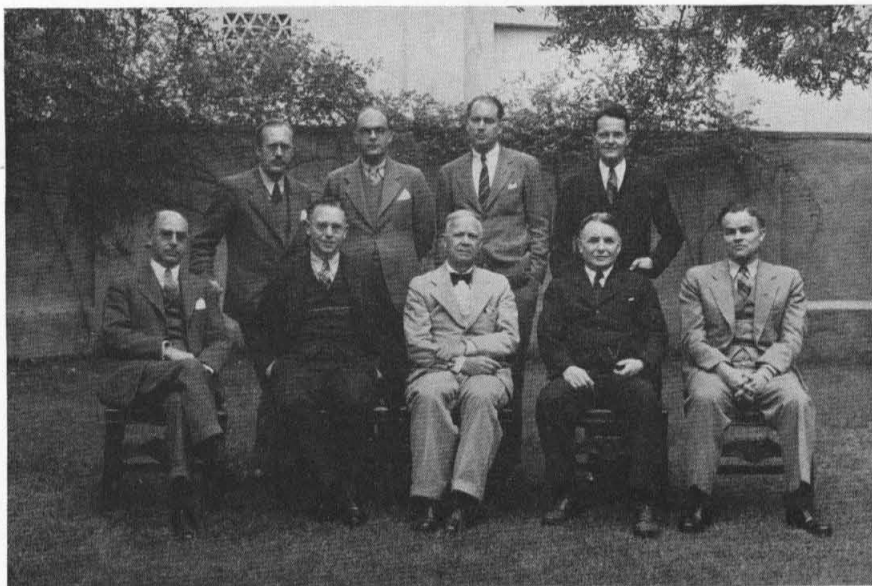
As with the other departments of the Institute, the faculty members engage in original research as well as their teaching. Projects in this field are facilitated by the near location of the Huntington Library and Art Gallery, with which a cordial liaison is maintained. Professor William Huse, who is the author of many short stories, published "A Noble Savage On the

HUMANITIES

Stage" in the February issue of *Modern Philology*, and "The Shipwreck" in the Parrott Presentation Volume, a collection of works published in honor of Professor T. M. Parrott's retirement from Princeton. Dr. Harvey Eagleson published an article on Gertrude Stein, "Method in Madness," in the *Swanee Review*, and Professor George R. MacMinn was the author of "The Gentleman from Pike in Early California" in *American Literature*.

Besides the already mentioned contact with the Huntington Library, close relationships are maintained with the faculties of other institutions. During the past year, several scholars have given instruction at the Institute. Among these are Professor Hardin Craig of Stanford who conducted a course on Bacon and the methods of research in the 17th Century; Professor Frederick Padelford of Washington, who taught a term of Shakespeare; and Professor Louis Wright of North Carolina, who instructed in 17th and 18th Century Drama.

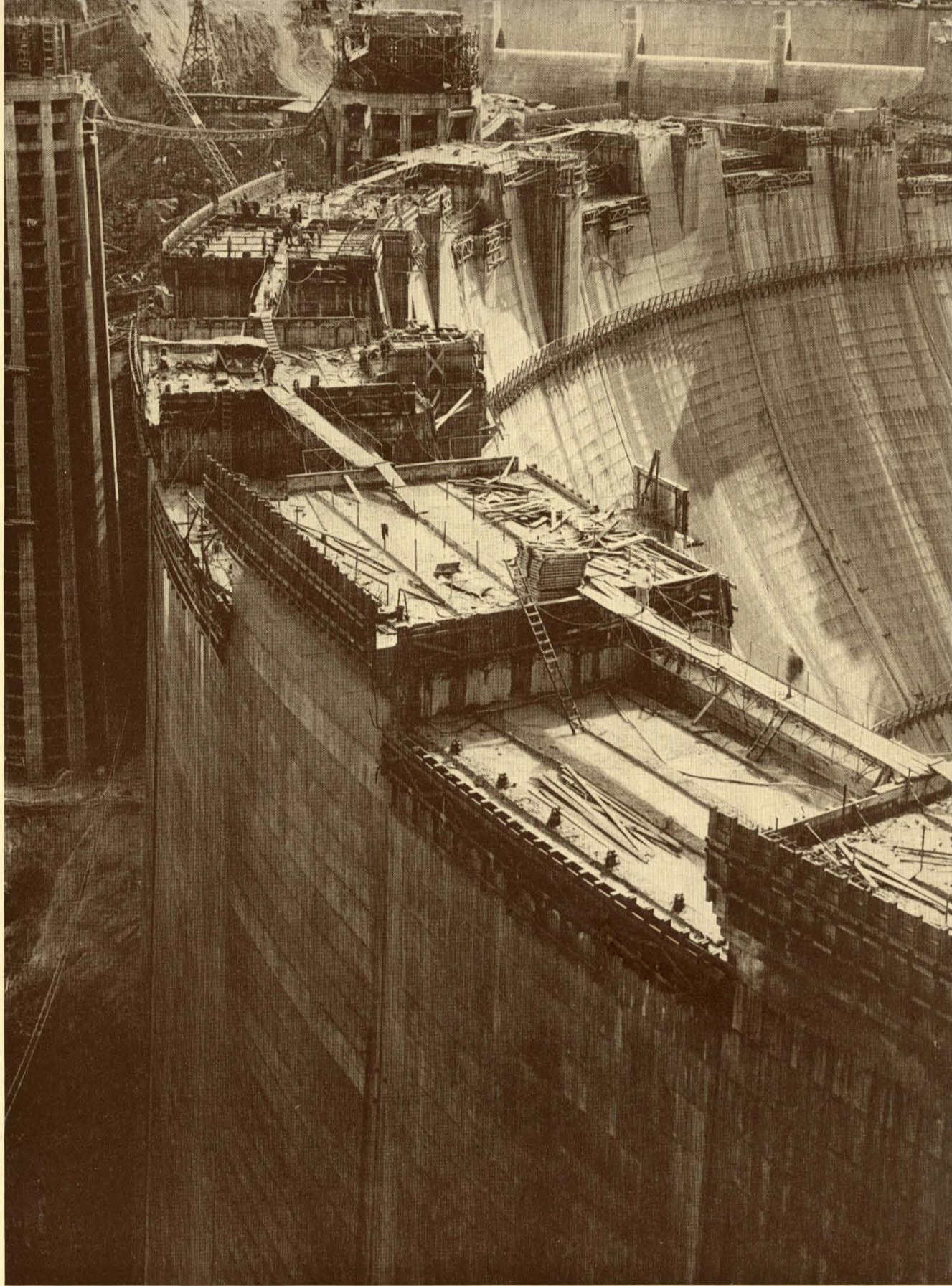
In addition to the above mentioned activities, the Humanities Division has sponsored a series of concerts by the Pro Arte String Quartet, a number of interesting exhibits in the Treasure Room of Dabney Hall, and has aided in the production of the campus weekly, *The California Tech*, through the journalism class conducted by Professor MacMinn. Professor Judy again did his excellent job of providing attractions for the Monday assemblies.



HUMANITIES PROFESSORS

(Rear) William Huse, Harvey Eagleson, L. Winchester Jones, Roger Stanton; (Front) George R. MacMinn, Ray E. Untereiner, Clinton K. Judy, William B. Munro, Horace N. Gilbert.

STUDENT BODY

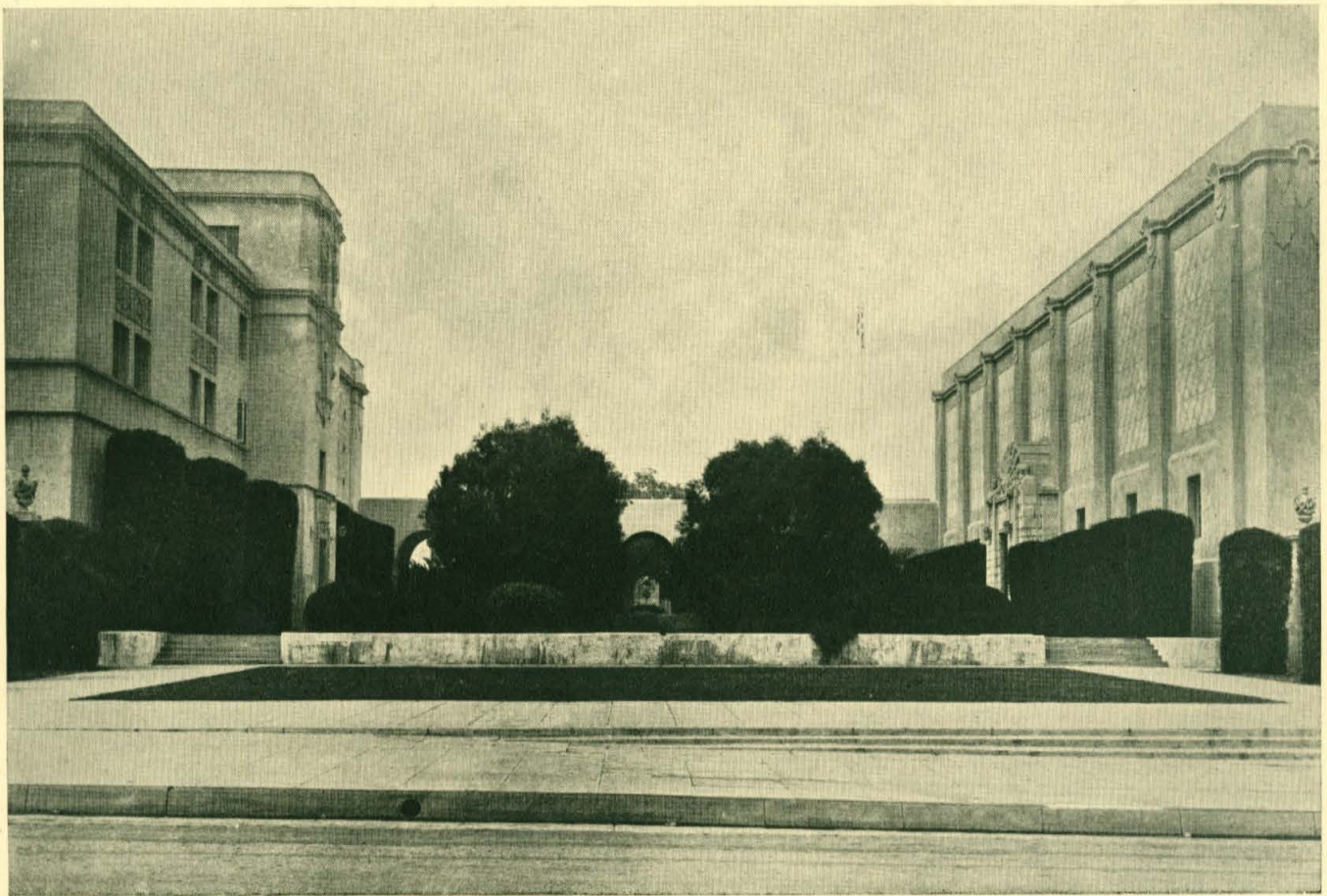


IN 1935

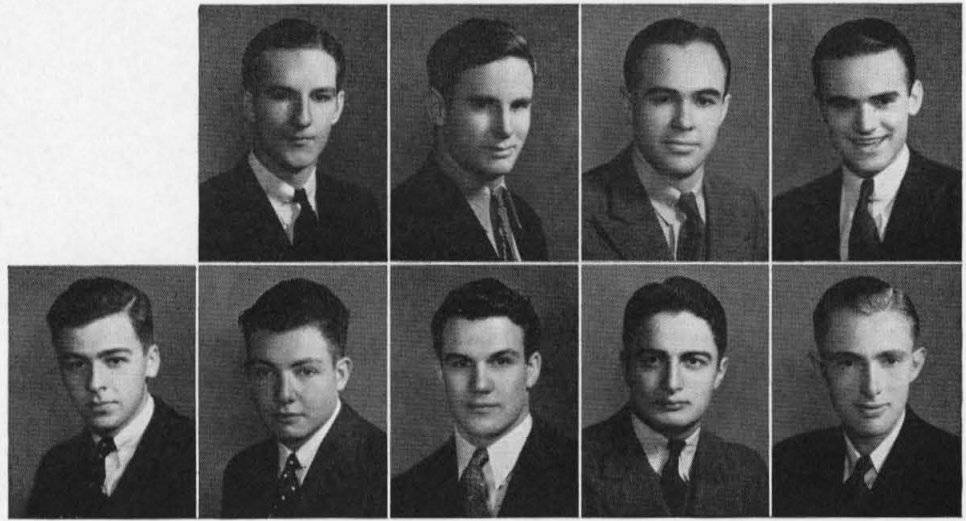


NORTH ENTRANCE

SOUTH ENTRANCE



BOARD OF DIRECTORS



MAHONEY

AUSTEN
MCINTYRE

BENTON
MILLER

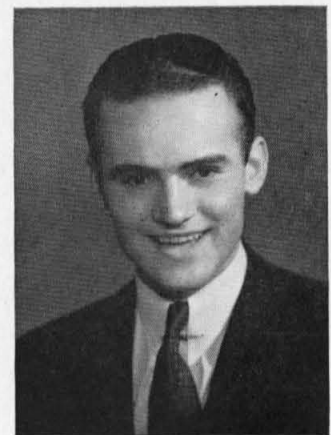
CREAL
ROSENCRANZ

HAMMOND
SWANSON

With Paul Hammond as president, the Board of Directors of the corporation have had a busy year ironing out the many details which turn up in student body affairs. The Board authorizes and controls expenditures, grants athletic and other awards, and fills appointive positions.

Members of the Board of Directors and the Board of Control have met monthly with the Student Relations Committee of the faculty, which coordinates the policies of the student corporation and those of the Institute administrators.

This year, by student body vote, the Rally Committee Chairman was given a place on the Board as a voting member.



PAUL HARVEY HAMMOND
*President of the
Associated Students*

BOARD OF CONTROL



BUSH
EDWARDS

CAULFIELD
JEWETT

CREAL
P. JONES

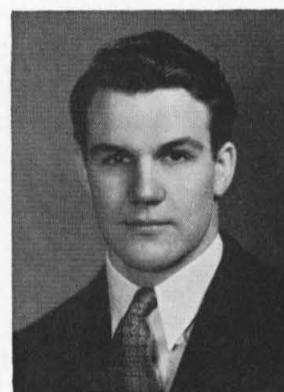
DAVIDSON
MAHONEY

RIDGWAY

All infractions of Tech's honor system are brought before the Board of Control, whose rulings are carried out implicitly by the faculty; its function is preventative as well as punitive.

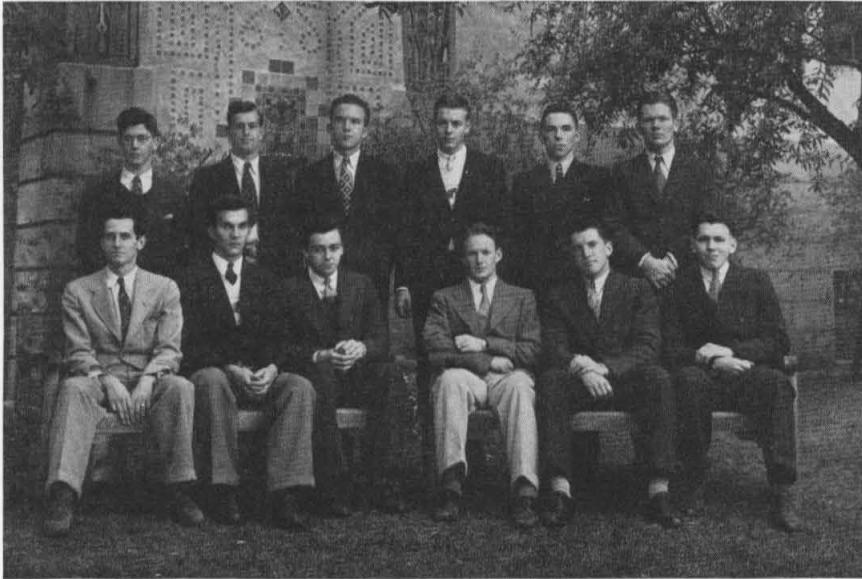
Wendell Miller, student body vice-president, served ably as chairman of the Board of Control, and on the Court of Traditions. The Court also included Kenyon Bush, chairman; Robert Mahoney, Frank Jewett, and Henry Caulfield.

Paul Hammond, A.S.B. president, and Wally Swanson, secretary, were members of the Board, replaced after the March elections by Mahoney and Jack McLean; Frank Jewett became chairman. Miller and Jack Baker were elected for the vacancies.



WENDELL BOWER MILLER
*Vice-President of the
Associated Students*

BOARD OF DIRECTORS



OFFICERS FOR 1936-37

(Back Row) Davis, editor *Big T*; C. Gates, yell leader; Wetmore, athletic manager; Pabst, representative; Farnham, manager *Tech*; Evans, Rally chairman. (Front row) Webster, publicity manager; Jewett, vice-president; Mahoney, president; McLean, secretary; Bussard, treasurer; Maines, editor *Tech*. (Not in picture) C. Miller, representative.

THE NEW BOARD

Four juniors, four sophomores, and one freshman make up the Board of Directors which will serve for the greater part of the coming year. The campaigns of election week, though only of average intensity, did result in several narrow races. The vice-presidency and publicity managership were most hotly contested, both on the first ballot and on the necessary revote. Five candidates, however, were not opposed. Headed by Robert Mahoney, the newly elected Board took office at the beginning of the third term.

Almost its first business was the planning of the first formal student body dance; this was held at the Riviera Country Club on the evening of May 1. Nick Stuart's orchestra, the marble dance floor, the beautiful setting of the club, and the perfect weather all contributed to the complete enjoyment of the two hundred couples attending. Evans, Pabst, and Charles Miller were responsible for the arrangements.

The second new custom was the issuance of tickets to the Drama Club play, "Taming of the Shrew," to all members of the student body. This has served as a new stimulus to *Tech* dramatics, and it is hoped that it will become a permanent policy of the Associated Students.

An enthusiastic group of executives and legislators, the Board's experience during this past term indicates a progressive year ahead.

THE PUBLICITY COMMITTEE

Responsible for the publicizing of athletic and other student activities of the Institute, the Publicity Committee for this year has been headed by Richard Rosencranz. The committee has cooperated with the Athletic Office and has kept in close touch with all developments on the campus, reporting to the Pasadena *Star-News* and *Post*, and to the Los Angeles newspapers.

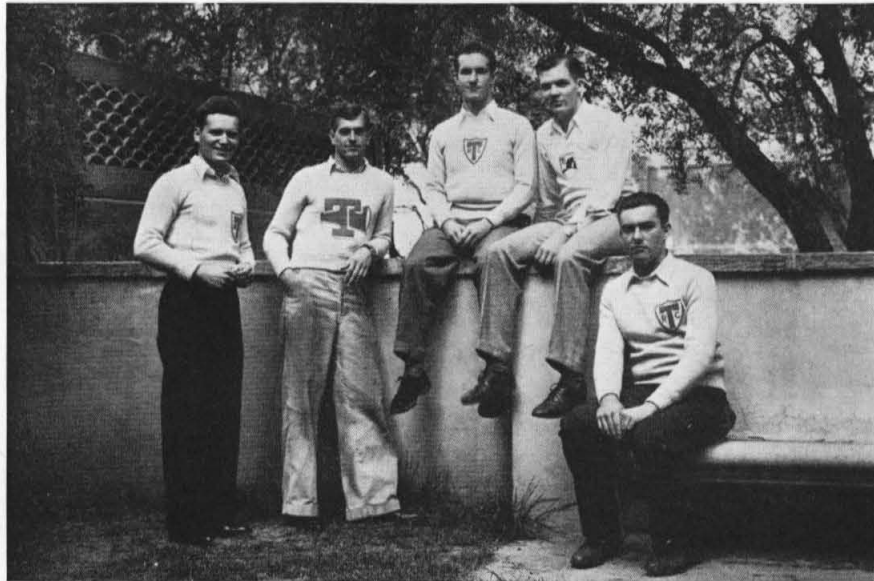
Rosencranz has been assisted in the work by Maurice Sklar, Alton Pabst, Ray Jensen, and Warren Fenzi. During the third term, Martin Webster took over the duties of manager.

THE ELECTION COMMITTEE

Another important function in the affairs of student government is that of the Election Committee, which has earned the reputation of being as honest and disinterested as if its members were simply performing laboratory experiments and recording the results.

Howard Hamacher was chairman for the first two terms this year. Bob Mahoney headed the committee the third term last year, while Wendell Miller has handled the job for this past term. Other men serving on the committee have been Kenyon Bush, Willard Farnham, John Gates, Joe Powell, Edward Price, Maurice Sklar, and Gardner Wilson.

RALLY COMMITTEE



Paul Jones, Charles Gates, *chairman*
John Austin, Ralph Spotts, Gardner
Wilson.

The Rally Committee, its membership made up of Gardner Wilson, Hank Evans, Paul Jones, Ralph Spotts, and Chairman John Austin, did itself proud in arranging a large number of excellent Friday assemblies this year.

The first venture, carried out last spring, was a series of entertainments sponsored by the classes. A theater party was offered actors in the best program, the Sophs coming through for a victory.

With the Fall season came football and football rallies. The very first week of school a rally was held in Dabney Garden in connection with the Santa Barbara game. A direct wire from the coast city brought a play-by-play account of the game to the assembled throng, "Baron" Allardt and "Fritz" Merralls acting as announcers extraordinary.

Next came the big "To Hell With Oxy" week. The Pajamarino and United Artists Theater party were held on Thursday night for the edification and amusement of Pasadena's sober souls. The Friday morning assembly presented a vast array of talent including the Caltech Band, "Stew" Seymour, Al Hartley, president of Oxy student body, Ed Kinzie, prominent Tech alumnus and ex-gridiron champ, and a musical trio from P.J.C., Misses Lamb, Haworth, and Throne. Just before the game that night was held the never-to-be-forgotten torchlight parade in which six hundred Tech men bared their tonsils to the fumes of SO₂ for the sake of our old Alma Mater.

The Pomona game rally was held Nov. 8 and featured, much to the delight of the student body, Misses Dot Cordray, torch singer, Peggy Lou Neary, tap dancer, and Billie Boynton, pianist. Miss Cordray and Miss Boynton returned by popular request to present another program at the student body nominations held in February.

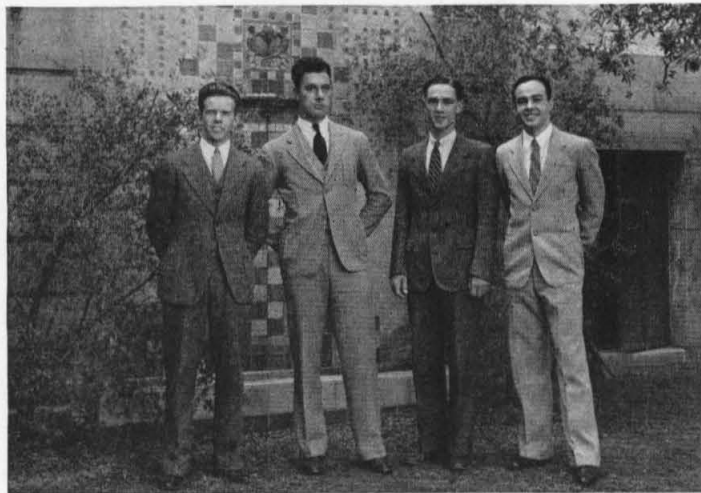
The crowning glory of the year was the pre-election rally held on the steps of Throop Hall and sanctioned by "Pope" Isham. Master of Ceremonies Bill Richey presented a host of comics which could not be duplicated in even the 24-page full color Sunday supplement.

Another set of class assemblies, under the guidance of the new Rally Committee Chairman, Hank Evans, provided entertainment four times during the third term.

Yell leaders James Browne, Charles Gates.



SENIOR CLASS



President Veysey; vice-president Jensen; secretary Morse; treasurer Creal.

All 160 charter members of the Class of '36 will tell their grandchildren about the famous pushball contest of their freshman year. Even the opposing sophomores admitted that the newcomers to the Institute had a superabundance of pep, initiative and persistence—and those sophomores ought to know! Despite their greatest efforts, the opponents were unable to keep the '36 class chairman and other important class members away from the contest. The lively frosh rescued their leaders from a stone quarry twenty miles east of town, where the kidnapers had left them securely tied. Of course the sophomores did win the contest, but only after encountering much more difficulty than second year classes generally meet in defeating their frosh. In commemoration of this interclass Rodeo, the men of '36 presented an informal two-class dance at the Civic in February, which proved highly satisfactory to all.

Another outstanding memory of the first year at Tech is that of the freshman student-body dance, the first real bid of the class—and a highly successful one—for social recognition. This dance closed the fall term and had so large an attendance that even the generous floor of the Oakmont Country Club was none too large to accommodate the celebrating Techsters and their feminine companions as they danced away the cool December evening before the Oakmont's hospitable fireplace.

The arrival of a new crop of frosh in the fall of 1933 found the Class of '36 practicing its best welcoming manners, learned so well the year before at the cost of some pain and some damp clothing, the latter acquired during baptism in the Physics Pond. Fire had destroyed the traditional eight-foot pushball; so a new form of competition had to be found for the frosh-soph rodeo contest. Some experienced and ingenious child of Mephistopheles brought forth the idea of a tug-of-war across a mud hole, to be followed by a sack race. After the acceptance of this proposition, a suitable site was prepared. This site consisted principally of a ten-foot-square pit, dug several feet deep, filled with extra-shiny mud and covered with a few inches of water. As a result, members of the class of '36, enjoyed the rodeo dance presented for their benefit by the frosh of '37 in the Gold Room of the Pasadena

Civic Auditorium to the music of Paul Lau's orchestra.

As sophomores, the class of '36 presented a student-body dance which tapped new territory for Tech. The affair was held at the California Country Club which crowns one of the city-view hill-tops in that attractive residential section of Los Angeles, Monte Mar Vista.

In the late spring of their junior year the men of '36 successfully executed the plans for two memorable social events. In co-operation with the class a year ahead a garden party and a Junior-Senior Prom were presented to appreciative classes. The garden party had as its setting the attractive grounds and dance floor of Dabney Hall. Good fortune aided in securing an exceptionally fine orchestra. Potted palms, an abundance of comfortable garden furniture, graceful ladies in spring gowns, and a perfect day combined to add this occasion permanently to the memory of all who attended. The prom was held at the Riviera Country Club with the Riviera's own orchestra proving highly acceptable. This event marked the close of the school year; and everyone seemed in a mood to enjoy the Club's beautiful marble floors, luxurious furnishings, and ample, well-landscaped grounds.

As yet the social season is not complete. But the Class of '36, with the initiative and ambition for which it has been noted, has already produced an innovation in the form of an exclusive, though informal dance for the Senior Class, held one Saturday night near the end of the second term. This affair was given on the campus in Dabney Hall under the influence of appropriate decorations, good refreshments, and, above all, good music. A few gay insuppressables started a game of drop-the-handkerchief in the garden; and the whole class quickly joined in. Outstanding incident of the party: One man understood that the affair was to be formal and came in a tuxedo, starched and stiff, accompanied by a young lady in a very pretty but very formal dress. In the midst of the dancing it was announced that this gentleman, to his own astonishment, would offer a vocal rendition as guest soloist for the evening. May it be said to his eternal credit that he performed admirably as was attested by loud applause and hearty back-slapping.

On the social calendar are yet another garden party and another prom which will at least conform to all earlier standards. Indeed, the social chairman has some plans that promise fair to exceed even the most glamorous and delightful events of the past. However, until graduation the Class of '36 must continue on its worksome way, hoping to conclude its stay at Tech in grand style.

As the terms have slipped by, a few at a time old faces changed for new. For various reasons, such as a slip in financial arrangements, a shift of interest or ambition, or perhaps a slight miscalculation from a scholastic standpoint, only about one-half of the original members of the class have finally reached the point of graduation. This loss has been offset by incoming students who have transferred from other colleges into the Tech Class of '36 during their sophomore, junior, and senior years. Thus 120 men will receive parchments on June 12, signifying the commendable completion of four years at Tech.



CARROLL ROYER BAKER
Mechanical Engineering
RICKETTS

Ricketts gave "Bake" credit for his loyalty by making him their Vice President this year. He won his numerals in track but interhouse athletics have claimed him since. His Grecian dance at house smokers will be long remembered by his many friends in Ricketts House.

W. BRUCE BECKLEY
Electrical Engineering
RICKETTS; DRAMA; I K Δ; KEY

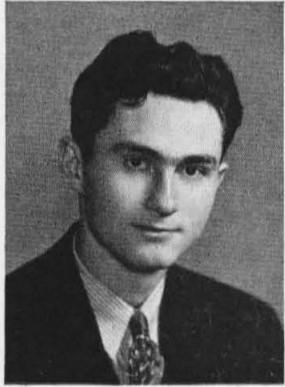
Bruce, or "Pop" as his presidency of Ricketts house has named him, is one of Tech's outstanding orators. Always active in school affairs, he is one of the few to receive an Honor Key in his Freshman Year. Frosh Chairman, and member of the Board of Control.

CHARLES WARD BEST
Chemistry
NON-RESIDENT

As a real chemist there is none better than Best. Loves to drouse long hours in an atmosphere of stink, stench, and smoke. He was President of the Chem Club in his Senior year, and is a glass blowing expert. Also Track Manager, as Junior.

WILLIAM E. BINGHAM
Applied Chemistry
NON-RESIDENT

Bill is very conscientious in everything he does. He is an active worker on the Big T staff this year. The Chem Club members hide their pocketbooks when they see him coming; yes, he is their treasurer. Music and horseback riding are his recreations.



ARTHUR LYMAN BISHOP
Applied Chemistry
FLEMING

A rugged individualist if anyone ever was, "Bish" barked signals on the gridiron (3), (4). He also played basketball four years and won his numerals at baseball. Junior class president and a Fleming Upper-Class Committeeman. Notorious for his between-classes dashes to Long Beach and that girl.

Honoraries follow house names; T signifies Varsity Club membership; B, Beavers; Q, Press Club; KEY, the award of a student body honor key.



DONALD E. BLODGETT
Mechanical Engineering
RICKETTS; T; TBII

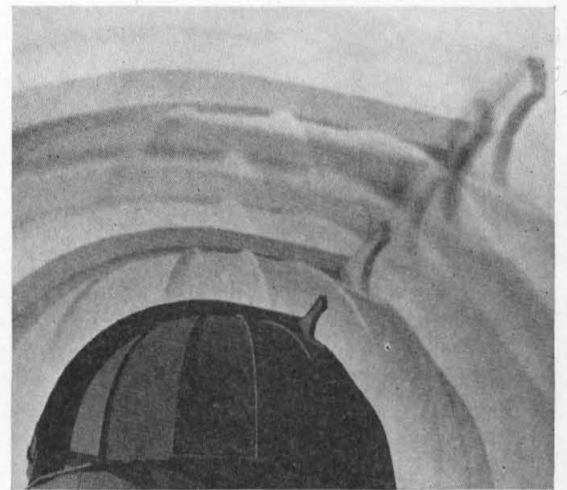
"Don" has been very much alive in both house and student body activities. He was circulation manager of the Tech, a member of the A.S.M.E., and one of Tech's star quarter-milers, winning his numerals and three letters. He was also a varsity and frosh footballer.

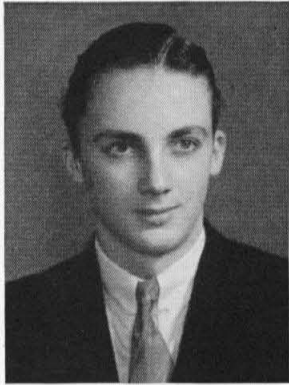


RAYMOND H. F. BOOTHE
Civil Engineering
DABNEY; DRAMA

Raymond has been one of the busy men in his professional society, being a member of the A.S.C.E. two years and vice-president in his senior year. He also belonged to the Y.M.C.A. He is very interested in music and possesses an extremely elaborate filing system.

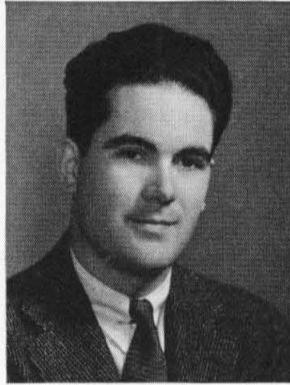
ASTROPHYSICS DOME





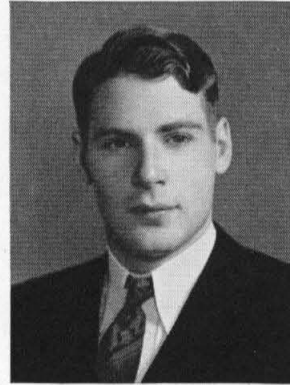
WILSON H. BUCKNELL
Electrical Engineering
FLEMING

"Buck" has shown great interest in Tech sports. He was a cross-country runner (1), (2) and a basketball manager (2), (3). This year he has been senior basketball manager. Bucknell was also a member of the Radio Club and a California Tech reporter.



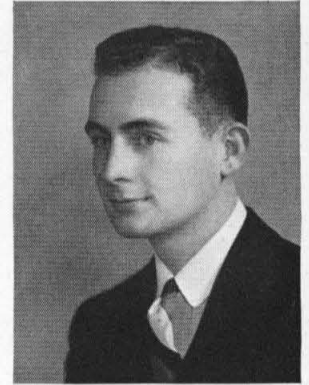
THOMAS ROBT. BURNIGHT
Physics
BLACKER

Bob is always an addition to any Blacker social function. A shoulder injury in Freshman football limited his athletic participation to intramural competition. He is treasurer of the Newman Club this year. He spends his spare time on outboards and automobiles.



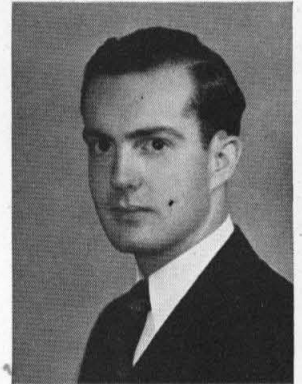
KENYON TAYLOR BUSH
Applied Chemistry

Blacker; Key; TBII; IIK Δ; T; B
"Ken" is numbered among the most active members of the class. He is tops scholastically, a stellar end on this year's football team, and active in student body affairs (Board of Control and Court of Traditions). He is a debater and a Rugby player.



CLAUDE W. CAIN II
Aeronautics
DABNEY

Generally known among his friends as "Ace", Claude transferred from Northwestern two years ago. Always sketches airplanes in class. Spends his spare time at bridge, badminton, tennis, and dancing. Whenever you hear the words "hand of bridge", you know it's the boy from Boston calling.



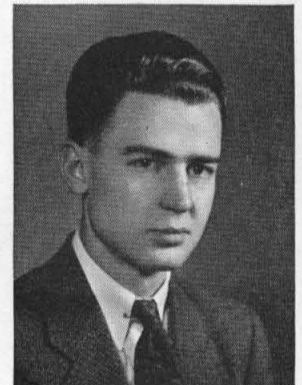
WILLIAM E. CAMPBELL
Applied Chemistry
NON-RESIDENT; TBII

One of the men who the profs can say is a scholar of ability, Bill is President of Tau Beta Pi this year. His activities as reporter for and news editor of the California Tech, and as secretary of the Chem Club (3) have kept him busy.



GLENN RAY CARLEY
Physics
NON-RESIDENT

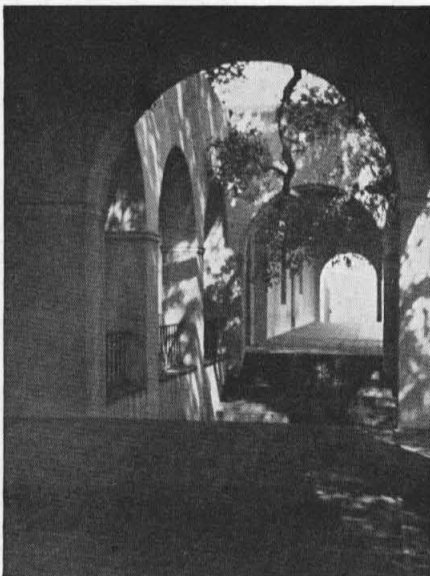
Glenn transferred to Tech two years ago from Montana School of Mines in Butte, Montana. His great interest is physics. The Glee Club claimed him from the first. Tennis and badminton are among his athletic diversions from classroom and laboratory.



ROBERT B. CARR
Geology
RICKETTS

Bob is one of the fellows responsible for Ricketts' splendid social reputation; he very seldom misses a social function. Bull sessions are a flop without him. This year he is scribe for the Geo-Paleo Club. His reading tastes are above those of the common horde.

ARCHWAY





JEFFREY STANLEY COHEN
Physics

THROOP

Best known for his ability to argue successfully about things too ethereal for ordinary mortals to grasp, and for his practical jokes around the Throop Club Lounge. Despite this he is still a very popular member of the Club. Tennis and pool occupy his spare time.

ELMER J. DAUBEN
Applied Chemistry

FLEMING; T; B

An all-around athlete, Dauben has represented Tech in basketball (2), (3), (4), golf (3), (4), tennis (1), and football (1). His work and ability kept the Interhouse Trophy for Fleming the two years he has been athletic manager. Wrote sports for the Tech (2), (3); Big T (4). Fleming vice-president (4). A booboo-ba-booper.

FRANK W. DAVIS
Mechanical Engineering

FLEMING; T

An athlete, a sportsman, and a regular guy, "Stinky" fought for Tech for four years on grid-iron and track. Besides being football captain and Wheaton Trophy winner two years running, Frank was president of the Beavers (4), Varsity Club (3), (4), and his class (1). On the Board of Control two years.

HOLLEY B. DICKINSON
Aeronautics

THROOP; B

A fellow as handy with his hands as he is with his head. Likes to talk straight from the shoulder. Enjoys taming the ladies as well as he does his ring opponents. Won a Rugby letter. Boxing instructor. A.S. M.E. Senior Social Chairman.



HUGH FRANK COLVIN
Applied Chemistry

THROOP; DRAMA; ¶; T; KEY

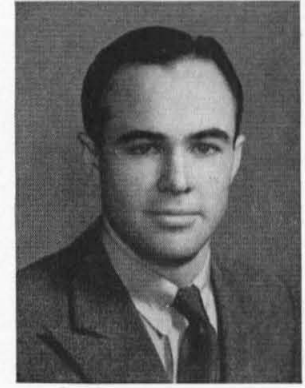
Versatility is "Huey's" long suit. It would take volumes to print all his activities. He played four years of top-notch basketball. Served on Tech staff (1, 2, 3, 4), last year as sports editor, this year as associate editor reporting on music and the theatre. Athletic mgr. (3). And ad infinitum.



CURTIS G. CORTELYOU
Mechanical Engineering

THROOP; TBII

One of our most versatile men. Interested in tennis and glee club, he was president of the latter as a junior. Member of the A.S.M.E., 3, 4, and treasurer this year. Also on the senior social committee and senior gift committee. His capacities are almost unlimited.



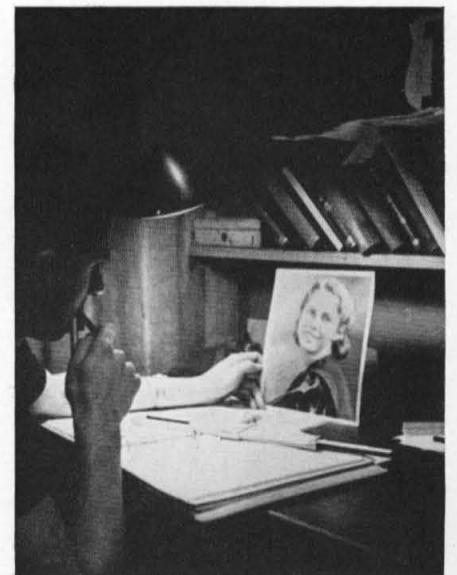
ALBERT CREAL
Civil Engineering

FLEMING; T; B

Al has been one of our leading lights since freshman days. He has been out for track every year, and track captain 3, 4. His sensational sprinting made many a track meet interesting. A member of the A.S.C.E.; Board of Control 3, 4; class treasurer 2, 4; Rally Committee Chairman; Representative at Large.



STUDY HOUR





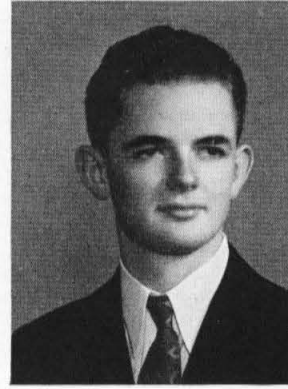
ROBERT P. DILWORTH
Mathematics
NON-RESIDENT

This athletic mathematician was decathlon winner as a sophomore, and is the only one among us man enough to recognize that an equation means more than an equality, and that a Taylor's theorem is something to forget. He plays in the orchestra for diversion.



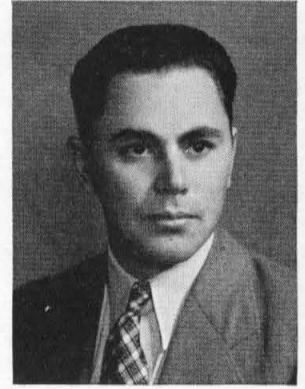
RICHARD W. DODSON
Chemistry
NON-RESIDENT

Dodson transferred from Northeast Missouri State Teachers College in 1934. A true scholar, he likes poetry, fine music, and has edited a book of poems. Cooks his own meals here at school and hasn't been sick a day (Mrs. Hardy: note). A member of the Glee Club.



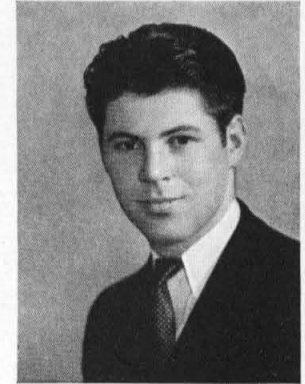
MALCOLM E. DOUGLASS
Mechanical Engineering
THROOP

One of the most promising members of the graduating class, Douglas has been a leader in the local chapter of the A.S.M.E., serving as secretary of that organization for one year. In addition he won his frosh numerals for participation in track.



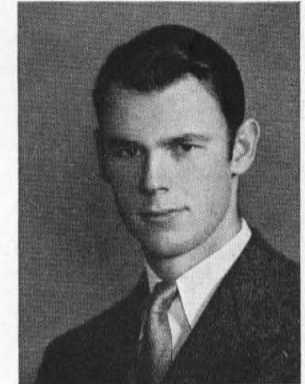
LOUIS G. DUNN
Aeronautics
NON-RESIDENT

Seen most often around Guggenheim, pipe in mouth, arguing technical points, Dunn takes his aeronautics seriously and has had considerable engineering employment already. He doesn't go home vacations. The reason: Three months is too short for a round trip to Ermeld, Transvaal, South Africa.



WILLIAM ELCONIN
Electrical Engineering
THROOP; KEY; B; T; ¶

As editor of the Tech "Bull" did his best to arouse this self-centered student body in the interests of pacifism, liberalism, and Hearst-baiting. He played baseball (3), (4) and was basketball co-captain (4). He also served as guide for Caltech's campus and Griffith Park Planetarium.



ROBERT D. ELLIOTT
Physics
DABNEY; T

Bob has been one of the most active members of Dabney House, holding the vice-presidency of the house during his senior year. He has also participated in athletics throughout his college years, and he earned a varsity letter in football during his senior year.

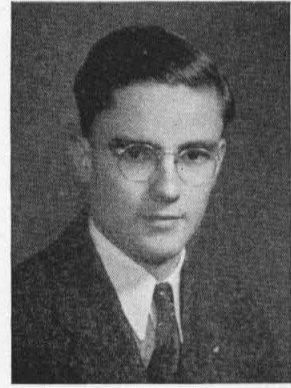
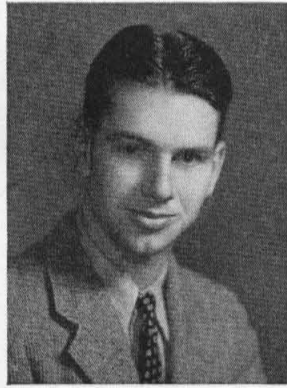


MINOR LOUIS FAHRMANN
Mechanical Engineering
THROOP

Friendly Fahrman has been a member of the Newman Club for four years, a singer in the Glee Club (3), (4), and a member of the A.S.M.E. In addition he was chairman of the Senior Picture Committee. He participated in baseball during his freshman year.

TOUCHDOWN





STUART R. FERGUSON
Applied Chemistry
RICKETTS

Stuart, prominent socially during his four years residence in Ricketts House, has been active in interhouse sports including tennis, track, football, and swimming. Besides this he has given much of his time to the Y.M. C.A., the California Tech, the Big T, and the Chem Club.

FENTON S. FOWLER
Mechanical Engineering
THROOP

Fenton proved his abilities this year by winning first prize at the A.S.M.E. convention of the coast division. He has a yen for practical joking to which many will testify. Social activities in the Throop club occupy his idle moments not spent in playing pool.

FRANCIS V. FRAZIER
Civil Engineering
THROOP

An active member of the A.S. C.E., Frazier is to be seen at practically every Tech dance. Missing when we started but has proceeded to the end with the best. Confident of his own ability to succeed. He'll be a first-rate surveyor one of these days.

ARTHUR M. FROST
Electrical Engineering
FLEMING; TBII; ♣

Mainstay of the "Tech", Art has been three years on the business staff, business manager (3), and news editor (4). He managed baseball (2, 3, 4) and worked on Exhibit Day and the Big T (4). Member A.I.E.E., Frosty is a would-be golfer and tap dancer.



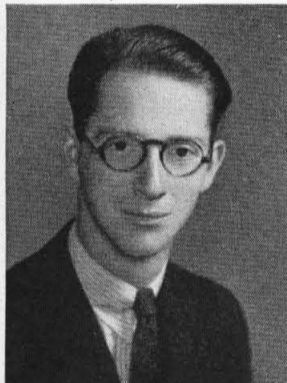
ROBERT IRVING GARDNER
Mechanical Engineering
FLEMING

An old standby for the mechanical engineers, "Gooner" was the A.S.M.E. secretary and filled a difficult job during the convention with ease and facility. His Tarzan-like frame made him a potent competitor in interhouse wrestling and shot-putting. Spends his spare moments in the hills.



JOHN IRWIN GATES
Applied Chemistry
DABNEY; T

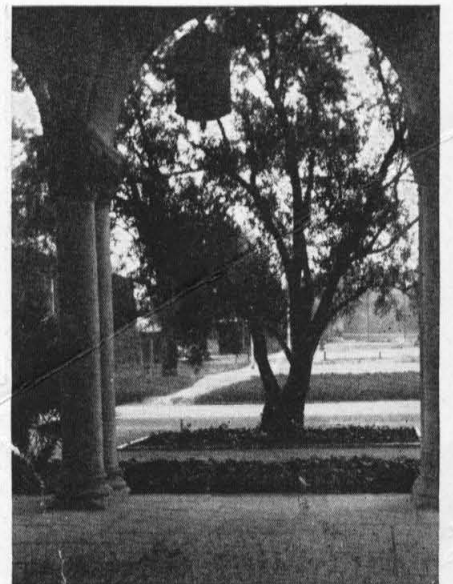
Johnny's love is athletics, a fighting halfback on this year's football team and one of the stalwarts on the basketball team (2, 3, 4). His abilities have been underestimated by many because his good nature refused to force it upon them. He is active in Dabney social affairs.



TRUMAN GRAY GEDDES
Mechanical Engineering
NON-RESIDENT

Truman, although a transfer from P.J.C., was so well liked that he was elected A.S.M.E. president after a year of active membership in the society. He put the A.S.M.E. convention over with a bang. He gets great pleasure from geological research.

COLONNADE





ROBERT GELDER
Applied Chemistry
RICKETTS

Neatness of work is his pride; as a scientist, his lettering is the envy of all the Sophomore engineers. His pencil sketches made during a dull class are the source of many a chuckle. Pianos draw him like a magnet. Spanish orchestrations engulf him.



W. HOWARD GERFEN
Civil Engineering
THROOP

Howard must be about the tallest fellow in the senior class. Indulged in band in his youth, but found playing with hydraulics was more delightful. You saw him in "Venice Preserved" in his junior year. Active in the A.S.C.E., 4; and in the Throop Club 3, 4.



EDWIN M. GETZMAN
Mechanical Engineering
THROOP; I K A; J

A hard-working mechanical, Ed practically ran the A.S.M.E. convention this spring. His membership on the debating team demonstrated his ability to think on his feet. His writing ability served the Tech well and made him a member of the Press Club. He is destined to leadership.



CLARENCE F. GOODHEART
Electrical Engineering
NON-RESIDENT; TBII

One of the best-natured of fellows, Goodheart has made many lifelong friends at Tech. He has been an active member of the A.I.E.E. during his junior and senior years, but he really shined as a student. Clarence swims regularly at the Pasadena "Y".



HENRY JOHN GOODWIN
Civil Engineering
THROOP

Constantly extolling the beauty of Santa Monica girls. A member of Throop Club and A.S.C.E. He was on the Tech staff the first year. Frosh football nearly killed him, but it made interhouse football 1, 2, 3, a cinch. Won the waltz contest at the Throop affair in Altadena.



EVERETTE E. GRIFFITH
Chemistry
FLEMING; T; B

A real tennis player, "Grif" represented Tech on the courts for four years, captained this year's tennis team. He served on the Fleming Upper-Class Committee and wrote for the Big T (2), (3), (4) and the Tech (2). His sunny smile reflects his red hair. Member of the Chem Club (1).



HOWARD F. HAMACHER
Applied Chemistry
BLACKER; I K A

Secretary and vice-president of Pi Kappa Delta; election committee chairman, track manager, drama critic for the Tech this year, and an actor in several plays. Debate partner and roommate of Paul Hammond. Believed to croon well in the lab.

TOLMAN AND MILLIKAN





PAUL HARVEY HAMMOND
Civil Engineering

Blacker; Key; IKAΔ; TBII; B
A very busy man. President PKD, (4); student body president; debater supreme; frosh cross-country; first place Western States Extempore (4); secretary Southern California Student Body Presidents; Conger Peace Prize (2); Pacific Coast Debate, third place (3); extempore; frosh debate team.

ROSS LOWELL HAND
Electrical Engineering
NON-RESIDENT; ΣΞ

Hand has been primarily interested in scientific developments of an electrical nature. He devoted much of his time to work in the Watters X-Ray Research on the campus. Hand has also been an active member of the local chapter of the A.I.E.E.

ROBERT L. HARTLEIN
Mechanical Engineering
NON-RESIDENT

Here is a fellow you can't help liking. Very active in the old Non-Resident Club affairs. Probably finds too much of the female element at the present Throop Club functions. Mechanically minded: always thinking up queer gadgets. Member of the A.S.M.E.

RALPH LAWRENCE HAVER
Mechanical Engineering
FLEMING; KEY; ¶

Haver, more popularly known as "Pash," has acted as business manager of the California Tech. He was also out for basketball every year of his college career and participated in frosh football. He was an active member of the A.S.M.E. and a staff worker on the Big T (1).



CHARLES O. HEATH, JR.
Mechanical Engineering
RICKETTS; ¶

"Charlie" has been an outstanding hurdler and jumper on the track team, winning his numerals and two letters. He was also on the golf team (3), (4), and won the Hanes Trophy (3). In spite of this sporting activity he found time to belong to the A.S.M.E. and the Orchestra.



ROBERT GEORGE HEITZ
Chemistry
FLEMING; TBII; ¶

A brilliant student and card shark, "Professor" has also been a leading worker on campus publications — California Tech for four years and Big T (3), (4). In addition, he has been a Chem Club member throughout his college career and was vice-president in his senior year.



EVERETT B. HENDERSON
Mechanical Engineering
RICKETTS; DRAMA

Everett, a real musician, has been a member of both the band and orchestra for four years. He was active in house affairs and worked on his house paper. In his senior year he devoted his talent to the Drama Club play and to the A.S.M.E.

FROSH PENALTY





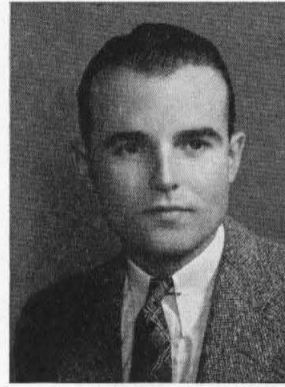
BRUCE LATHAN HICKS
Physics

THROOP; TBII
One of those few who refused to capitulate once he was obfuscated by frosh physics. Knows the science of how to drag a lady to the dance. Another physicist in the Orchestra playing the violin. Goes beyond atoms and quanta into musical composition. Physics club.



MERAL WM. HINSHAW
Mechanical Engineering
NON-RESIDENT

Among the seven wonders of Caltech, Meral proved that man can live with four hours' sleep. Having a 48 hour a week job besides carrying 53 units, he has had time to be vice-chairman of the A.S.M.E., play tennis, and follow his hobbies, photography and philately.



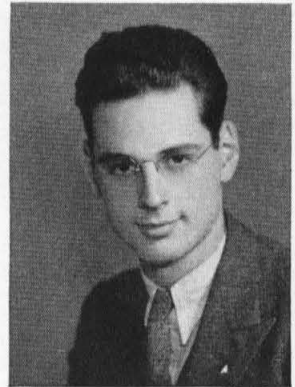
WILLIAM D. HUMASON
Biology
FLEMING; B; T

As Fleming prexy and chairman of the Interhouse Committee, Bill's solemn counsels carried weight around the houses. He won his letter in basketball as a soph. Dry of humor and a man of responsibility, "Pappy" lets himself go when the Casa Loma band lets itself go.



ARTHUR EARL ISHAM, II
Mechanical Engineering
FLEMING

Earl's flashing grin lit the way to all of Fleming's social functions, stag or otherwise. He won his frosh football numerals with the class of '35. His solemn cardinalities were the benediction of two student body elections. Remember the cardboard hat and that protesting "Now, fellas."

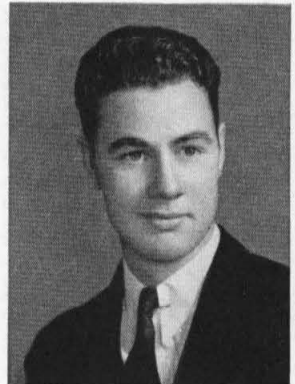


ROBERT LEE JANES
Civil Engineering
NON-RESIDENT; TBII; T

Came to us from Minnesota. He still raves about the place. Attended Glee Club for four years, and was treasurer this year. Member of A.S.C.E. and on the staff of the Big T. Obtained his frosh numerals in cross-country; held down the job of senior football manager.

RAY JENSEN
Civil Engineering
THROOP; U; B

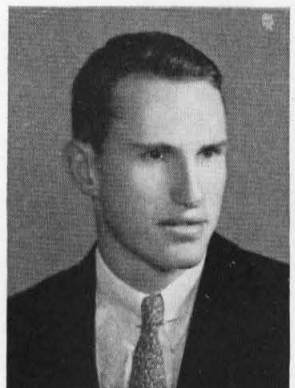
Found wherever gray flows thickest, this San Marino marine monopolized the Tech's money prizes this year, climaxing three years of sports reporting. Active in frosh football and baseball, varsity football (2), and track (2), (3), (4). Ray is vice-president of the seniors, member A.S.C.E., and a notorious A.P.



ROBERT L. JERAULD
Mechanical Engineering
RICKETTS
(Not Photographed)

CLYDE BRANSON JONES
Mechanical Engineering
NON-RESIDENT

This pole-vaulting track letterman manages to find time for ten hours of sleep a night. His home town in Wapella, Illinois. Clyde rooms in the Old Dorm. Versatile, his many hobbies include women, motoring, ping-pong, winter sports, camping, flying, motorcycleing, and boating.



FLEMING HOUSE





PAUL STEVENSON JONES

Civil Engineering
THROOP; KEY; B

President of the Glee Club, Paul composed the Tech Fight Song. He was also Throop Club vice-president, acting chairman of the Rally Committee, president of the A.S.C.E., and a member of the Board of Control, Faculty-Student Relations Committee, Interhouse Committee, and Exhibit Day Committee (2), (3), (4).

VINCENT K. JONES, JR.

Civil Engineering
BLACKER

Jones came to Tech from the Colorado School of Mines at the end of his second year there. There he was a member of Beta Theta Pi. He has been very popular on the Tech campus and has been an active member of the local chapter of the A.S.C.E.

CHARLES B. JORDAN

Aeronautics
FLEMING

Possessing literary ability of no mean quality, Jordan has been the creator of "Musical Musings" weekly in the Tech. He has also been science editor of the Tech and a member of the Big T staff (4). His present ambition is to break 100 on the golf course.

EDWARD JOHN KASNICKA

Aeronautics

BLACKER; KEY; ΠΚΔ; DRAMA Ed has unusual ability to talk, act, and write. Vice-president (3) and president (4) of the Drama Club, he took prominent parts in eight Tech plays and debated his last two years. He wrote faithfully for the Tech (3), (4) and the Big T (4). A defender of the humanities.



ROBERT DANA KENT

Applied Chemistry
BLACKER

Bob has one of the most pleasant personalities on the campus. Cross country won him his numerals. Blacker House sports teams will miss him next year. The orchestra claimed much of his time in his first two years, as violinist. Also worked on the Tech.



WALLACE L. KIGER

Civil Engineering
THROOP

Always a good scout, Wallace spends a good deal of his time trying to control Boothe. Member of A.S.C.E., Y.M.C.A. and Throop Club. He is interested in photography and books, is always a conscientious worker—in fact, about the only civil engineer that does have a conscience.

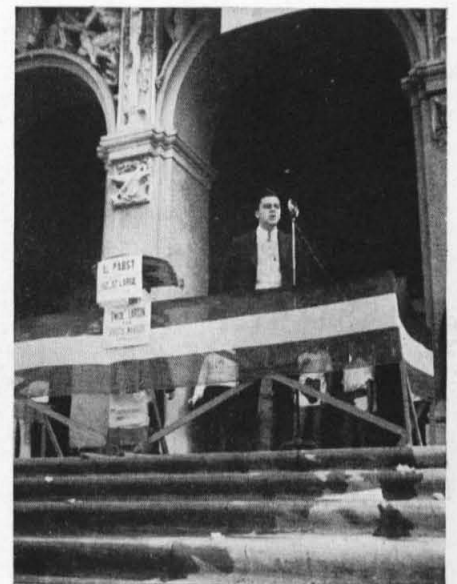


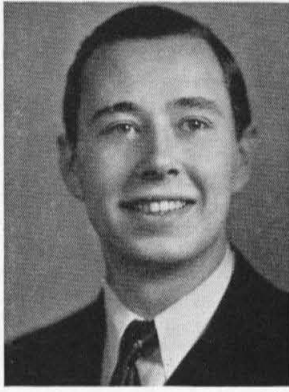
JOHN PAUL KLOCKSLEM

Aeronautics
FLEMING; ¶

An ardent supporter of all Tech activities, "Long John" has served on the Tech staff (2), (3), (4), Big T staff, (2), (4), Aero Club, and A.S.M.E. He was out for football all through college and has been a shining social light and staunch defender of liberalism.

OUT FOR GRAVY





ALEXANDER KOSSIAKOFF
Chemistry
THROOP; TBII

Alex's shining record here won him a four year Ph.D. scholarship at Johns Hopkins beginning last fall. Earned frosh baseball numerals. Although quite the research man, in Gates and at Corona del Mar, Alex enjoys movies and radio programs as much as quantum mechanics.



HISAYUKI KURIHARA
Aeronautics
NON-RESIDENT

"Kuri" has been an exchange student from Japan, obtaining and enjoying his American experiences. He participated in A.S.M.E. activities for two years. Unfortunately we must lose him as he is returning to Japan upon finishing his education. He has been one of the hardest workers in his class.



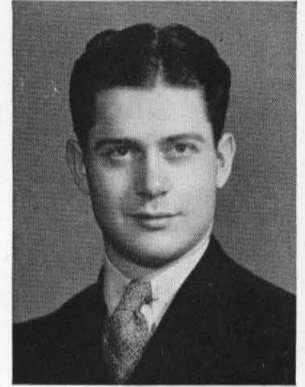
THOMAS LAURITSEN
Physics
NON-RESIDENT; ΣΞ

Tommy is a physicist almost by birth. Originally emanated from the land of milk and Bohr atoms, Denmark. Probably will be All-American atom buster by 1956. Physics Club and Orchestra, violinist in the Einstein tradition. Leisurations: camping, music, physics, roller skating, being child prodigy.



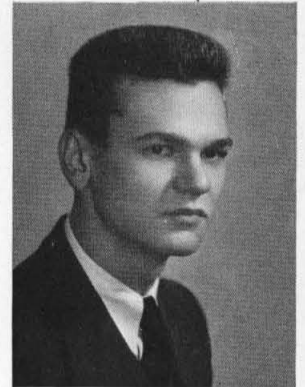
HARRY W. LEW
Physics
NON-RESIDENT; TBII

A pleasing way about him has made Harry well-liked by the many who claim his friendship. He has been an excellent student and was recording secretary of Tau Beta Pi. He was also an active member of the Physics Club.



GLENN HARRY LEWIS
Electrical Engineering
BLACKER; TBII

Hailing from Payette, Idaho, Glenn has been an exceptional student and a very well-liked fellow all through his four undergraduate years on the Tech campus. He has shown a great interest in house activities and participated in many interhouse sports events, including football.



ROBERT HENRY MARSH
Electrical Engineering
NON-RESIDENT

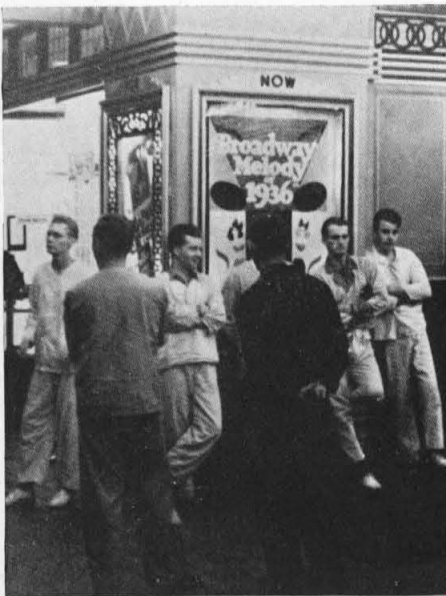
One of the strong, silent men of the class, Marsh has been active in the local chapter of the A.I.E.E. He expects to receive a commission in the Army Engineering Reserve Corps this June. He lived in Ricketts his first two years at Tech.



ROBERT A. MCINTYRE
Mechanical Engineering
FLEMING; T; TBII

Mae's apparent casual inertness covers an ambitious list of accomplishments. Besides winning his numerals and letter in football, he devoted his talents to track (3), (4). He was A.S.B. treasurer (4), soph class vice-president, and member of the Board of Control (3). He was also active in the A.S.M.E.

PAJAMARINO





M. MARTIN McMAHON
Electrical Engineering
BLACKER

Never seen without a cheering smile, McMahon has been one of the most popular men in Blacker House, to which he acted as treasurer for one year. He has also been a member of the A.I.E.E. and an active worker on Exhibit Days.

WILLARD LEE McRARY
Biology
NON-RESIDENT

Though quiet and unassuming, "Mac" has made many lasting friends through his friendliness and good nature. "Cutting throats" is not his guiding star. He has been an active member of the staff of the California Tech. Tennis and photography occupy his spare time.

HUGO A. MENEGHELLI
Civil and Electrical Engg.
THROOP

A "double threat" engineer, Meneghelli has been a member of both the A.I.E.E. and the A.S.C.E., acting as secretary of the latter society during his senior year. In addition Hugo was out for basketball four years.

LEO J. MILAN
Applied Chemistry
FLEMING

Well liked for his ever ready smile and snappy talk; will be missed but not forgotten. One half of the inseparable team of Bishop and Milan, who cooed like lovers together in class. Track enthusiast and class politician, vice-president (1), secretary (3), Fleming upper class committeeman (3), (4).



CHARLES A. MORSE
Civil Engineering
RICKETTS

"Chuck" is a fellow well liked by all. Consequently he was class treasurer in his junior year and class secretary in his senior year. He was also A.S.C.E. treasurer, (4), found time to be on the debating team, and was very active in his hobbies—radio, photography, and boating.

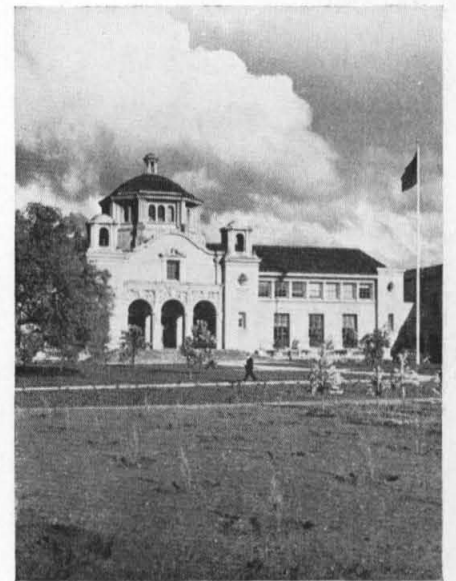
CONRAD R. MULLER
Electrical Engineering
RICKETTS; ¶

Rich in the lore of electricity, Conrad gives of it freely to those who are poorer, for he is a real friend when you're in need. He has kept the business accounts of the California Tech straight since his Sophomore year. This year the A.I.E.E. claimed him as its secretary.

G. RUSSELL NANCE
Mechanical Engineering
THROOP

Everyone liked Russ' beaming countenance in the Dabney Library at noontimes. He has been a member of the A.S.M.E. and was chairman of the Kellogg X-Ray demonstration on Exhibit Day. He is greatly interested in his two hobbies—yachts and cats.

THROOP HALL





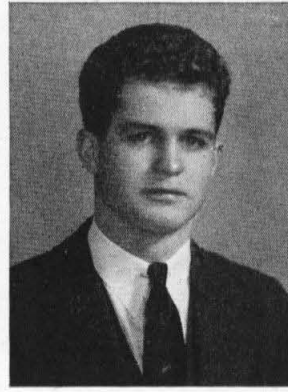
LOYAL EDWARD NELSON
Geology
NON-RESIDENT

Loyal deserves extra credit for being one of the few to finish the geology course. He was a member of the Geology-Paleontology Club for two years and vice-president in his senior year. His chief hobby is travelling, and his motto is: "See California First."



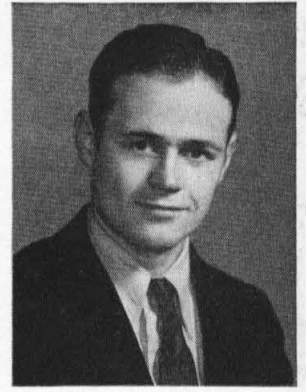
WASSON W. NESTLER
Electrical Engineering
THROOP; TBII

An ability to talk himself out of any hole has served Nestler well during his college years. He has been an exceptional student and capably filled the office of corresponding secretary of Tau Beta Pi. Nestler has also been a steady supporter of Tech social activities.



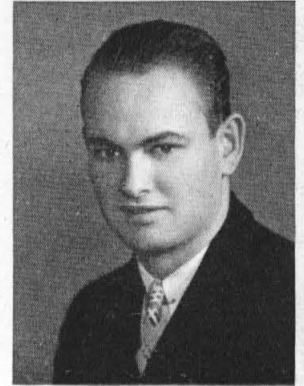
DEAN NICHOLS
Biochemistry
RICKETTS

Dean though short of stature more than makes up for it in energy. As a Freshman he won his numerals in tennis, and was later on the Varsity squad. Many Ricketts' dances have been enlivened by his flashing feet. He is a member of the Anaxamandrian Society.



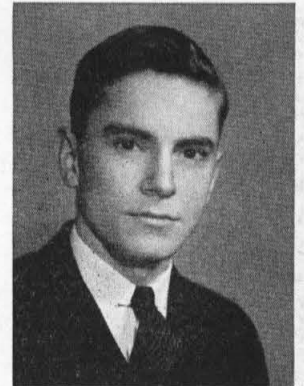
ROBT. MAURICE NICHOLS
Electrical Engineering
NON-RESIDENT

Athletically inclined, Bob has been out for football, is a member of the Marine Corps Reserve, enjoys swimming, aerobic diving, hiking, and boxing. Has worked summers in steamship engine rooms. Math is his hobby. In the A.I.E.E., Bob worked in Hivolt Lab on Exhibit Day.



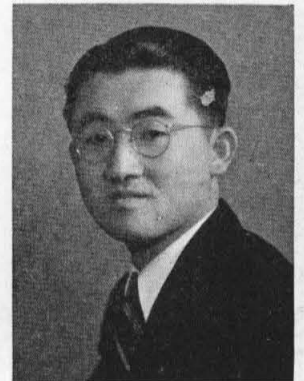
JOHN LLOYD NOLLAN
Aeronautics
THROOP; T

The "Tarzan" of his class, Johnny has been an all-around strong man and athlete. He was out for football for four years, track for one year, and baseball for four years. In his senior year he has been captain of the baseball team.



PERLEY G. NUTTING
Physics
NON-RESIDENT

Though Nutting is quiet and unassuming around the school, those seeing him in his better moments might draw a different conclusion. He is Tech's only representative from Washington, D.C. This year the "Y" has held his interest. He is also a member of the Physics Club. Hitch-hiking and reading are his pastimes.



GEORGE YOSHIO OHASHI
Electrical Engineering
NON-RESIDENT

With Los Angeles as his home town, George is modest but well-worth knowing. Reputed to play a good hand of bridge. George has been a member of the A.I.E.E., and has also taken part in the work of the Y.M. C.A.

COLONNADE





EDGAR W. OLSON
Electrical Engineering
NON-RESIDENT

Olson has been noted for his aggressive spirit and relentless energy. Returning to school after a temporary absence, he finished an Electrical course with flying colors. This tow-headed Burbank boy will be remembered for his cheerful and cooperative spirit. He has been active in the local chapter of the A.I.E.E.



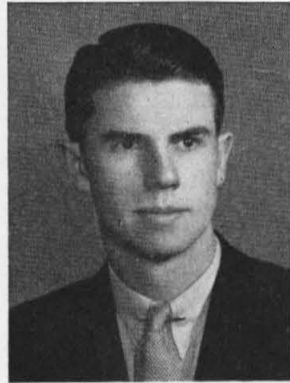
EUGENE M. RECTOR
Electrical Engineering
DABNEY

Another social light, Rector has justified his existence by three years of track and four years with the same girl. He is interested in radio, a member of the I.R.E. He is also a member of the A.I.E.E. Stamp collecting and tennis are his diversions.



MOE ROSEN
Mechanical Engineering
NON-RESIDENT

Moe has been one of the outstanding first violinists in Tech's orchestra and will be sorely missed next year. He was a member of the A.S.M.E. and was "Y" secretary during the summer of '35. Although Moe did much outside work, he entered whole-heartedly into all Tech activities.



JAMES SALISBURY, JR.
Mechanical Engineering
RICKETTS; T

"Jim" has been a good student and was outstanding in varsity, tennis and interhouse athletics, being on the interhouse swimming and basketball teams for his whole stay at Tech. The Glider Club claimed his membership. Flying is Jim's hobby and he has a pilot's license.



JACK PALLER
Civil Engineering
NON-RESIDENT

Joined the class in his junior year and brought some of the learning of U.C.L.A. to our campus. Member of the A.S.C.E. Interested in handball and music. He has yet to be present at social functions but is known to have many interests on the outside.



RICHARD JOHN PETERSEN
Applied Chemistry
NON-RESIDENT

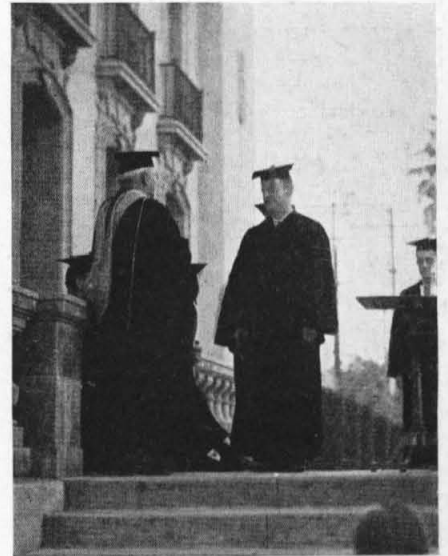
This young Dutchman with wavy blond hair and blue eyes has found favor with the girls who probably do not know that he has interests of another flavor in fertilizer chemistry. Finds time for tennis and Chem Club.



VERNE LEON PEUGH
Civil Engineering
THROOP; TBII

Verne has been with us only two years, but all the civils count him among their most valuable friends. Before coming to Tech, he had charge of construction of Morris Dam. He is chairman of the C.E. Exhibit Day Committee, and senior gift committee.

"I HEREBY CONFER"



1
9
3
6



PAUL C. SCHAFFNER
Electrical Engineering
BLACKER; B; DRAMA

A natural leader, "Pete" has been both vice-president and president of Blacker House during his four years at Tech. He also served for two years on the Interhouse Committee, and he played an important role in the Pi Kappa Delta play, "Adelphi."



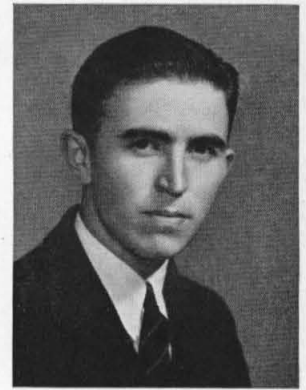
BRADLEY T. SCHEER
Biology
THROOP

An ace undergraduate biologist specializing in physiology. He rates just as high with his fellows—a good friend to everyone. After a Ph.D. his next conquest will be a yacht, which proves that even a "snake" may turn out to be a good sailor.



PAUL J. SCHNEIDER
Biochemistry
FLEMING

One of the most popular men in his house, "Schnitz" was social chairman of Fleming during his junior year. He was also a member of the Glee Club (1) and of the Anaxamandrian Society (4). "Schnitz" was a frosh track manager and a sophomore football manager.



JAMES R. SEAMAN
Electrical Engineering
THROOP

"Jim" has been a baseball enthusiast ever since he entered Tech. He won his letter as senior manager. His three years' work on the Glee Club did much to raise the tone of that organization. He has also been a Tech sports reporter.



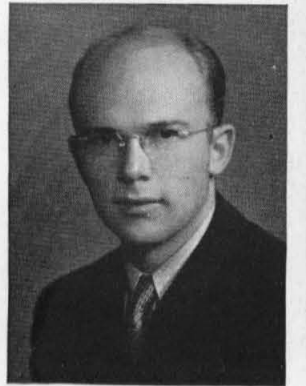
PETER V. SERRELL
Mechanical Engineering
BLACKER; DRAMA; TBII

Pete has been very active in house and Drama Club affairs. He was secretary-treasurer of the Drama Club and a member of his house social committee. His hobbies, sailing, riflery, and art, absorbed the remainder of his time, especially sailing, which took him to Newport often.



HERBERT B. SHAPIRO
Mechanical Engineering
THROOP

Like the little ant, so is Herb as busy as a bee. Senior intramural athletic manager; track (1), (2), (4); Glee Club; Big T staff; A.S.M.E.; and N.Y.A. management have kept him in this state. Here is a man who gave all for the dear old school.

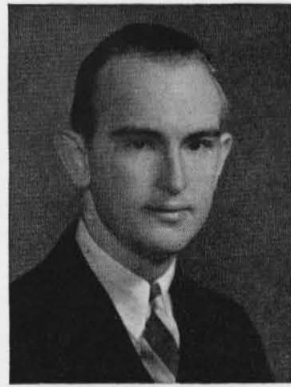


ARTHUR A. SIMPKINSON
Civil Engineering
FLEMING

"Simpley" has spent much of his time at Tech in sports and in pursuit of his hobbies, photography and radio. He won a frosh track numeral and a varsity track letter. In addition he was out for varsity tennis and he was active in the A.S.C.E.

PRESS CLUB "HOT RIVET"





MAURICE SKLAR
Applied Chemistry
FLEMING; KEY; TBII

Another hard worker, Sklar has served on the Tech four years, Big T (4), the publicity committee, and the election committee. Sklar played baseball four years and participated in frosh track and interhouse indoor, football, and track. Member of the Chem Club.

APOLLO M. O. SMITH
Aeronautics
THROOP

Apollo has been one of the shining lights of the school, showing great interest in student body activities. He was a member of the A.S.M.E. and the Aero Club. Gliding captured his fancy as a good hobby in which to invest his time.

LUTHER P. SPALDING
Chemistry
FLEMING

Spalding brought a sunny smile to Tech from the wide open spaces of Arizona. He was a hard worker on Exhibit Day for two years and on the Big T this year. In addition he has been a member of the Chem Club.

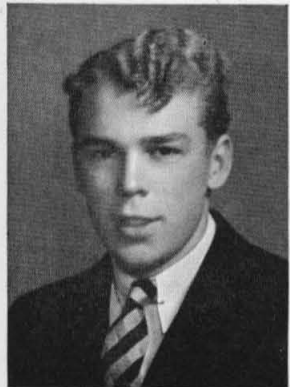
JOHN FREDERICK STREIB
Physics
NON-RESIDENT; ΣE

Possesses a truly great gift for droll humor, a garden variety of humor, fresh and delicious. Besides a master jokester, he is an expert punster. We will miss those large, laughing eyes and broad smiles. Enjoys yachting with friends.



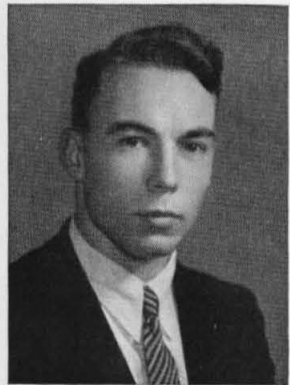
WALFORD E. SWANSON
Civil Engineering
THROOP; Q; T; B

Politician, though once a scholar. Secretary Board of Control, 4; Faculty-Student-Relations Committee, 3, 4; vice-president of the Beavers; president of the Throop Club; A.S.B. secretary; California Tech Staff, 3, 4; Interhouse Committee; manager of tennis, 2, 3, 4. To Wally belongs the greatest credit for the Throop Club lounge.



TYLER F. THOMPSON
Physics
THROOP; TBII

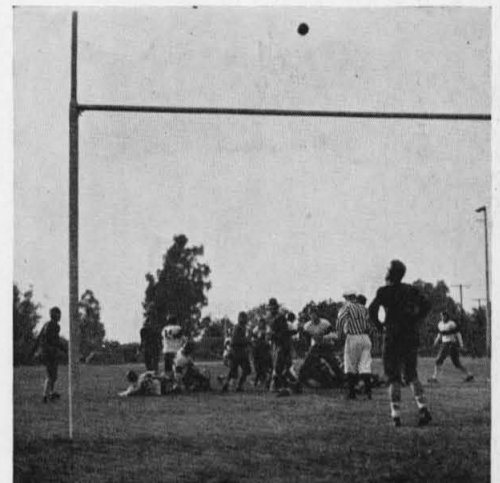
Big, jolly, curly-headed, president of the Y.M.C.A. He was treasurer of Tau Beta Pi and member of the Glee Club (3), (4). Found his bigness to advantage in frosh football, interhouse football, tennis, and baseball. He says his hobby is "inciting revolt".



KARL UNHOLTZ
Electrical Engineering
NON-RESIDENT

Karl transferred to Tech from U.C.L.A. at the beginning of his junior year. It did not take him long, in his quiet, pleasant way, to make many friends on the Tech campus. Karl has spent much of his time on his favorite sports, swimming and boxing.

CONVERSION





DALE H. VAN RIPER
Mechanical Engineering
FLEMING

One of our tallest gentlemen, Van was a "big" help in more ways than one at all house functions, social or athletic. Formal dinner dances are his specialty. Besides handball, football, and wrestling at odd times, Van played frosh basketball. A member of A.S.M.E.



THEODORE VERMEULEN
Applied Chemistry
THROOP; KEY; B; ¶; TBII

Elected to the tough job of Big "T" editor, Ted conducted his sales campaign a year ahead, made every student buy this annual. An active Chem Clubber. Did summer research at Corona del Mar and in A.P.I. Goes hiking and camping whenever he can.



VICTOR VEYSEY
Civil Engineering
THROOP; T; B; KEY; ¶

"Vic" has earned three track and cross-country letters, was editor of the California Tech, senior class president, Varsity Club vice-president, president of the Press Club, and a member of the A.S.C.E., Big T staff (2), (3), (4), Rally Committee, Board of Control, and Faculty-Student Relations Committee.



JOHN H. WADDELL
Electrical Engineering
DABNEY; T

"Flash" is the best miler seen at Tech in several years. He is a letterman in both track and cross-country, (3), (4). He was a member of the local chapter of the A.I.E.E., chairman of the senior announcements committee, and a loyal supporter of house activities.



KENICHI WATANABE
Physics

NON-RESIDENT; ΣE

Hailing from Honolulu, Ken has become a brilliant physicist without much evidence of snaking. Tennis is foremost among his diversions. Delightfully philosophical, he has real ability to think things through, and is always ready with a bit of humor or encouragement for everyone.

ATHENAEUM



CHAUNCEY W. WATT
Electrical Engineering

NON-RESIDENT; ¶; DRAMA

Transferring from Long Beach J.C. in his junior year, Watt has earned an enviable reputation at Tech both as a student and as a good fellow. He has been active in drama and journalism—a member of the Drama Club, associate news editor of the Tech.



EUCLID WATTS
Mechanical Engineering
FLEMING; B; TBII; KEY

An all-around man, Watts handled the job of Exhibit Day chairman this year. Active in football three years and track two, he was secretary of the A.S.B. (3) and of his class (2). Had enough time left to be an honor scholar and a mean hula dancer.



JOHN LEYDEN WEBB

Biology

NON-RESIDENT

Expresses his musical talent by playing symphonies with his hands. Hopes to join Major Bowes' Amateurs. The biology course wasn't enough to keep him busy so he embellished his studies with the hardest courses in physics and chemistry. A fine tennis player. Member of the Anaxamandrian Society.

BRUCE TRAVIS WEBER

Physics

NON-RESIDENT

Bruce's work took most of his attention, but he is a good musician and the orchestra claimed him in his sophomore year. He also sang with the Glee Club for two years. Tech loses a good man when he graduates this year.

DAVID M. WHIPP

Electrical Engineering

NON-RESIDENT

Whipp came to Tech from Potomac State College in West Virginia. At Potomac he was an active member of Sigma Phi Omega and Beta Iota Sigma as well as president of the Engineers' Club. Whipp has been a member of the Tech chapter of the A.I.E.E.

CLARK HAMILTON WIGET

Mechanical Engineering

DABNEY

Clark answers to "Bud", "Spigot", and "Wiggy". Renowned as the pope and supreme moral influence of Dabney House. Honors with his presence all games of five card bridge. His chief passions are onboard boats and motors, and he has built several racing boats.



REUBEN E. WOOD

Chemistry

RICKETTS; DRAMA; TBII

Reuben has been very active in student body affairs being publicity manager in his junior year. He was an international exchange student in China last year. He has been closely associated with all the musical organizations on the campus. Y.M.C.A. President. A member of the Drama Club.



JOHN DWIGHT WORKS

Mechanical Engineering

RICKETTS

Jack, a natural showman, can always be depended upon to provide super entertainment and amusement at any kind of function. He was out for football (3), (4) and has been active in house affairs. He has been the moving force behind the "Ricketts Rag."



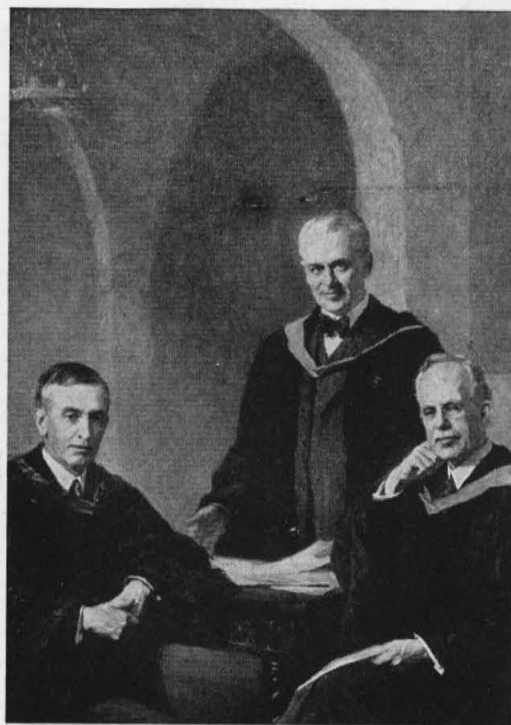
DONALD L. YOUNG

Electrical Engineering

NON-RESIDENT

Holding scholarships for three years, Young has not confined his activities to his studies alone. In his second year he worked on the California Tech and was a baseball manager during his third year. In addition he has been an active member of the A.I.E.E.

NOYES, MILLIKAN, AND HALE



SENIOR CLASS—CASUALTIES

Leo H. Appleman	U.S.C.	Richard L. Hayman		Miller W. Quarles, Jr.	
Sydney U. Barnes	U.S.C.	Edward M. Holland		Frank Radovich	'37
Dana R. Beal		Frederick B. Holmes	U.C.B.	William C. Richey	'37
Albert G. Bodine, Jr.		Joseph J. Holzman	U.S.C.	Douglas K. Rollow	'37
Harlan G. Bosler, Jr.		Henry S. Kopkins	'37	Robert T. Sandberg	'37
John M. Breen		Jack J. Hughes		Charles W. Sheppard	'37
Stanford W. Briggs	'37	John D. Jorgensen		Robert W. Simpson	Stan.
Ralph L. Brown		Austin H. King	Stan.	Bill H. Smith	
Stanley C. Brown		Robert M. King	U.C.B.	Carl M. Smith	U.C.B.
George Carrol		Wilber S. Knupp		William K. Stevenson	
Charles E. Cloyd		Francis R. Kostoch	'37	Thane Summers	
Robert R. Davis		Ellsworth LaBoyteaux		Barclay L. Thomas	
Raymond L. Dawley		Franklin R. Lawrence	U.C.	John G. Tyler	'37
William P. Ellery	'37	Robert E. Logan		William E. Waara	
Gustav B. Faust		Don G. Magruder		Herbert A. White	U.C.B.
Raymond G. Feagans		Harold L. Manley	'38	Harrison G. Williams	
John W. George		Maurice N. Manning	U.C.B.	James S. Williams	U.Va.
Matthew J. Gilbert	'37	Richard S. McMillan	'38	Ralph A. Williams	
Ernest A. Gissel		Glenn L. Mellin		Frank P. Williamson, Jr.	
Blye W. Gocke		James A. Moore		Alfred Wilstam	
Howard Gruenberg	U.Mo.	Herbert R. Morgan	U.C.L.A.	Emanuel Windsor	'38
Karl M. Guenther	U.C.L.A.	Harry E. Nissen		Vollmer V. Wood	
Stephen P. Hart	U.Ore.	Robert G. Parker	'37	Wm. W. Woodbury	U.S.N.A.

NON-CHARTER MEMBERS

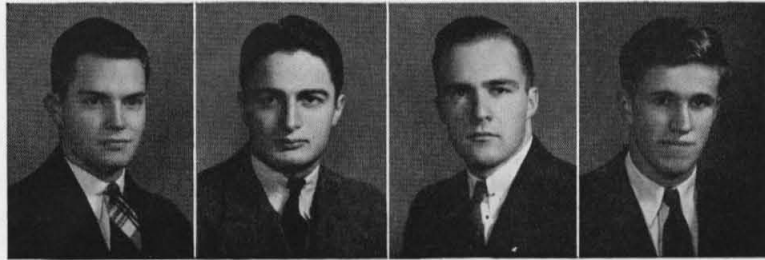
Michel Ambroff	'37	Carl Estep		Tom M. Perry	N.M. St.
Jay R. Bailey	'37	Richard P. Ireland		John T. Riddell, Jr.	N.W.U.
Wyche D. Caldwell	U.C.B.	Ben Kimura		Chihiro Sugi	
Dan Cox	Rice	Robert W. McCloy		Joseph Summers	
Allen R. Davis		Charles S. Milliken	'37	William K. Von Werner	'38
Thomas H. Dudley		Thomas C. Patterson		Kenneth P. Warren	
Arthur Y. Dunn	Ohio St.			Richard Wright	

THE SENIORS AS FROSH (IN 1933)

(Back row) Beckley, Cloyd, Watanabe, Mellin, Logan, C. Smith, Sheppard, LaBoyteaux, Elliott, Sandberg, Dickinson, Nissen, Barnes, Thompson, Vermeulen, Nichols, Goodheart, Hicks; (Fourth row) Burnight, Douglass, Klockslem, Kent, White, Carroll, Hopkins, Manning, Hart, Bruce, Davis, Wilstam, J. Williams, King, MacMahon, McRary, Ellery, Stevenson, Davis, Knupp, Tyler; (Third row) Webb, Rodovich, Blodgett, Veysey, Bingham, Kiger, Goodwin, Gerfen, Goeke, Holmes, Gilbert, Frost, Gardner, Haver, Griffith, Humason, Dauen, Gates, Ferguson, Lew, Nestler, Janes, Briggs; (Second row) Sklar, Creal, Hayman, Richey, Brown McIntyre, Watts, Beal, Schneider, Streib, Nance, Works, Morse, Quarles, Colvin, Feagans, Boothe, Scheer, Seamon, Heath, Fahrman; (Front row) George, Henderson, Serrell, Lauritsen, W. Smith, Guenther, Faust, Kostoch, Jordan, Hartlein, MacMillan, Shapiro, Jorgensen, Hamacher, Schaffner, Lawrence, Cohen, Rector.



JUNIOR CLASS



SHARP
President

ROSENCRANZ
Vice-President

PRICE
Secretary

FENZI
Treasurer

During the first term, the Juniors sponsored the Freshman-Sophomore pushball contest; and in the second term the Juniors succeeded in winning the interclass track meet by a narrow margin. A number of activities are planned for the third term. A class assembly will be presented which should compare with that given by the class last year, which was judged the best of all the classes; the class will also share with the seniors the task of staging as well as the pleasure of attending the Junior-Senior garden party and formal dance.

The Class of 1937 registered a majority of scientists at the beginning of the Sophomore year. Dr. Swift soon got to work, however, and the result is a large excess of engineers.

At a meeting of the class held at the end of last year, the following officers were elected:

Paul Edwards, president; Richard Rosencranz, vice-president; Edward Price, secretary; Victor Zesukivitch, treasurer; Robert Mahoney, Walton Wickett, and Jack Edwards, members of the Board of Control. With the passing of summer, the following changes became necessary: Harold Sharp became president; and Richard Ridgway was elected to the board of control, replacing Paul Edwards and Walton Wickett, who transferred to Stanford. After Christmas another change resulted in the election of Warren Fenzi as class treasurer.

Much is expected from the class as seniors next year; but it is too early to know just what may happen. The passage of another year may bring about more unthought-of changes in the ranks of this group.

(Back row) Chatham, Nojima, Townsend, Browne, Gerlough, Ellery, Wheeler, Wylie, Stackhouse, Owen, Sheppard, Teague, Schombel, Yale, Snelling, Offeman, Campbell; (Fourth row) Porter, Rollow, Fleming, McSparran, Gilbert, Morgan, Kremers, Dorwart, Moore, Mann, Horkey, Harper, Tyler, Austen, Larson; (Third row) Frost, Davis, Bowers, De Vault, Mahoney, Schmidt, Sandberg, Goodell, Nellis, Horne, Dunbar, Edwards, H. Miller, W. Miller, Gates, Bussard; (Second row) Dion, Moncrief, Tulagin, Pressman, Axelrod, Cornwall, Legge, Maescher, Woolsey, Radovich, Merriam, Tsubota, Johnson, Auger; (Front row) Kimball, Lyeett, Erickson, Rechif, Test, Lockwood, Blue, Nolte, Boyd, Seigelhorst, F. Smith, Poggi, Peterson, Wileman.



SOPHOMORE CLASS



McLEAN
President

BALSLEY
Vice-President

ROPP
Secretary

ELLIOTT
Treasurer

The Class of 1938 maintained its previous reputation of being well organized and high-spirited. Jack McLean was chosen early in the year to lead the class. To assist him were named these other officers: Jim Balsley, vice-president; Bruce Elliott, secretary; Bill Ropp, treasurer. The class was represented on the Board of Control by Don Davidson and Frank Jewett.

Pre-Rodeo abductions by some fifty sophomores resulted in the defeat of the frosh who remained by a lopsided score of 8 to 0. The sophomores were guests of honor at the annual Rodeo Dance, given by the losers of the pushball contest, during the second term.

In athletics, the class of '38 produced much varsity material for football, track, bas-

ketball, and baseball. A strong nucleus for powerful football squads in the next two seasons will be provided by the many sophomore lettermen. Politically the sophomores stepped out in the second term elections for the 1936 student body officers and gained five positions on the Board of Directors.

The traditional sophomore student body dance, held on the last day of the second term, was the most important sophomore social event. This year the dance, sponsored by Thomas Fleming, Jr., was held at the Flintridge Country Club. A beautiful night, spacious verandas, and delightful music by Bob Mohr and his orchestra, made for a truly enjoyable evening for all those attending.

(Back row) McGraw, Hobson, Twiss, Hotz, Harris, Werner, Windsor, Evans, Williams; *(Fifth row)* Ahlroth, Ellings, Wilson, Harker, Ross, Lowell, Cowie, Scully, Friend, Freede, Walker, Lewis, Graybeal, Beavon, Carr, Forward, Velasquez, Dennis; *(Fourth row)* Alt-house, Kazan, Wald, Saurenman, Folkins, Hulbirt, Carlson, Downing, North, Ivanoff, Westheimer, Sheppard, Sherwood, Keller, Jones, Custer, Brush, Allen, Du Fresne, Clarke; *(Third row)* Sidler, Voorhees, Stone, Rynearson, Parker, Levit, Metzner, Thomas, Nickerson, C. Van Dusen, Ellis, Barry, Page, Youngs, Rudkin, Gregory, Kolb, Van Horn, Blake, Tobin; *(Second row)* Brown, Grainger, Tilker, Piro, Levet, Bauer, Lavender, Rowell, Gallagher, Watson, Frisius, Labbe, Dougherty, Siechert, Pabst, F. Smith, Osborne, Wilkinson, Elliott, Brenner; *(Front row)* Llewellyn, Goff, R. Smith, Maines, Horine, Peat, Davies, McLean, Knight, C. Smith, Dixon, Weinberger, Wolfberg, D. Davidson, Jewett, Balsley, Manley, Meanley, Ropp, Baker, Johnson.



FRESHMAN CLASS



CAULFIELD
President

SPOTTS
Vice-President

NORTON
Secretary

MACLEISH
Treasurer

During the week preceding September 23, 1935, one hundred and sixty fearful freshmen participated in a series of "get-acquainted" conferences held for the first time on the campus this year. Meetings consisted of talks by faculty members, student officers, and various campus activity leaders.

October 18 proved a very busy day for the new Techmen. The Rodeo, traditional pushball contest, ended in a Sophomore victory (not without a gallant fight by the Frosh). In the evening, the Beaver was escorted to the Rose Bowl for the Oxy clash and safely returned by a large group of alert Frosh.

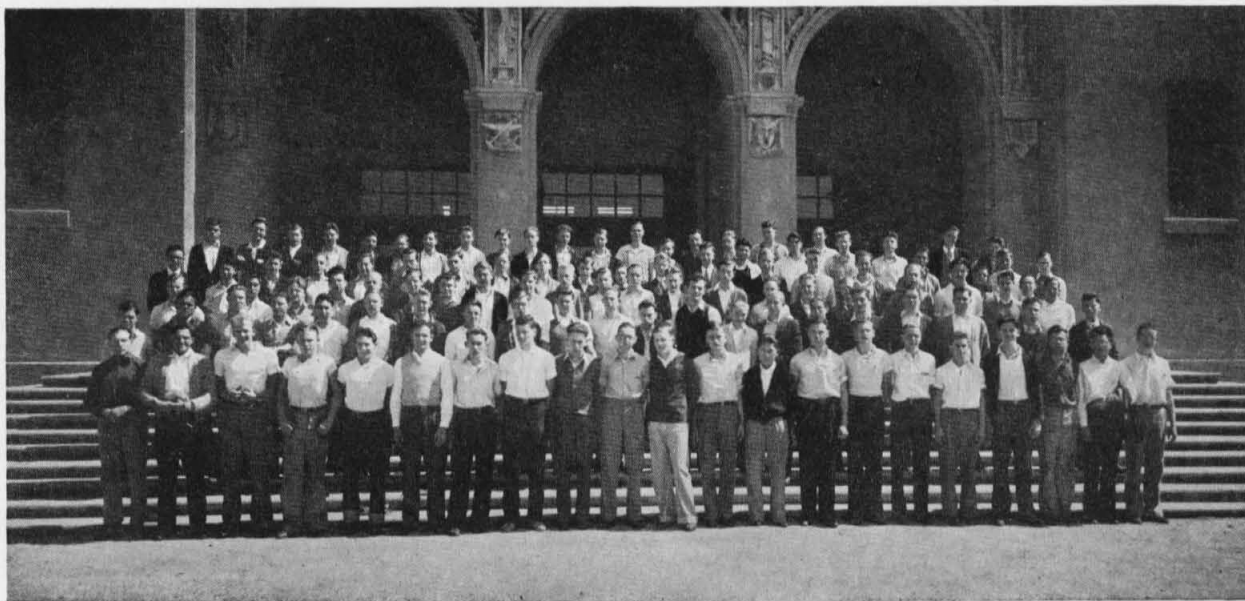
Not wishing to be outdone by their predecessors, the Freshmen "went the limit" in giving a dance for the entire student body at the

Civic Auditorium on the night of the second term's registration. Eighteen hundred Tech students and guests praised the work of the dance committee headed by Gilbert Hofeller, and including Richard Huggins, Bill Frampton, Sanford Rothman, and Grice Axtman.

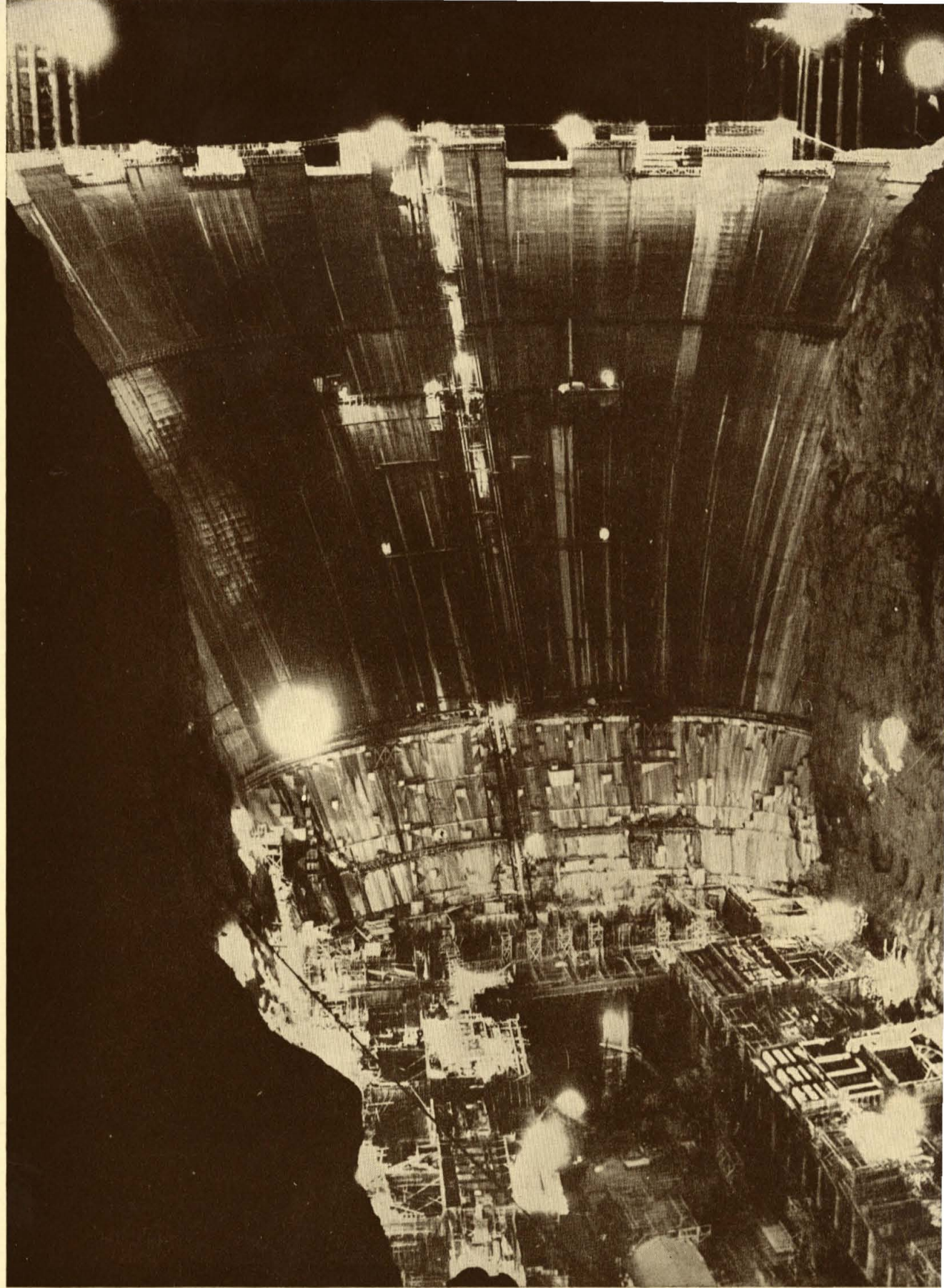
On January 10, a class meeting was held and officers were nominated. Harry Caulfield, previously class chairman, was elected president; Ralph Spotts, vice-president; Bill Norton, secretary; and Kenneth Macleish, treasurer.

In adequate tribute to the Sophomore class the Rodeo Dance was given in Dabney Lounge on February 14, with music provided by Bob Fite's versatile band. A roaring juniper log fire contributed to the lively spirit of the large group attending in spite of a heavy rain.

(Back row) Sullivan, Mathews, Bragg, Myer, Berg, Lawrie, Levine, Thomas, Munsen, C. Mills, Gale, Engelhardt, P. Smith, Green, A. Rodgers, Hagen, Deihm, Carstarphen, Goodin, Segerstrom, Gassaway, McClellan; (Fourth row) S. Clark, Asikawa, Gombotz, Frampton, P. Smith, Macleish, White, Caldwell, Ingalls, Brown, Zukerman, Sundt, Veenhuysen, Devirian, Geldson, Reuger, Kreuger, Israel, King, P. Brown, Braithwaite; (Third row) Tangren, Mayeta, Mills, Anderson, Cooper, Elms, Hoiles, Osborne, Hall, Williams, Langerud, E. Clarke, Van Dusen, Maguire, Beck, Stirling, Richardson, Gewe, Axtman, Black, Hofeller; (Second row) Legrand, Conant, Fraser, Anderson, Snyder, Winchell, French, McCreery, Root, Paul, Reppert, Phillips, Rosanoff, Younger, Hance, Agin, Rothman, Jewett, Miller, Lipson, Hoff; (Front row) Womack, Bradshaw, Brahtz, Edmondson, Davis, Lawson, Merrick, Cox, McKinlay, Norton, Spotts, Flint, Morikawa, Carter, Kimball, Reidebush, Moran, Longfelder, Rasmussen, Frankel, Rainwater.



ATHLETICS



NIGHT



Discobolus

P.E. and M.E.

P.E. is the classical term for Physical Education; but in terms of common sense it means Physical Exertion. P.E. in various gradations is taken by all undergraduates. Its popularity, in that few evade it entirely, might appear that students enter Tech primarily for P.E. rather than for M.E.—Mental Exertion. In fact, to be one of the few eligible for the course in M.E. or Mental Exertion one must come from recommendations from the family physician, or with hereditary qualifications that only permit one to walk to meals when he is hungry.

Physical exertion has its drawbacks. It is associated with the smell of sweat and frequent baths. It enlarges the appetite to the point where it is not easily satisfied with the average college commons table. It tempts one to sleep eight hours out of the precious twenty-four. And in its advanced courses it may lead to that bugaboo of college educators, namely, intercollegiate athletics.

Intercollegiate athletics are said by some to develop character—spiritual qualities such as courage, self-control, self-sacrifice, and even, if necessary, self-punishment. But who in this enlightened age wants to discipline or punish one's self, saying nothing about the punishment that may be handed out to him by his opponent? Those who oppose intercollegiate athletics have used as an argument the fact that none of our leading politicians at Washington either under the New Deal or the Old Deal have ever ventured into the advanced course of P.E.

P.E. is a "soft" course, but M.E. is softer. One can graduate in either without learning any more about himself than when he is hungry.

WILLIAM L. STANTON,
Physical Director.



THE 100 IN 9.8

COACHES



WILLIAM L. STANTON
Physical Director

Coach "Fox" Stanton has for fifteen years been the driving force in Tech athletics, serving as head coach for varsity football and track. Well-known in Southern California athletic circles for his athletic philosophies, the "Fox" turns out hard-fighting and skilled teams from unsubsidized, inexperienced, light weight raw material.

Hal Musselman, manager of athletics, gets maximum results from the varsity baseball men. And Stu Seymour, alumni secretary, has shown real ability as line coach for the varsity football team.

Eddie Kienholz, a newcomer to the coaching staff, produced a basketball team which surprised opponents with its resistance. Sid Bamberger, a former Tech star, ably coached the frosh football and basketball teams. Warren "Slug" Potter, back for graduate work, drilled the frosh baseballmen in fundamentals and trained them in Coach Musselman's system. Holley Dickinson and Tom Belzer were student instructors in boxing and wrestling, respectively.

Floyd L. Hanes is known by every student who has come into Tech athletics. "Doc" coaches cross-country and applies osteopathy to the athletes' sores. He really knows the fellows, and he is an ardent rooter for them.

EDGAR KIENHOLZ
SIDNEY BAMBERGER



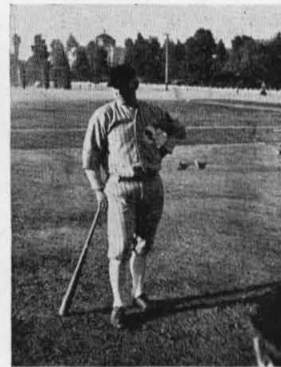
STUART SEYMOUR
THOMAS BELZER



FLOYD HANES
HOLLEY DICKINSON



HAROLD MUSSELMAN
WARREN POTTER



MANAGERS

In addition to his coaching work, Mr. Harold Musselman is manager of athletics for the Institute. Chief among his duties are the arranging of intercollegiate and intramural athletic schedules, providing publicity for teams, drawing up the athletic budget arranging for the issuance and storage of athletic equipment, and supervising the upkeep of the athletic fields. In these last two he is assisted by Mr. Barz, who is in charge of the field house in Tournament Park.

Additional items of transportation, compilation of records and statistics, purchasing supplies, and settling minor house disputes make the work of Mr. Musselman's office essential to the successful continuation of Tech athletics. Student managers in every sport work with the athletic office and assist in handling the many details of each athletic event. Ralph Benton, student body athletic manager during the past year, has been mainly concerned with preparing lists of the prospective lettermen, whose names are submitted to the Board of Directors for approval; ordering sweaters, letters, and numerals; and arranging for the annual football banquet, complete his duties.

All matters of athletic policy must be passed upon by the Institute Athletic Council, consisting of Prof. Sorenson, chairman, Prof. Michael, Prof. Clapp, Mr. Musselman, Mr. Stanton, the student body athletic manager, and the senior manager in the current major sport.



HAROLD Z. MUSSELMAN
Assistant Director

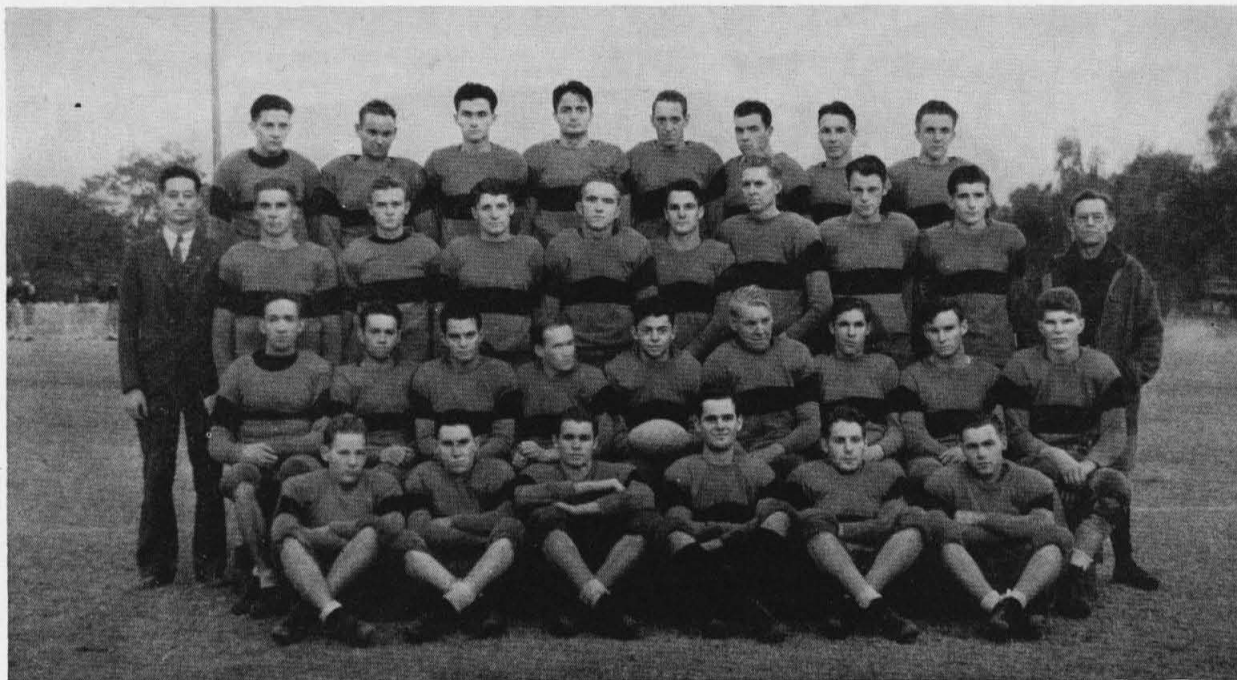


BENTON
Athletic Manager

(Rear) Levit, Dougherty, Forward, Wheeler, Ellis, Hofeller, Veenhuyzen, Gerlough, Munsen, Grainger, Hotz; (Front) Shapiro, Seaman, Hamacher, Radcliffe, Nicholson, Bucknell, Janes, Austin, Hoff.



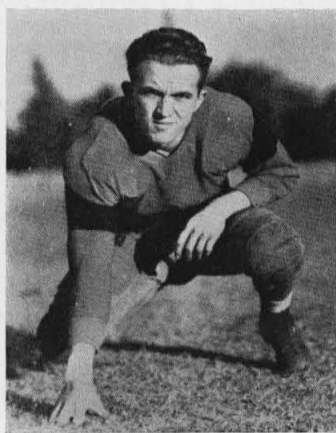
FOOTBALL



This year's varsity displayed the fight and sportsmanship that has always characterized Tech teams. Usually outweighed twenty pounds to the man, they never gave up, but always came back with smiling determination. As a result, the originally raw and inexperienced team finished the season as a hardened, precise grid machine.

Accomplishments of the team and the players will be enlarged upon in the following pages. At this time mention is due the scrub team, which played an essential part in the seasoning of the varsity. The scrubs made up the opposition for nightly practices, gaining experience for themselves as well as acting as cannon fodder for the varsity. The group pictured above includes the second team, as well as the lettermen. It is hoped that the practice men will get their big chance this fall.

However, berths on the 1936 team should be hard to get; fourteen lettermen are expected back, of whom seven were on this year's starting lineup.



At left, Captain Frank Davis and Coach Fox Stanton.

Center, Captain-elect Bill Wetmore.

Varsity team, above: (Rear) Brush, Nollan, Bishop, Rosencranz, Gates, Rowell, Mann, Van Horn; (Center) Janes, Parker, Knight, Balsley, Wetmore, Miller, Heath, Elliott, Zimmerman, Coach Stanton; (Front) Downing, Wileman, Sharp, McLean, captain Davis, Larson, Smith, Benton, Townsend; Osborn, Engelder, Baker, Griswold, Bush, Brown.

LOYOLA, 52—TECH, 6

After two weeks of intense training in order to harden themselves for the season to come, Caltech's 1935 grid machine opened its season by playing the powerful Loyola Lions from the Del Rey Hills on Saturday, September 21. Although the Lions rolled the fighting Beavers over by a score of 52 to 6, it was the Engineers who scored first. Clay Smith, sophomore quarter, was the spark plug behind that initial touchdown. Smith started the march with a 40 yard run from punt formation. A pass, Gates to Bush, planted the ball on Loyola's eight yard line. Then two offside penalties and a fake lateral saw Smith go over for a touchdown. Smith and Ebby Wileman played good ball in Tech's backfield.

SANTA BARBARA, 26—TECH, 6

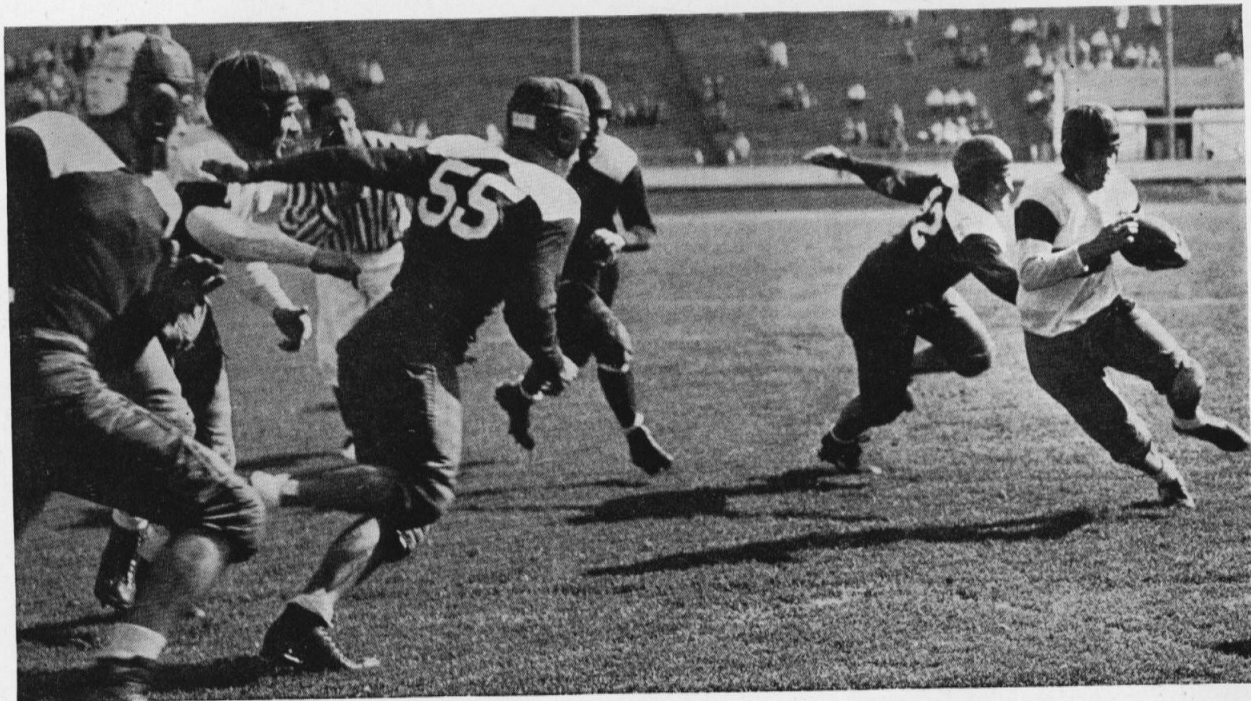
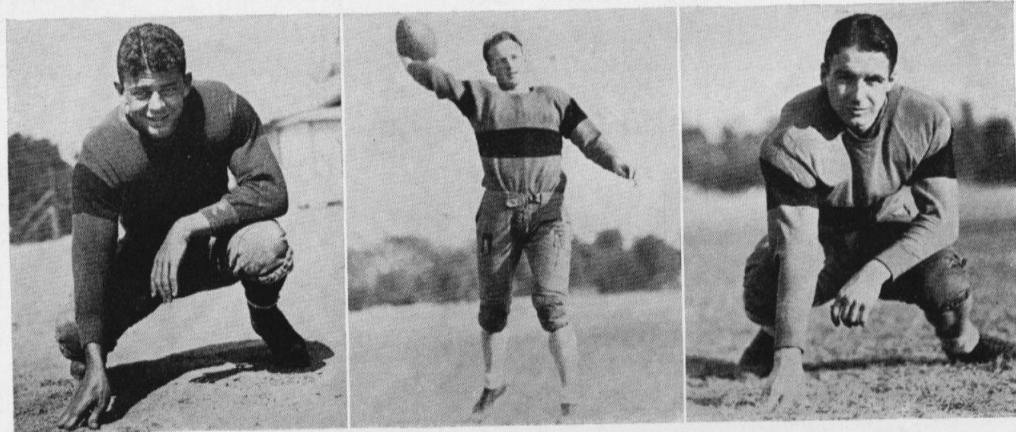
The following weekend, the Tech team played Santa Barbara State in the northern city. After marching to a touchdown in the opening minutes of play, the Beavers were forced to take the defensive against State's flashy running attack, and before the evening was over the score favored the Gauchos, 26 to 6.

Tech's score came as a result of a series of brilliant plays. Ken Bush's on side kick-off and Bob Parker's "coffin corner" punt were climaxed by a 30 yard pass from Ebby Wileman to Jack Baker. Tech's drawing of first blood evidently fired the teachers; for not until the last few minutes of the game did Tech again get the ball past its own 35 yard line.

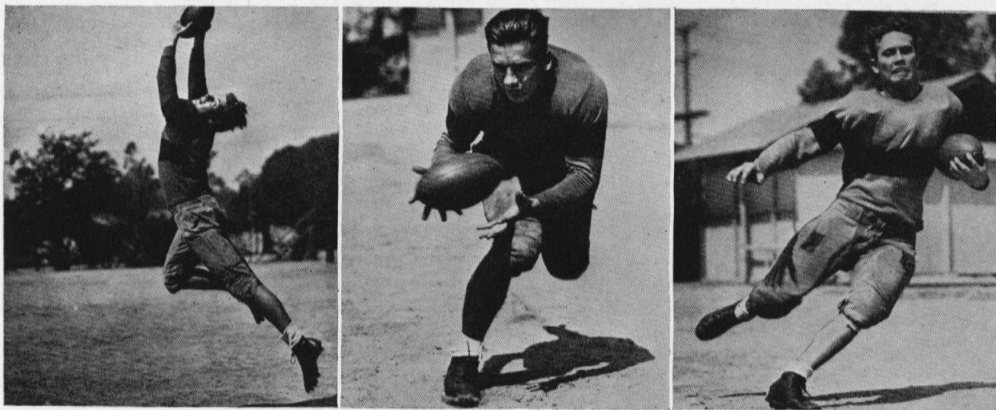
DAVIS
Captain
Guard

MCLEAN
Halfback

MANN
Guard



REDLANDS, 32—TECH, 0



BUSH
End

PARKER
Fullback

WILEMAN
Halfback

On Friday evening, October 4, the Engineers played host to Redland's flashy Bulldog eleven in the Rose Bowl. Inasmuch as Tech had scored the first touchdown against faster and heavier opponents in the two previous games of the season, it seemed reasonable that its plays should click even better against the fast but less beefy Redlands team. But the Beavers were doomed to disappointment; for the Bulldogs, with a recent 19-18 victory over Loyola, weren't going to be stopped.

After valiantly fighting off Redland's spirited attack during the first half, the Engineer defense finally weakened and their opponents raced to a 32 to 0 win.

Aside from Blaisdell's scintillating run of 17 yards to a touchdown for Redlands in the opening quarter, the first half was mainly a brilliant exhibition of defense by Tech, with the Beavers twice stopping the Bulldogs within the three yard line. Peterson's fumble on the Tech three yard line was recovered by Carl "Swede" Larson, who played a bang-up game from start to finish. A few minutes later, Johnson fumbled on Tech's one yard line where Clay Smith recovered.

The second half saw Redlands' famed aerial attack function to perfection and before the final gun sounded they had put over four touchdowns during this period of razzle-dazzle play.

The loss of Ken Bush, stellar end for Tech, who limped out of the game early in the first half was greatly felt. Ralph Benton, Ebby Wileman and Clay Smith turned in the best performance in the Beaver backfield.

MARINES, 21—TECH, 6

Undiscouraged by three sound thumpings in a row, a fighting Engineer varsity embarked for San Diego the following weekend to play the San Diego Marines on Soldiers' Field. At first, it looked as if the Beavers were going to garner their first win of the year; but after being in command for two quarters, they finally went down to a 21 to 6 defeat before the powerful, bone-crushing Marine eleven. The highlight of the game was the fighting stand of the Engineers during the first half when they outplayed and outfought the far heavier and more experienced Leatherneck team. The lone Tech touchdown came as a result of a 94 yard sustained drive with Benton finally taking a pass from Bishop and romping over for the score.

FRESNO, 51—TECH, 7

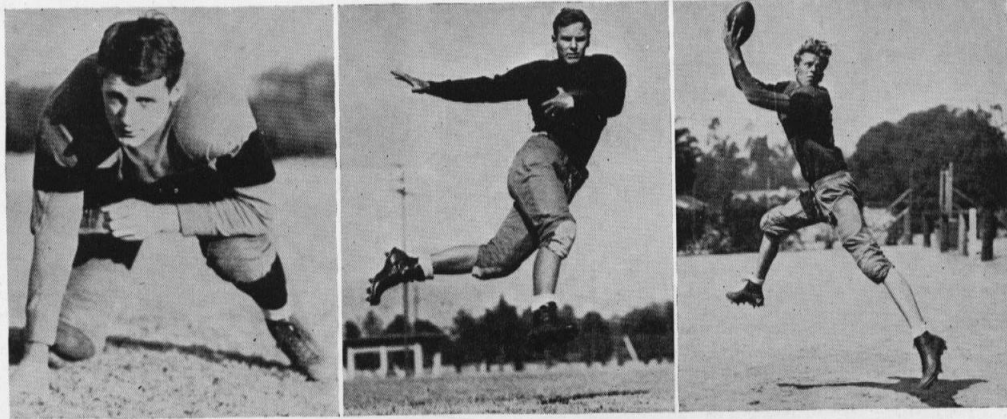
On Friday, October 24, the Tech varsity entrained for Fresno to play the Fresno State Bulldogs the following evening in hopes of pulling their annual upset. But the fighting Beavers were unable to stop the fast moving backfield of the Teachers; and when the game was finally over, the score stood 51-7 in favor of the Bulldogs.

Although outweighed by twenty pounds to the man the Tech gridders played a far better game than the score indicates. For the first time during the season, the Engineers showed they had an offense that could really gain ground. The Beavers made ten first downs from scrimmage to Fresno's sixteen, and gained 215 yards to Fresno's 412 yards; Fresno lost 50 yards from scrimmage compared with Tech's 25.

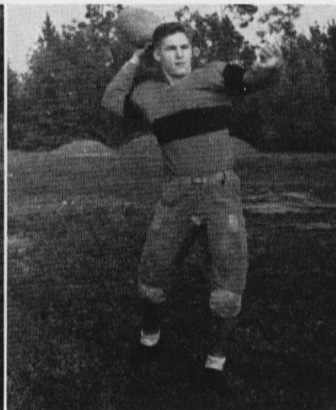
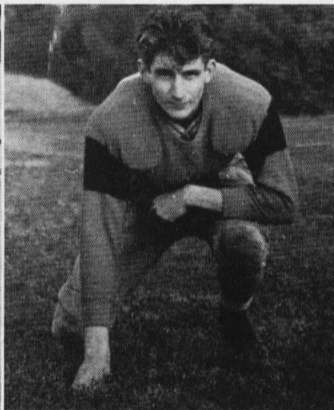
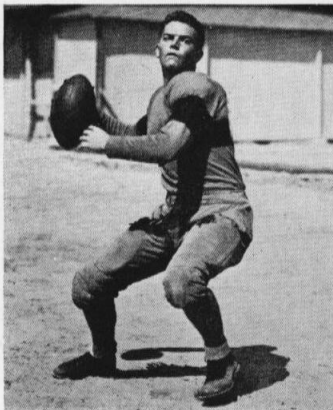
BALSLEY
Guard

BENTON
Halfback

HEATH
End



OCCIDENTAL, 19—TECH, 0



SHARP
Quarterback

ZIMMERMAN
End

C. SMITH
Quarterback

Upon their return from San Diego, the Tech varsity spent the next week in preparation for their big game of the year with their ancient rivals from Occidental. Facing seemingly insurmountable odds with regard to weight and past performance, the Beavers prepared to send the heavily favored Tigers home on the short end of the score. But fate favored an Oxy victory; for it was Oxy's turn to win. Nothing the Tech team could produce could prevent the Bengals from scoring a 19-0 victory over Tech.

Outplayed as they were, the Engineers put up a stiff battle, especially in the last half when Oxy was held scoreless even though practically all the play was in Beaver territory.

Jack Baker, sophomore end, played a spectacular game at the wing position, and was the best man on the field for Tech. Besides smearing up many Oxy plays, Baker recovered a fumble in the third quarter which gave the Beavers their only scoring chance and blocked a punt in the fourth quarter. Captain Frank Davis and the other linemen also turned in good performances, throwing the Bengals for losses totalling 50 yards.

Tech's only opportunities to score came in the third period after Baker's recovery of a fumbled punt on the Oxy 24 yard line. Incomplete passes and a poor punt gave the Tigers possession of the ball at the same spot, but a penalty gave the ball to the Beavers again on the Oxy 26 yard line. However, again the Beaver offense could gain nothing and the ball went to Oxy on downs.

POMONA, 18—TECH, 13

The Beaver squad returned from Fresno thoroughly toughened by their experience in the northern city and prepared to spend the next two weeks in rounding themselves into shape to meet the highly touted Sagehen eleven from Pomona.

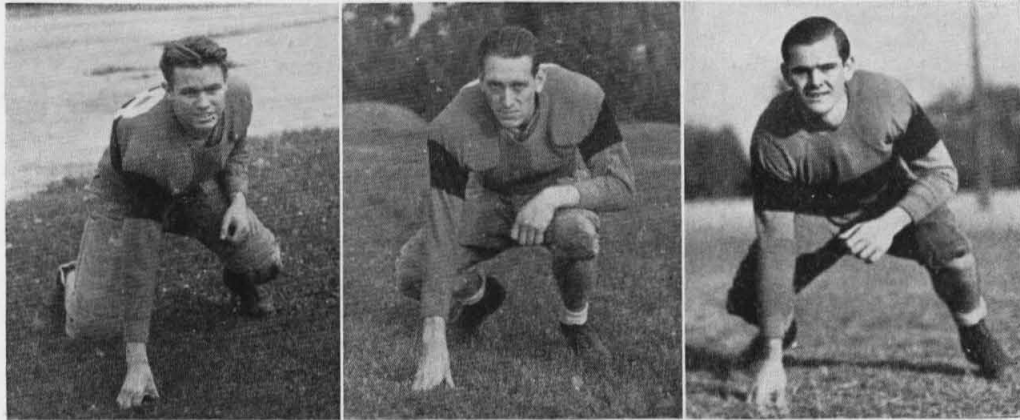
Again the Tech team was to be the loser, although they outfought and outplayed their highly favored opponents for three quarters of the game. The Beavers as usual scored first, then had a sudden lapse; and the Sagehens pushed over three touchdowns in quick succession. Then the Beavers suddenly came to life and began to display some of the fight that they showed in their previous game in Fresno. Just before the half ended the Beavers pushed over another touchdown. The last half was all Tech, with the Beavers pushing the Sagehens up and down the field but unable to produce the scoring punch needed once they got within their opponents' 20 yard line. The statistics gave Tech a big advantage with 298 yards gained compared to Pomona's 206, and with 14 first downs to Pomona's 8.

In the line, Ken Bush and Captain Frank Davis were standouts for the Engineers. Bush's spectacular catches of many passes and Davis' fine defensive work gave the Sagehens trouble all evening. The whole Beaver backfield played outstanding ball. Parker played his best game of the season to date, and Sharp's, McLean's and Wileman's passes were consistent threats. Clay Smith turned in a good game at quarter and Johnny Gates caught a lot of passes for nice gains.

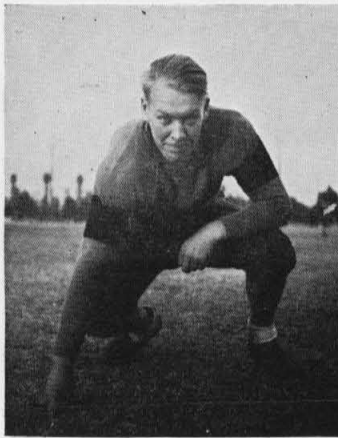
BAKER
End

GATES
Halfback

GRISWOLD
Tackle



LA VERNE, 7—TECH, 34



LARSON
Tackle

ELLIOTT
Guard

NOLLAN
Center

After the heart-breaking loss to Pomona, the Beavers found themselves without a win to their credit and only one game left on their schedule. Deciding it was now or never, the Beavers settled down to a week of intensive practice in preparation for their game with La Verne on Saturday, November 16.

Then, with a scintillating display of speed and power, the Beavers proved themselves to be a real football team in decisively outplaying the Leopards and sending them down to a 34-7 defeat. From the opening kickoff, it was apparent that Tech was again up to the top form shown in the Pomona game. The Leopard defense was outcharged on every play and their offense was completely smothered by the Tech line before it could get under way.

Playing their last game of intercollegiate football, the work of seven seniors in the line-up was outstanding. John Nollan, Bob Elliot, Art Bishop and Chuck Heath played bang-up defensive games; and Ken Bush was on the receiving end of forward passes that led to three Tech touchdowns. Johnny Gates played the best game of his career at half; while Captain Frank Davis, besides being in on almost every tackle, personally accounted for four points through conversions. Bob Parker was the scoring threat of the day, crossing the Leopard goal line four times, one of his runs going 65 yards through the whole La Verne secondary. The other Tech touchdown was made by Jack McLean on a 20 yard run around the Leopards' left end.

FROSH FOOTBALL

A week before school started the frosh began to assemble for football practice. Coach Sid Bamberger took charge over the twenty-odd, inexperienced freshmen who turned out for the team. The Beaverbabes started and ended their season with creditable performances, but the other games were unfortunate as regards victories turned in.

The first game was with Webb School in the Rose Bowl on October 4. The frosh were slow starting but in the second quarter they scored the first touchdown. Webb School came back to tie the score at 6-6. In the second half the freshmen returned to the scene of battle with determination and quickly scored three more touchdowns. The final score was 25-6.

The following week, the babes travelled to the beach to meet Santa Monica J. C. Out-weighted considerably, the team's slow start resulted in a 40 to 7 defeat. The frosh were scored on twice in the first three minutes of play. Later they made two long marches down the field only to be stopped in the shadow of their opponent's goal post. In the fourth quarter Tech succeeded in driving over a touchdown. Davis, Beck, Griffiths, and Simonds were the outstanding players on the field for the babes.

The next week the yearlings met the Oxy frosh. A slow start again put the frosh under a handicap, as the Tigers took this advantage and pushed over a touchdown in the first few minutes of play. Tech's only threat came in the third quarter when Haines returned a punt from his own 15 yard line to the Oxy 27. A pass from Haines to Beck was good to the 20 yard line, where Tech lost the ball on downs. The final score was Oxy 31, Tech 0.

In the Rose Bowl on Friday, November 8, two weeks later, the yearlings were squelched by a superior Pomona team by a 40-0 score. Two Pomona passes were responsible for the two touchdowns in the first quarter. Wallace Davis at center and Duane Beck at end played good defensive games, while in the backfield Rogers, Simonds, and Osborn starred.

The final game of the season was played a week later against the Pasadena J. C. Spartans. A fighting frosh team battled the Spartans to a 6-6 tie. The rejuvenated yearlings held the upper hand throughout the contest. The Tech tally came early in the first quarter. Successive plunges by Rogers, Lawson, and Osborn carried the ball to the J. C. 26 yard line. Rogers then passed to Captain Beck to the 6 yard line and Osborn punched over for the score. In the fourth quarter with the score tied, a sensational pass from Haines to Griffiths placed the ball on the Spartan 10 yard line. The game ended there just as the Beaverbabes were about to push over the winning tally.

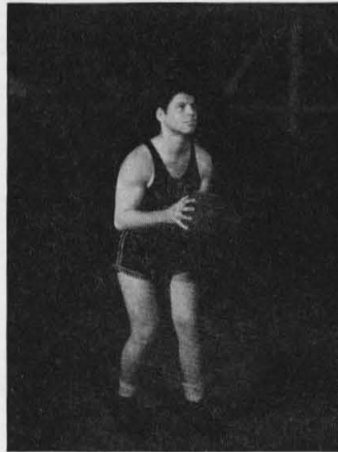
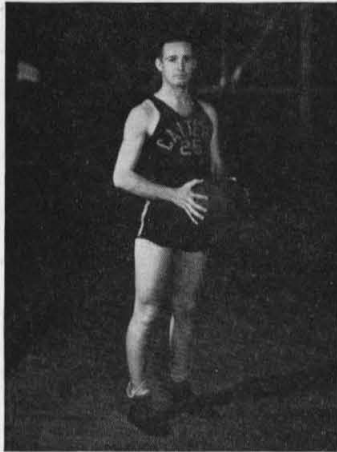


(Rear) Simonds, Cooper, Rosanoff, P. Smith, Haines; (Center) captain Beck, Griffiths, Osborn, Thomas, Bradshaw, House, coach Bamberger; (Front) Edmondson, Davis, Flint, Rogers, Lawson, Divirian, Hall.

BASKETBALL

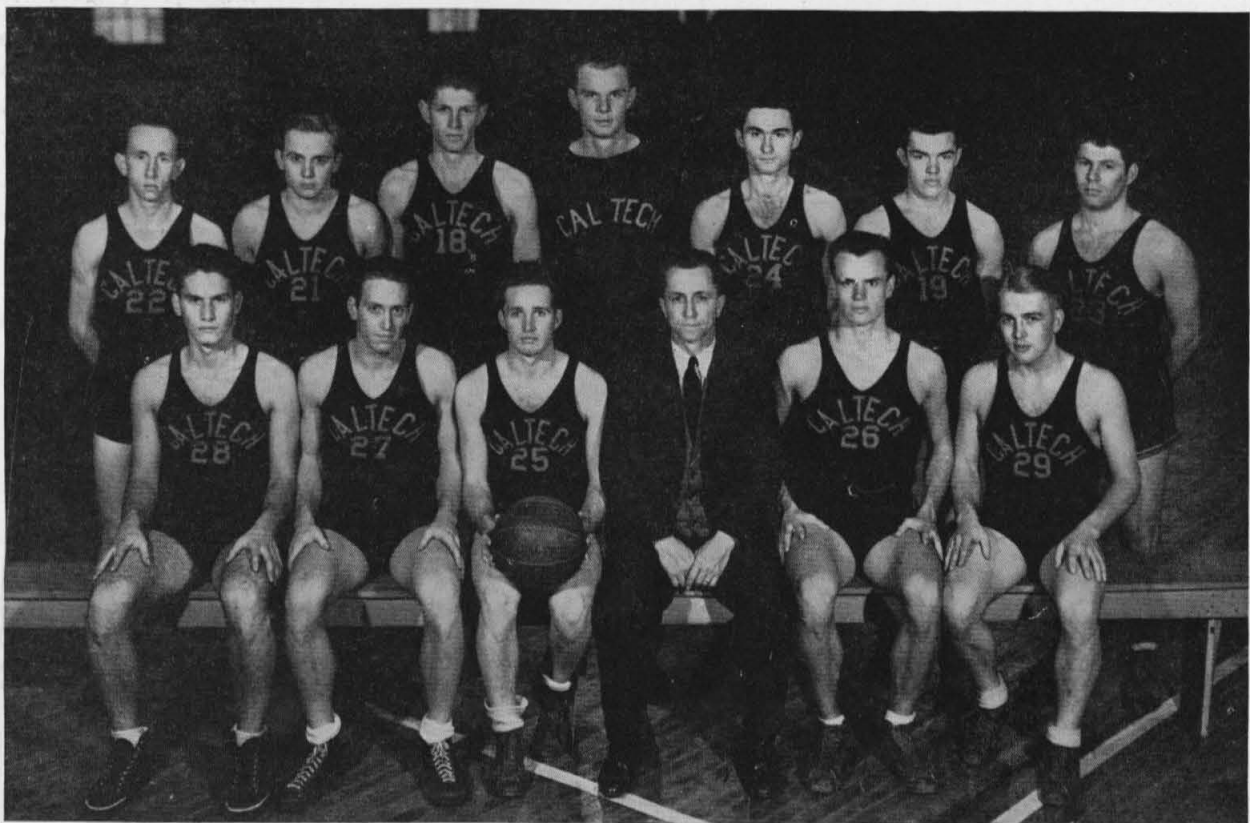
The Beaver casaba squad played nine major games, losing seven and winning two. Eddie Kienholz, a mentor of many years experience, and a newcomer to Tech's coaching staff, took over the basketball coaching reins early in December, with a nucleus of six letter-men from last year's squad: in Dauben, Gates, Colvin, Schuman, Harper and Horkey. In addition to the veterans of the 1935 squad, some eighteen additional men reported.

A decided improvement in a practice court over last year's was engineered by the Athletic department and the A.S.B. in the leasing of the Southern California Bible School court on Avenue 64.



At left, Co-captains Elmer Dauben, center and forward; Bill Eleonin, guard.

Varsity team, below: (Rear) Ryncarson, Haver, Horkey, Folkins, Bishop, Fahrner, Colvin; (Front) Schuman, Gates, Dauben, Coach Kienholz, Harper, H. Smith.



BASKETBALL

While the season had more losses than wins, the percentage column does not nearly begin to show the closeness of the games. With the exception of the first Pomona game, all of the games were hotly contested, and the outcome was in doubt until the final whistle had blown. In fact, if Tech's team had been blessed with the reserve material of the opposition, the final score in several games would have been credited in the win column.

In none of the contests were the Beavers outgamed. They fought tooth and nail and displayed a brand of sportsmanship that reflected creditably upon the Orange and White.

Co-Captains Dauben and Elconin, Gates, Bishop, Colvin, Haver and Meneghelli are the seniors lost through graduation. Letters were voted to Dauben, Elconin, Gates, Colvin, Harper, Schuman, Smith and Wolfberg. Harold Smith was elected Captain of the 1937 squad, which should have a very successful year.

CHAPMAN 38, TECH 32

Chapman College opened the season and took the measure of the men of Tech by the score of 38-32 in a game which saw-sawed back and forth from start to finish. The 32 points were garnered by: Schuman 11, Colvin 8, Dauben 8, Harper 5.

POMONA 48, TECH 30

The first game with Pomona saw the Sagehens emerge victorious 48-30. Coach Eddie Kienholz's squad could not find their shooting eyes, and while many of their shots rimmed the basket, the elusive casaba would not drop into the basket. Hugh Colvin had his best scoring spell of the season, tallying 14 points. Other scores were Dauben 7, Harper 4, Schuman 3, Wolfberg 2.

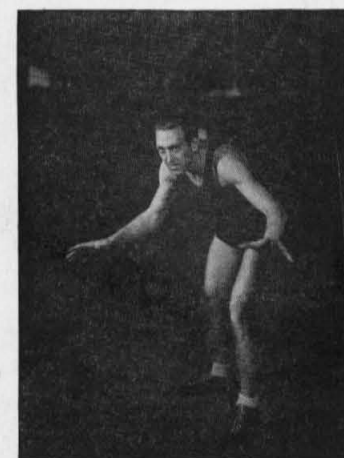
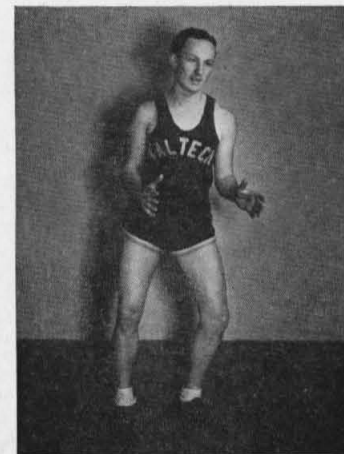
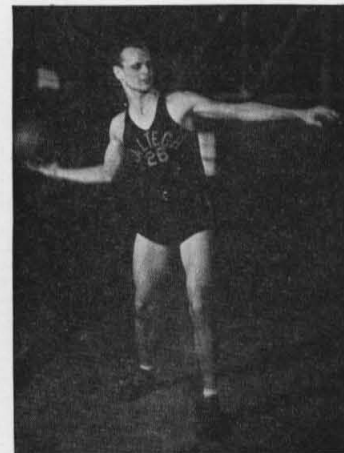
OXY 51, TECH 48

The high spot in the entire season was the first Oxy game with the Tigers gaining a 51-48 decision in a hard-fought, rough-and-tumble game. The game was replete with thrills: aided and abetted by a vociferous Tech rooting section which outnumbered the Tigers on their home court, the Beavers fought to the last ditch. The Eagle Rock boys nosed out the Engineers with a foul and a foul goal in the closing seconds of play. This game saw the maiden appearance of Captain-Elect Harold Smith, who entered the game after Tom Harper had been put out on personal fouls. Scoring for Tech were Schuman 13, Colvin 12, Dauben 12, and Smith 11.

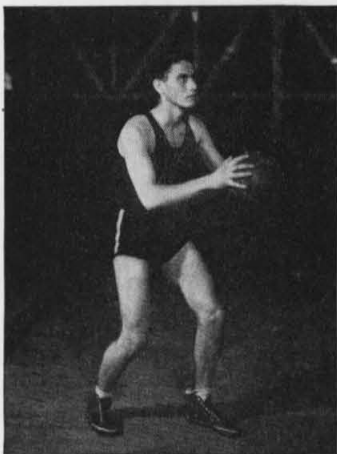
REDLANDS 36, TECH 32

Redlands took the measure of Tech 36-32 in another nip and tuck affair. The Bulldogs had a decided advantage playing on their own court, almost twice the size of Tech's practice court. Tech's scoring was done by Smith 10, Schuman 6, Colvin 6, Dauben 5, Harper 4, and Wolfberg 1.

(At right) Harper, guard; Wolfberg, forward; John Gates, guard.



BASKETBALL

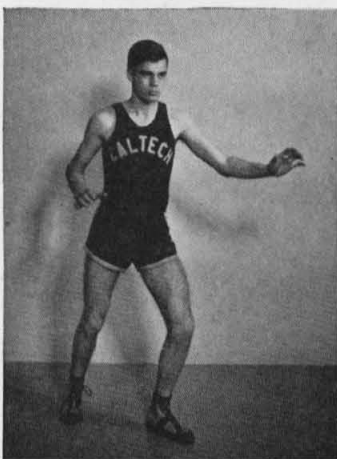


SANTA BARBARA 40, TECH 34

In a game played on the rain-soaked court of the Santa Barbara Armory, the Santa Barbara Gauchos defeated the Beavers 40-34. The game was played during a heavy rainstorm and the roof of the Armory leaked like the proverbial sieve, so that the court had pools of water on it and time was repeatedly taken out to allow the officials to mop up the water. In spite of these adverse conditions, the teams put up a spirited battle, and again Tech lost out in the closing moments of the game. Scoring for Tech were Schuman 10, Smith 10, Colvin 6, Harper 6, and Dauben 4.

POMONA 49, TECH 41

The second game with Pomona again saw the Blue and White successful 49-41, but in a much closer and exciting game than in the first encounter. The Beavers gave the Sagehens a terrific battle and were ahead several times during the game but could not hold the lead until the end of the game. Danny Schuman celebrated with a scoring spree of 20 points. Others were Colvin 7, Dauben 5, Smith 5, Harper 2, and Rynearson 2.

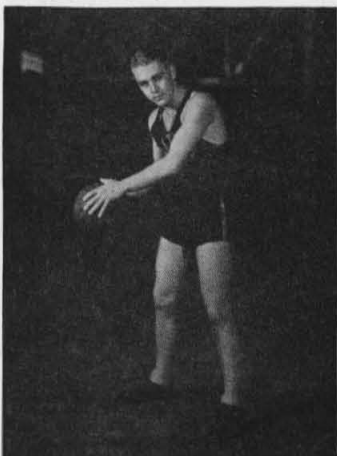


ALHAMBRA A. C. 40, TECH 43

The Beavers finally entered the win column by defeating the Alhambra A. C. to the tune of 43-40. Chet Davis, last year's Beaver forward, played against his Alma Mater. Scoring for Tech were Harper 10, Colvin 6, Wolfberg 6, Schuman 4, Dauben 4, Rynearson 4, and Elconin 7.

OXY 38, TECH 32

Oxy bettered the Beavers in their second encounter 38-32 in a game not as thrilling or exciting as their first game, but nevertheless holding the interest of the fans until the final whistle had blown. Tech's scores were by Harper 9, Wolfberg 7, Dauben 6, Schuman 3, Colvin 3, Rynearson 2, and Smith 2.



LOYOLA 38, TECH 43

Tech closed the season with a win over Loyola 43-38. This was another close game from start to finish; and the Catholic lads gave notice that under the coaching of Jimmy Needles they are to be reckoned with in basketball in years to come.

Co-Captain Elmer Dauben closed his collegiate career by turning in a sterling game and his excellent guarding of Loyola's behemoth center was a splendid piece of work. Scoring for Tech were Schuman 9, Wolfberg 9, Smith 6, Harper 5, Dauben 4, and Rynearson 4.

(At left) Schuman, forward; Colvin, forward and center; Harold Smith, guard, Captain-elect.

FROSH BASKETBALL

The freshman basketball team had a poor season if the absolute measure of success is the number of games won or lost; but an entirely successful one if the invaluable experience gained by the future varsity men is considered.

The season opened on January 17 in a game with the Oxy frosh. The Tiger cubs demonstrated a smoothly running offense which functioned so well that they won the contest by a score of 61-29. The next day a game with Webb school was lost by four points, 42-38.

On January 20 the Engineer babes' offense finally started to click, and a strong Citrus High quintet was taken into camp to the tune of a 35-20 score. A loss to Cathedral High by a four point margin followed.

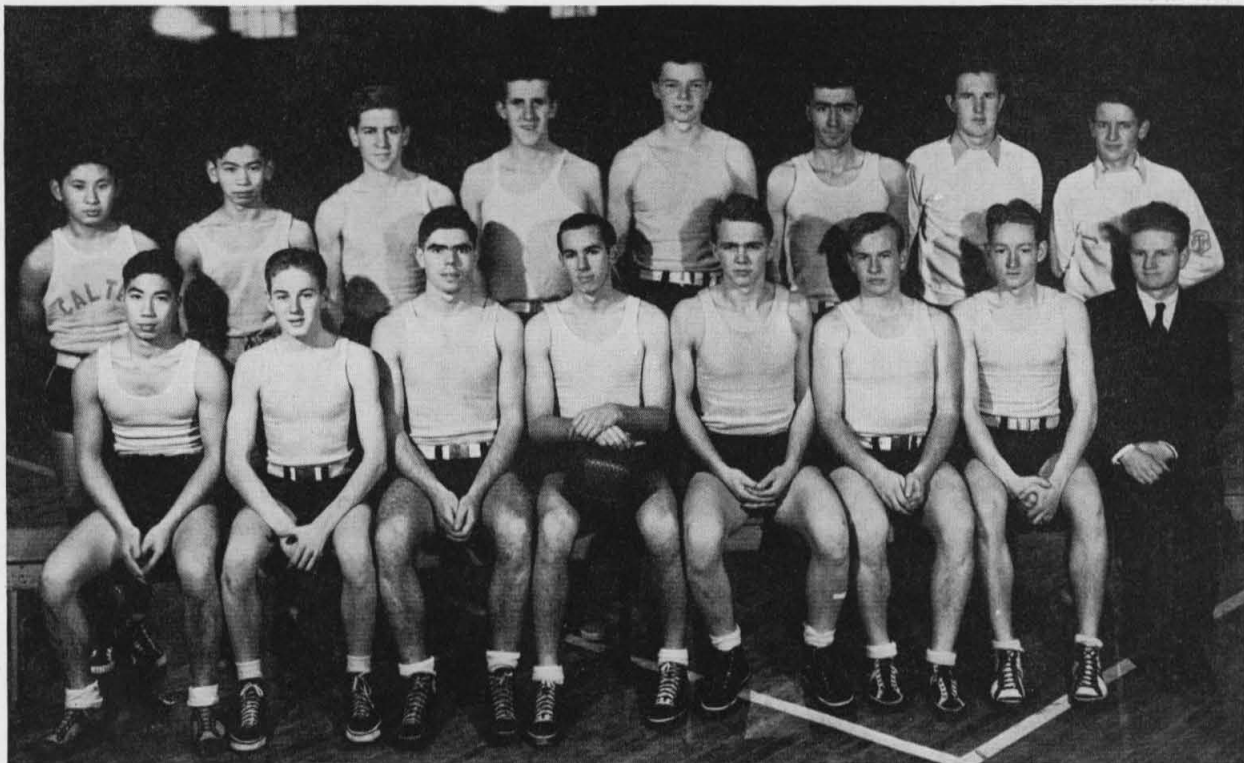
Next Harry Goodin and Jack Osborn ran wild, garnering twelve points apiece to help defeat Monrovia High, Valley League runners-up, by a score of 31-25. The squad then traveled to Pomona with a determination to win, but met with great disappointment when the Sage chicks topped them 34-21.

Montebello high, Valley League champions, took a contest by a two point margin when Johnston of Montebello threw a wild shot from the center of the floor in the closing eight seconds. Oxy took a return game 51-31; and a big Loyola five was the victor in the final game 56-19.

All through the season, the frosh bucketeers came close to winning games but couldn't put over the winning punch when needed. However, never once could it be said that the team quit fighting. The players included Duane Beck and Ed Sullivan, guards; Charles Carstarphen and Captain Harry Goodin, forwards; and Jack Osborn at center, while capable substitutes were found in Walter Diehm, Fulton Tangren, Takashi Mayeda, and Paul Smith. The team was managed by Lee and Nicholson.

Several of these men will certainly make their block T in another year or two, and they will owe part of their ability to the expert attention of Coach Sid Bamberger. Sid accomplished wonders considering the short period of time the frosh actually practiced. In developing Beck, Sullivan, Carstarphen, Goodin, and Osborn, Sid has given next year's varsity team some very valuable material to replace the graduating seniors.

(Rear) Morikawa, Asakawa, Hall, Longfelder, Diehm, Rothman, *manager* Lee, *manager* Nicholson; (Front row) Mayeda, Beck, Sullivan, *captain* Goodin, Osborn, Tangren, Clark, *coach* Bamberger.



CROSS-COUNTRY



Varsity, at left: (Rear) Friend, Browne, Milan, Rudkin, Goff; (Front) coach Dr. Hanes, Nellis, Gates, Waddell, Siechert, Veysey.

Frosh, below: Cox, Rainwater, S. Clark, Schneider.

Caltech's 1935 cross-country crew, after starting off by tying the Pomona harriers, fell back into an "also ran" spot in the following meets. Nevertheless, the Beavers made good showings against the strong competition which they met. Sophomore Stan Voorhees and George Rudkin took turns setting the pace for the varsity. Coach Floyd "Doc" Hanes has three other sophomore lettermen on their way up: Peter Goff, Carter Lowell, and Paul Siechert. Two veteran seniors, John Waddell and Victor Veysey, and two juniors, Charles Gates and Donald Nellis, also received letters. Other men competing were James Browne, Carl Friend, Alan Grobecker, and Ralph Harker.

The first of the six scheduled meets was with Pomona on the Rose Bowl course; both varsity and frosh meets ended as ties. Two practice meets with P.J.C. on their foothill course Nov. 12 and Dec. 2 resulted in Bulldog wins.

The Pomona Invitational Cross-Country run held Nov. 23, at Claremont was the next event pointed for by Coach Hanes' charges. Tech could gain no better than a close third behind Pomona, but gained some satisfaction from defeating Santa Barbara State by a big margin. Whittier won with a 50 point total, followed by Pomona with 70, Caltech with 72, and Santa Barbara with 97. At Westwood Nov. 27, Caltech took the long end of the count in a triangular meet with U.C.L.A. and Long Beach J.C. Final tabulation showed: U.C.L.A. 31; Long Beach J.C. 38; Caltech 59. Redlands'

powerful hill-and-dalers were the final opponents of the Beavers in a meet held Dec 7 on the Rose Bowl course. The Bulldogs had too much, however, and walked away with a 19 to 45 victory.

Stephen Clark was the shining light in frosh cross-country competition, the results of which closely paralleled those of the varsity. Bud Schneider, Bob Cox, Leo Rainwater, Mark Mills, and Richard Pond were the other frosh numeral winners.

Following their tie with Pomona Nov. 8, the Beaverbabes again met the Sagechicks in the Pomona Invitational at Claremont Nov. 23, only to be defeated 35 to 38. Against the U.C. L.A. frosh at Westwood Nov. 27 the yearlings fared even worse, losing 16 to 48. The Redlands meet here Dec. 7 concluded the season, with the visitors winning by a 17 to 38 score.



RUGBY



(Rear) Hart, Bradshaw, Rowell, Jewett, Rosencranz, Engelder, Simonds; (Front) Lawson, Robertson, Provine, Wetmore, Balsley, Lycett.

The Caltech Rugby Club, playing for the Pasadena Athletic Club, finished an excellent season by winning the Prosser cup. Although the team did not successfully defend the Merrivale trophy which it won last year, the success in the Prosser competition was ample recompense.

Bolstered by several Tech men, the ruggers began the season by soundly trouncing the Vandals at L.A.J.C. The next game, with Golden State, was likewise a victory for P.A.C., but the services of Dick Rosencranz were lost for the remainder of the season. The team now traveled north to play their Santa Barbara rivals. Here the sadly depleted team succumbed to a 3-0 score, which definitely eliminated them from the Merrivale competition.

Smarting from their defeat, the team won a hard-played game with Santa Ana J. C. In a home game against Victor McLaglen's Light Horsemen, the team suffering from the loss of six men ill with the "flu," was again defeated by a 3-0 score. It was found, however, that the Light Horsemen had been playing an ineligible man, and the game was forfeited in favor of P.A.C.

Traveling north, the determined ruggers again engaged their Santa Barbara rivals. Still incensed from the previous defeat at the hands of the Barbarians, the team fought one of the hardest battles of the season. A three-point lead at the half was overcome; and the final result favored the locals by one point.

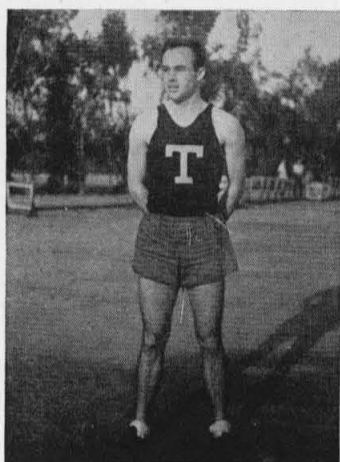
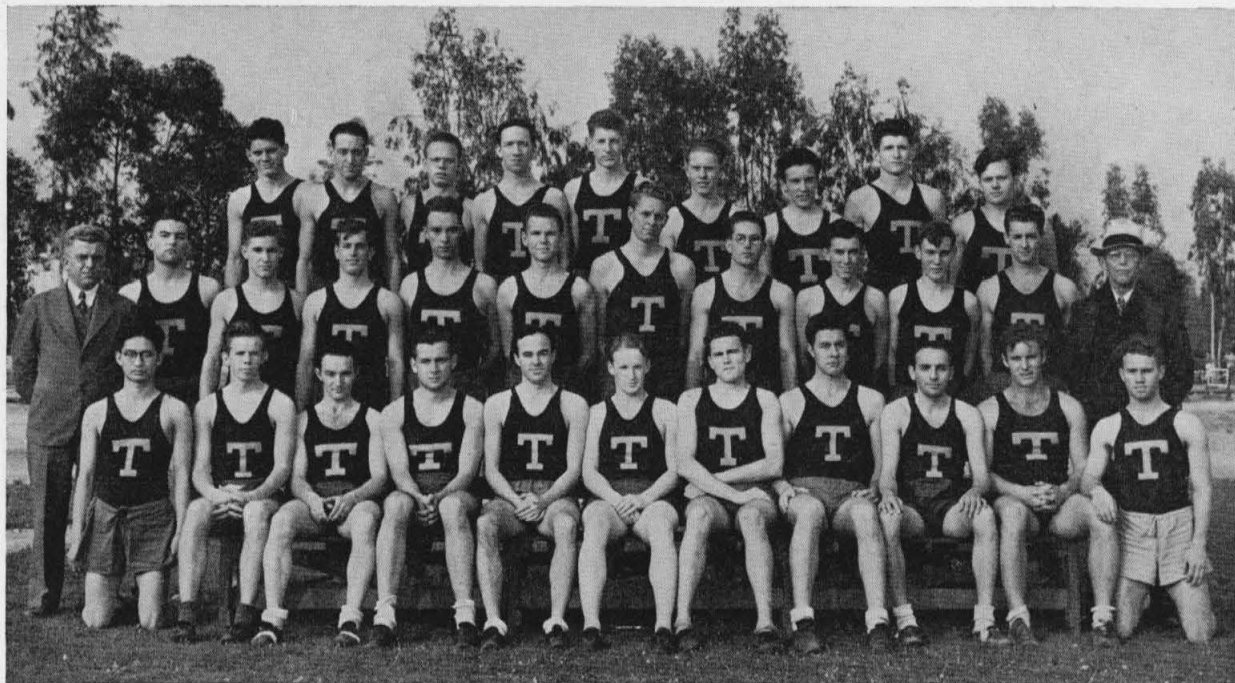
Winning their next two games with Hollywood and Santa Monica J.C. handily, the skin-kickers tangled with their traditional rivals, the Majors from P.J.C. With this the only important game standing between them and the championship, the Athletic Club was in no mood to lose. The first half struggle was scoreless; but each team garnered 5 points in the remaining time.

Wishing to concentrate on the forthcoming Oxford games, Echo Park forfeited in favor of P.A.C., automatically giving them the championship with Santa Barbara as runner-up. The season was ended by a banquet at the Athletic Club, during which the Prosser Cup was presented. At this time, Bill Wetmore was again chosen captain with Balsley named as vice-captain.

Little has been said of the Tech members of the team. The front rank positions were ably filled by Balsley and Rowell, with Simonds as hooker. Bush and Captain Wetmore shone at breakaway with Allen playing a good game in the second rank. Lycett turned an excellent record at scrum half, as did Lawson at three-quarter. Engelder and Jewett, good in all positions, played a consistent game, capably backed up by Jerauld at fullback.

With awakening interest in rugby it is the hope of the Rugby Club to form a Caltech team; for it is their wish to present the Institute with a championship for which they were largely responsible.

TRACK



Varsity team: (Rear) Ellery, J. Gates, Friend, Downing, Horkey, Althouse, Ropp, Zimmerman, Bower; (Center) Dr. Hanes, Wilson, Smith, C. Gates, Browne, Nellis, Heath, Waddell, Goff, Rudkin, Austin, Coach Stanton; (Front) Nojima, Veysey, Milan, Snelling, captain Creal, McLean, DuFresne, Jensen, Shapiro, Benton, Wileman. Above: Captain Albert Creal.

Characterized by an unusual number of stellar performances in the running events, the Engineer track and field team has terminated one of its most successful seasons in recent years. When Coach "Fox" Stanton issued his first call for track aspirants in January, he was greeted by a group left discouragingly unbalanced by graduation and emigration, but the veritable plethora of excellent sprint and middle distance material promised to more than offset the lack of strength in the field events. Captain Al Creal led the squad for the second time this year.

INTERHOUSE MEET, JANUARY 30

New men were enabled to experience competition in a modified form in the annual Interhouse meet held the last week in January. Since all men who had earned varsity track emblems were ineligible for this meet, no sensational performances took place to belittle the attempts of the novices. Throop barely nosed out Fleming, and the victory was characterized by the success of several freshmen and sophomores.

INTERCLASS MEET, FEBRUARY 6

The Interclass Meet for which all undergraduates were eligible was staged with considerable interest and ended in a decided upset. Bob Parker of the juniors set a new meet hammer record as his class amassed 51 points to barely eclipse the soph's total of 49 points, plaintively wailing that part of the team was in Balboa. Creal won both dashes for the seniors.

TRACK

GLENDALE J. C. MEET

The first contest of the season against outside competition, on February 13, found several Tech men absent because of illness or various other reasons. The temporary loss of Pete Goff and Jack McLean was most strongly felt, but in spite of this handicap the Tech aggregation proved too strong for Glendale, the meet resulting in a 70-61 victory. Creal easily took first place in the hundred and later ran a dead heat with McIntyre in the furlong. Benton pulled the surprise of the day by wafting the javelin 165 feet to win over his team-mate, Ellery.

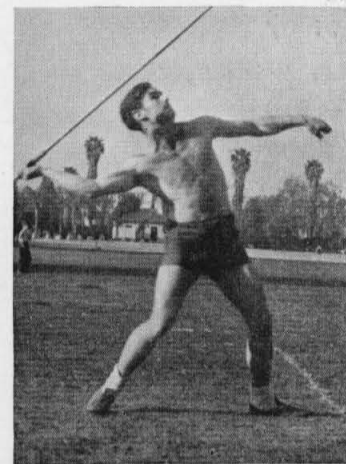
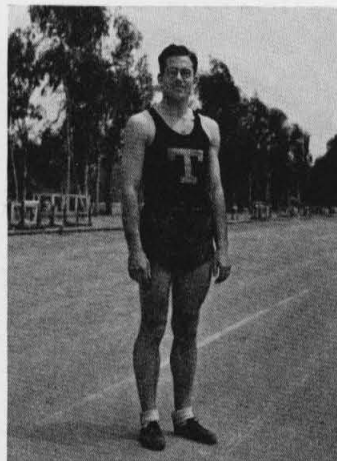
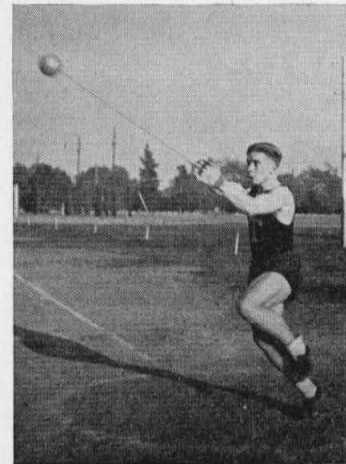
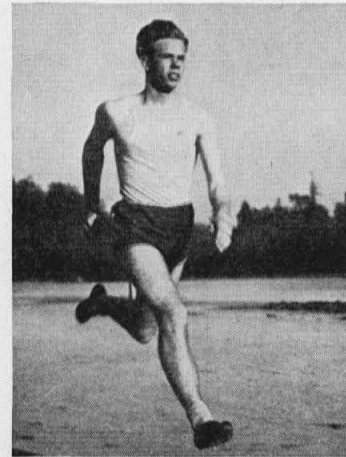
SANTA BARBARA

In a continuous downpour which made the field a lake of mud, the Engineers won the season's second meet by defeating the Gauchos 66-65. McLean took the 440 yard dash in 54.2 seconds, which was an unqualified sensation under the weather conditions. The relay team easily led the Gaucho quartet to the tape much to the consternation of the Staters who had high hopes for their men. Lowell accounted for the winning point in the two-mile run after fighting his way out of a badly boxed position. Santa Barbara showed considerable strength in all the weight events.

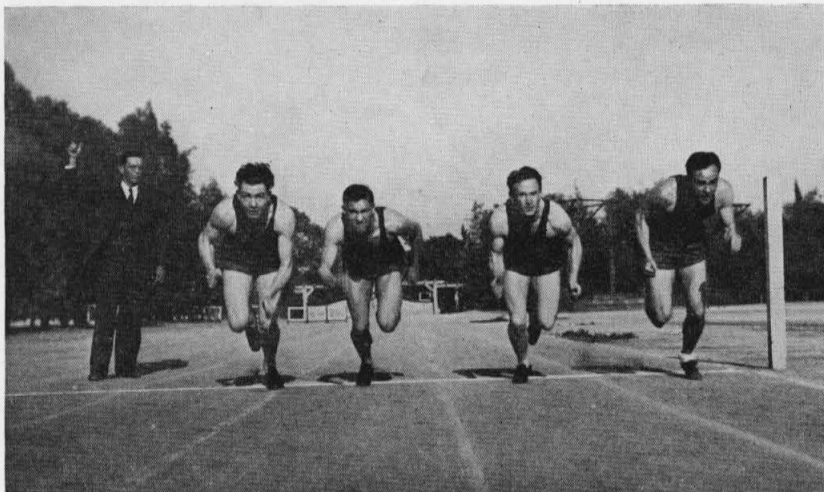
POMONA-TECH RELAYS

This year saw the first Pomona-Caltech Relay Carnival, which it is hoped will become an annual occurrence. Several events such as the eight man half-mile relay were scheduled in order to give every athlete an opportunity to compete. In the field events the British scoring system was used, the distances of the three best men on each squad being totaled to determine the winner. Pomona showed surprisingly consistent strength and won both the varsity and frosh competition, thus securing possession of the handsome perpetual trophy for the coming year. The four man mile-relay, outstanding event of the meet, was easily won by Tech in 3 minutes, 24 seconds.

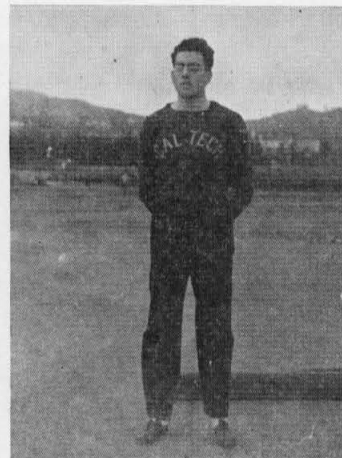
(At right) Veysey, Parker, Brown; (Below, center) Waddell; (Left) McLean.



TRACK

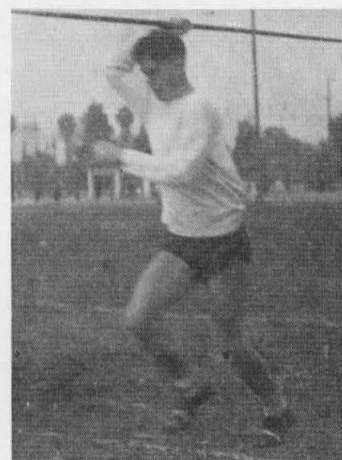


(Above) Half-mile relay team: McIntyre, C. Smith, McLean, Creal. (At right) Rector, Ellery, Wilson.



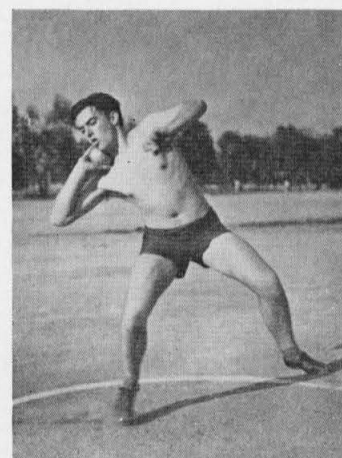
S.P.A.A.U. RELAYS

The annual Long Beach Relays found the Beaver mile quartet entered in the university class where it was hoped a creditable showing would be made. However, Tech's chances seemed definitely jinxed; as Creal was closing up the gap in the anchor lap he was tripped by a spectator, so the actual potentialities of the relay team remained unknown. Clocks caught both Snelling and Veysey under 51 seconds, and McLean under 49, and this was quite sufficient to cause serious discussion of sending the quartet to the Drake and Kansas Relays in April. The four man quarter mile sprint team composed of McLean, Rector, McIntyre, and Creal equalled the record of 42.8 sec. in the College division. In winning this event the Occidental team was barely defeated by the Beavers.



OCCIDENTAL

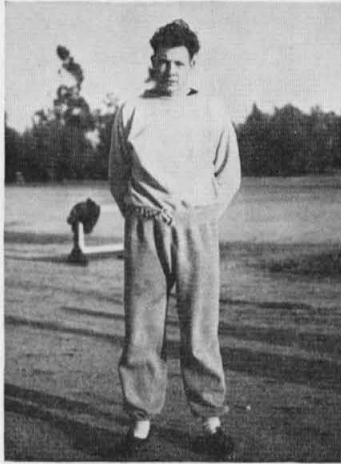
After having successfully completed the first half of the season without a defeat the Beavers had high hopes for defeating their traditional rivals, the Occidental Tigers. However, a most extraordinary athlete in the person of "Iron Man" Kilday had other plans. Creal was forced to take an unaccustomed second in the 100 yard dash while Kilday breezed to a neat 9.9 seconds win. In the course of the afternoon the lithe Bengal personally accounted for 26 of Occidental's 89 points, the Tech athletes collecting only 24 digits. However, Creal vanquished Kilday in the furlong to average his defeat in the shorter race, and a clean sweep by the Beavers in the quarter mile made the outcome less distasteful.



TRACK

U.C.L.A.

On the last day before spring vacation those members of the team who had not already departed for home travelled to Westwood where Coach Trotter's Bruins were encountered in a meet which fairly sparkled with exceptional performances. The Bruins had every event fortified with several contestants, so Caltech's skeleton squad had practically no chance of making it a close meet; but the score of 85-64 was far from lopsided. With the exception of the hammer throw which was swept by the Beavers, the U.C.L.A. weight men took every place; but in the short races the going was all for Tech. Creal surprised the Westwood contingent by winning both the century and the 220, besides later running a superb anchor lap against Duda to nose out the Bruin speedster by a safe margin. Creal's timings of 9.8 seconds and 21.5 seconds were the best of any meet on the coast that week. In both races he was pushed hard by his sprinting partner, Jack McLean.



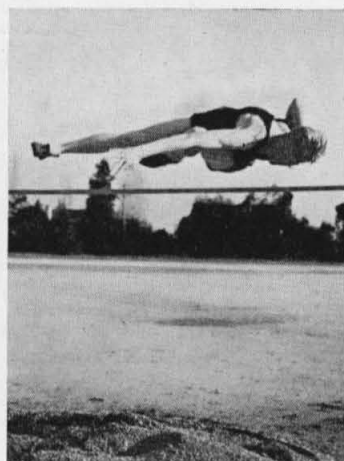
LOYOLA—CHAPMAN—TECH

The week following vacation saw Tech playing host to Chapman College and Loyola University in a triangular meet. The gay living of the spring recess week had apparently little bad effect on the Engineers, for they were able to roll up a total of 97 points as against 31 for each of the visitors. The Beaver weight men had their best day of the season, sweeping the javelin throw and garnering most of the discus and shot points. With the exception of the half mile and the two mile, Tech men took a preponderance of firsts and seconds. Two relay teams were run, to assist in the selection of the best men for the then assured trip to Drake.

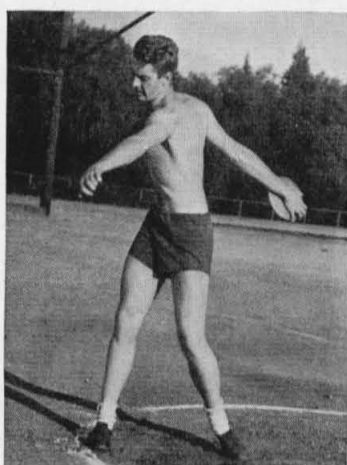
(Below) Mile relay team: Smith, Snelling, McLean, Creal. (At left) McIntyre, Snelling, Dilworth.



TRACK



(Center) Heath; (At left) Baker, Austin, C. Jones.



POMONA

The final trackfest of the season fittingly proved to be the most interesting and hardest-fought. Under a blazing sun the meet was run off at Claremont; as was anticipated, the relay was the deciding event. Good laps by every man on the Engineer quartet proved too much for the bedraggled Sagehens, and the contest ended in a 72-68 victory for Tech. Hero of the meet was Victor Veysey, who pushed the star Pomona middle-distance men to such fast time in the half mile run that they were later unable to participate in the mile, thus allow Tech first and second in that event. Waddell, Goff, Lowell, and Rudkin also did fine work. Parker won the hammer throw by a wide margin, and Creal as usual was double winner in the sprints.

KANSAS RELAYS

Climaxing its season's successes, the record-breaking mile relay team of Snelling, Smith, McLean, and Creal departed for the two big mid-western relay carnivals immediately after the Pomona meet. McIntyre was also sent to complete a half-mile relay team, thereby allowing Tech to be represented twice at each contest.

In the Kansas Relays, held at Lawrence April 17 and 18, the Tech half-mile team was entered in a field of seventeen contesting colleges. Taking fourth place with a time of 1 min., 28.9 sec., the old school record which had stood since 1927 was smashed by .6 sec. The mile team placed third in its class in the time of 3 min., 22.8 sec., also a new Tech record.

DRAKE RELAYS

Results at Drake a week later were even more impressive. Occidental surprised everyone by taking first place; the Beaver quartet easily nosed out Coe College for second. The mile relay fittingly turned out to be the crowning event of the entire trip. Unusually fast laps by Smith, Snelling, and McLean topped off by a brilliant anchor lap by Creal proved too much for even the Bengals, and Tech romped home the winner. The time was just .1 sec. faster than the team's Kansas mark.

FROSH TRACK

Because of an apparent lack of material, cancellation of the entire frosh track schedule was under consideration at the beginning of the year. The weakness of the frosh was most apparent in the hurdles, shot, mile, and two-mile. With this poor start, the season furnished Tech with four victories and only two defeats. Two frosh records were broken, one by Kenneth Bragg, who threw the discus 125 feet, 3 $\frac{1}{2}$ inches in the Loyola meet; and the other by Orrin Bowers with a high jump of 6 feet 1 $\frac{5}{8}$ inches in the second Pomona meet. Sprinter Bill Braithwaite was elected captain of the team following the Pomona relays.

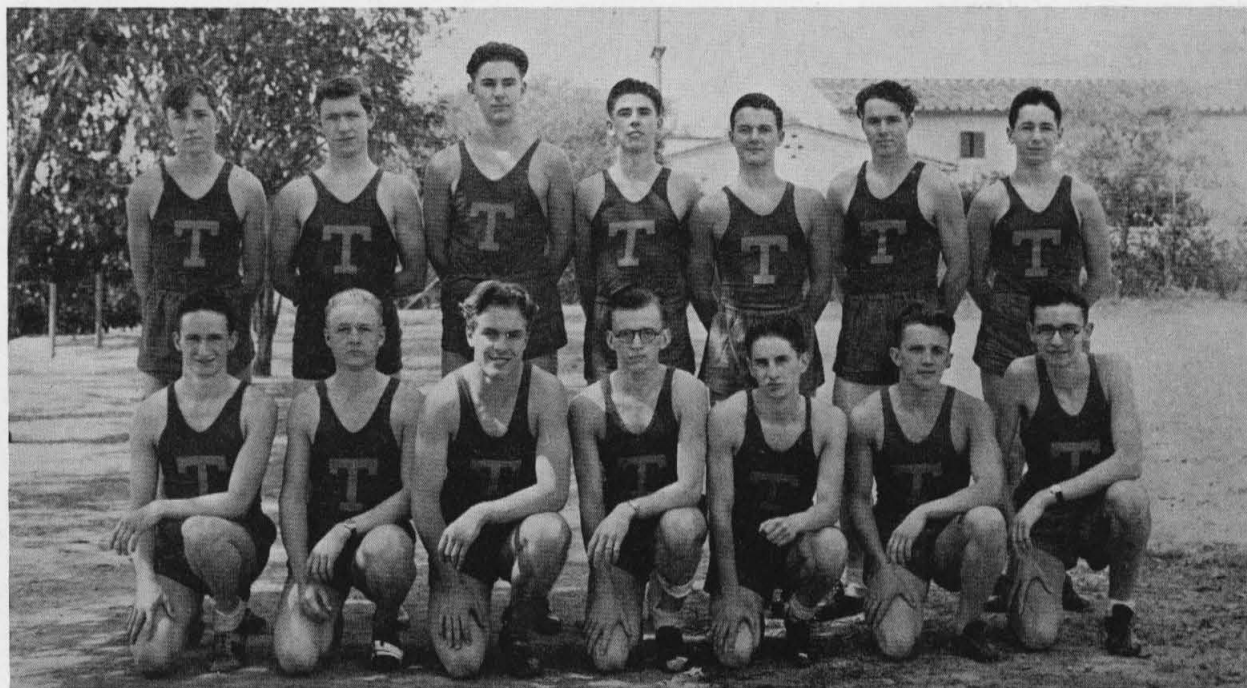
The frosh swept over Cathedral High, but suffered a set-back at Pomona, thanks to the Sagechicks' superior strength in the javelin throw and the polevault. A medley relay team with Bragg, Braithwaite, Brown, and Schneider placed fourth in the A.A.U. relays at Long Beach. Next the frosh cleaned up on El Monte High School; Braithwaite won the hundred in 10.3 seconds, with Bragg just inches behind. Rogers and Cooper placed respectively in the low and high hurdles, while Gale tied for first in the pole vault.

Though the Oxy meet resulted in a defeat, new improvement was shown by many of the Tech frosh. Bragg threw the discus 119 feet 7 inches; Tyler Matthew vaulted 11 feet; Herbert Strong threw the javelin 137 feet 4 $\frac{1}{2}$ inches; and the Tech relay squad of Bragg, Gale, McCreery, and Braithwaite won in 1 minute, 36.4 seconds.

At Loyola, Bragg and Braithwaite tied at 10.2 seconds in the 100-yard dash. Tech's cleaning up was made possible by the performances of Perry Brown in the quarter, Bowers in the high jump, and Agin in the half.

The final meet of the season, again with Pomona, resulted in a win by just three points. Bragg won the hundred in 10.1 seconds, and Braithwaite took the 220, the two pushing each other hard in both races. McCreery took the broad jump with a leap of 20 feet 7 inches; Matthew again gained a first in the pole vault. Selmer Schneider was the iron man of the meet, placing third in the 880, mile, and two-mile.

(Rear) P. Brown, Bragg, Gewe, Strong, Paul, Gale, Schneider; (Front) Rainwater, Cooper, Matthew, Braithwaite, Agin, McCreery, S. Clark.



TENNIS

Probably the longest tennis season in Tech's history was the 1936 season. Starting bi-weekly practices in January, the last match was finished on the 9th of May. Without the services of a coach the work of organizing and maintaining the team fell on the shoulders of Captain Everette Griffith. Most of the season the lineup consisted of Harper, Griffith, Keller, Dowd, Sullwold, Hulbirt, Bussard, and Swanson playing in that order. As a result of a round robin doubles tournament the mixed team of Harper and Griffith played first, the sophomore team of Keller and Hurlbirt were second, seniors Swanson and Sullwold ranked third, while juniors Dowd and Bussard ran a close fourth.

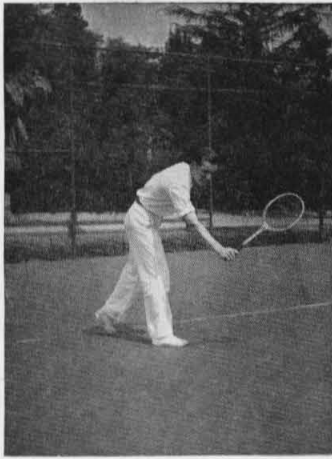


At left Captain Griffith; manager Swanson.

Varsity team, below: (Rear) Hulbirt, Griffith, Swanson, Harper, coach Patterson; (Front) Dowd, Elliott, Sullwold, Bussard. (Not in picture) D. Nichols, Keller.

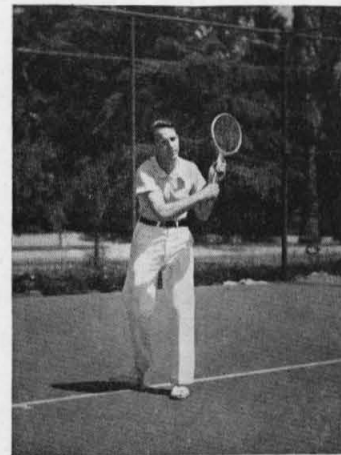
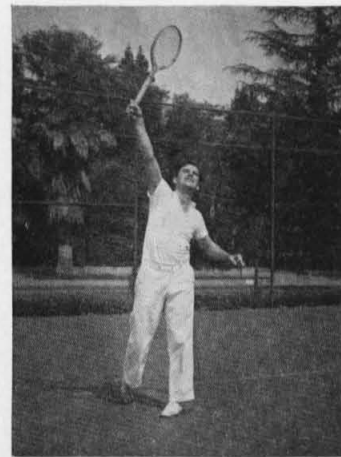


TENNIS



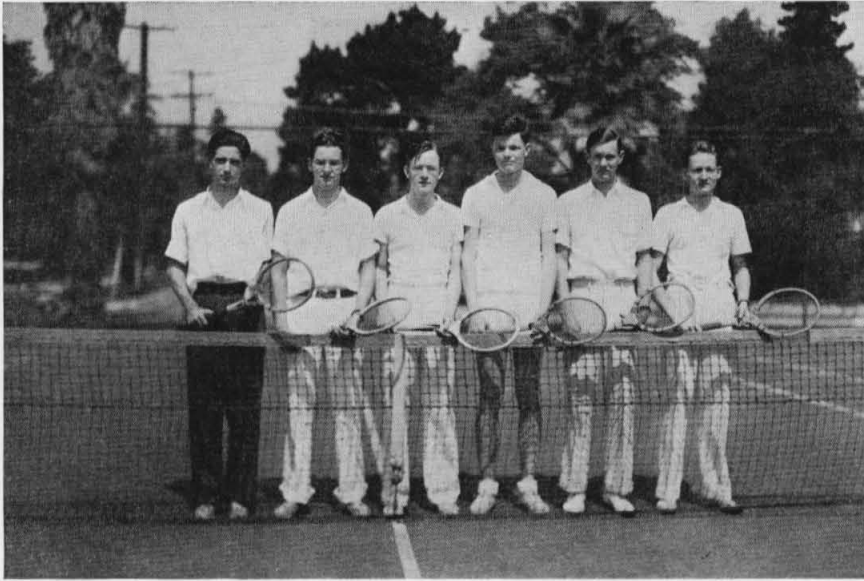
Seriously handicapped by the graduation of three of her first four players, Tech nevertheless turned in her share of wins. L.A.J.C. and U.C. L.A. gave Tech decided beatings while P.J.C. split and Redlands has yet to avoid splitting in a two-match series with Tech. Wins were registered over Santa Monica J.C., Pomona, U.S.C. Dental College, Arizona, and Occidental.

To Ojai this year Tech is sending Tom Harper and Everette Griffith. Her success will depend on Harper's ability to show a brand of singles that he has not shown since last summer and on the improbable possibility that Harper and Griffith will both play good doubles on the same day.



(At left) Hulbirt, Bussard, Harper. (At right) Keller, Sullwold, Dowd.

FROSH TENNIS



Davis, Meyer, Caldwell, Diehm,
Pierpont, E. Clarke.

The frosh tennis team opened its season at Redlands. The team was composed of Edmund Clarke, Robert Pierpont, Walter Diehm, Al Green, Don Caldwell and David Nicholson. Of these men only Clarke and Pierpont had had previous experience. The team found Redlands to be the best they met all year. Caldwell and Nicholson won a doubles match, saving the Beaverbabes from a whitewash, the team losing 8 to 1.

On the following Saturday the team met Pomona on the home courts and finding them to their liking defeated the Chicks 7-2. In this match Clarke found himself and defeated Pomona's Cowen in straight sets.

Against high school competition the team was erratic, due to the continual change of lineup. The Beaverbabes split two matches with Burbank winning the first 7-2. In the rematch at Burbank, Clarke and Robert Kimball won the only matches, the frosh losing 4-2. The reversal was a result of the absence of Pierpont and Green.

Alhambra came over to Tech on April the first and handed the frosh a terrific jolt

winning 5-1. Ed Clarke was the only winner finally winning after three sets.

The Beaverbabes journeyed over to Montebello and won 3-2. Pierpont, Caldwell won singles matches while Harry Davis and Bob Kimball won a doubles match to give the team victory despite the fact that Clarke and Nicholson were absent.

The University School came to Tech on Exhibit day and exhibited two very fine players. Freeman defeated Clarke 9-7, 6-3 while Holmes was winning for Green 6-0, 6-2. The University pair teamed up and defeated Caldwell and Nicholson. Tech's only win was in the second doubles when David Mayer and Jack Osborn won in three sets.

Norman Perry and Meyer came to Tech's rescue at Webb School to save another whitewash, the Webb School winning 7-2. Again at this match the frosh were hit by absentees, notably Clarke, Diehm, Green and Caldwell.

The frosh have yet to play the Occidental frosh and a rematch each with Redlands and Alhambra.



(Rear) H. Miller, Knight, Heath, Sherwood, Watson; (Front) Benton, Nash, Dauben.

Tech golf this year was strengthened by the addition to the team of three transfer students, Watson, Nash, and McLaughlin, golfers who would be an asset to any team in Southern California. These three along with Dauben and Sherwood gave Tech a quintuplet of golfers who consistently battled old man par. Jack Knight, Chuck Heath, Harry Miller, and Ralph Benton completed the team, and added to Tech's strength on the greensward with their consistent middle-eighty golf.

Games were scheduled with U.S.C., U.C. L.A., Loyola, Oxy, Pomona, L.A.J.C., P.J.C., Glendale J.C., Santa Monica J.C., and Long Beach J.C. U.S.C. whitewashed the team but this was no indication of the closeness of the match. Long Beach, who defeated U.C.L.A., only eked out a $3\frac{1}{2}$ - $11\frac{1}{2}$ victory from the locals; so that Tech's team compared very favorably

with the teams of the leading colleges. Loyola, P.J.C., L.A.J.C., and Glendale have already been defeated by the team. From a comparative basis it is to be hoped that Oxy and Pomona will taste the sting of defeat when they meet Tech's golf team.

Through the much appreciated cooperation of Mr. Keir and Mr. Knight, Sr., facilities were obtained for weekly practice at the Oakmont Country Club, of which Mr. Keir is manager.

Team members lost by this year's graduation are Captain Dauben and Chuck Heath. The loss of these men should not affect the strength of next year's team, because many valuable replacements are available from the frosh class. The returning men plus the frosh replacements should give Tech a yet stronger team which will be led by Captain-elect Sam Watson.

BASEBALL

The problem of forming from unexperienced material a team worthy of representing Tech on the diamond and capable of playing the class of ball played by conference opponents was exceedingly complex this year. The solution involved the development of almost an entire new team within a very limited time. After a great amount of work on the diamond and on the blackboard, Coach Harold Z. Musselman has succeeded in presenting Tech with a team which is up to standard in every department of play.

The process of turning a number of unexperienced but extremely willing men into polished ballplayers is an extremely slow one, requiring expert coaching and participation in numerous games. This year the work was started under the supervision of Warren Potter, star of the three preceding Beaver nines, who formed a baseball class during the first two terms. Elmer Leppert, captain of last year's varsity, and dependable little first sacker, also contributed his help and expert advice. About a dozen men came out regularly for the class, gaining an idea of some of the finer points of the national pastime and playing a number of practice games among themselves. Coach Musselman took over the work near the end of the second term when he announced the start of regular baseball practice, and another dozen fellows donned uniforms.

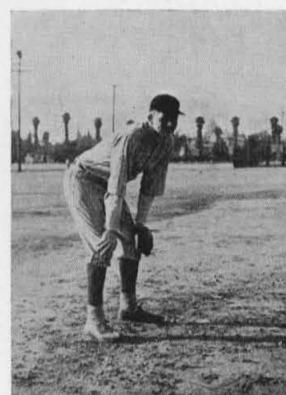
(Rear) D. Davidson, Rowell, Morgan, Lavender, Colvin, H. Sheppard, Wolfberg, Elconin, coach Musselman; (Center) Luckenbill, Campbell, Swain, Levett, captain Nollan, Dorwart, Schuman, Sklar, manager Seaman; (Front) Fahrner, Schombel, Dougherty, Ridgway, Engelder.



BASEBALL

Organized pre-season games with outside opponents were started during the Easter vacation week. Weakness and a general lack of experience was apparent from the start. A new outfield and almost a new infield gained necessary experience while Tech lost to several of the stronger Junior College teams. The three lettermen from last year's team made up the battery: Captain Johnny Nollan serving behind the plate in his customary position, and George Dorwart and Danny Schuman sharing the pitching burden. Paul Engelder and Mel Levet, the leading graduates from Coach Ed Doll's frosh team of last year, while making their share of mistakes, became fixtures at first and second respectively. Schuman, owing to his remarkable hitting ability and fine throwing arm, was used at short whenever he was not pitching. Maury Sklar and Bob Swain showed promise as infielders, while Herb Sheppard and Hal Frost turned in several nice outfield performances. Fullerton J. C. was nosed out 4 to 3 in a nine inning game in which the Beavers made all their basehits count and Pitcher Dorwart, aided by good defensive work, allowed only seven hits. A decisive victory was scored over Woodbury Business College in one of the few pre-season games played in Pasadena. The final count was 6 to 1.

The Beavers opened their season against Occidental, traditional rivals and ex-conference champs. In the last meeting of the two neighboring schools in 1935, the Tigers edged out the Beavers 7 to 6 in a 12 inning thriller. The record of the two teams left Oxy a favorite to win this year's initial encounter; but the southpaw offerings of George Dorwart tamed the slugging Tigers, and the Engineers scored a long belated victory. Lyons, Oxy mound ace, who had been averaging around 15 strike-outs per game, pitched for the Eaglerock school, allowing 7 hits and striking out 13 men. Dorwart, not content in being only the pitcher, knocked in three runs and broke a 3 to 3 tie when he smacked the pill over the bank in rightfield for a homerun. Several errors were made in the infield, but a number of hard chances were turned into putouts, and a Tiger scoring threat was surpassed, leaving the Tigers on the short end of a 6 to 3 score. Coach Musselman used an outfield composed of Schombel, Sheppard, and Frost, while Levet, Engelder, Schuman, and Sklar performed in the infield along with Captain Nollan and Pitcher Dorwart.



(At right) Captain Nollan, catcher; Swain third base; Sheppard, left field; Levet, second base.

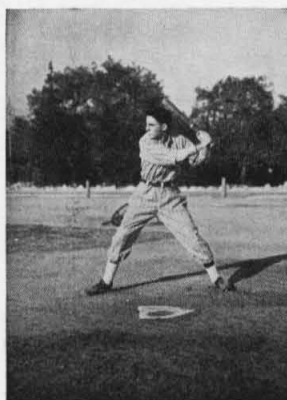


BASEBALL

The second contest with a conference opponent, while keeping the spectators on the edge of their seats for ten innings, was a disappointment to Tech fans. The game was a free-for-all hitting affair in which Redlands assumed an early 9 to 3 lead only to have the Beavers come from behind in a spectacular manner to lead in the later innings. The Bulldogs loaded the bags in the ninth inning, and a walk forced across the tying run. Redlands scored four times in the tenth, while Tech was limited to three runs. Although 23 clean hits were blasted out by the local sluggers, they were nosed out 14 to 15. Schuman, Sheppard, and Nollan gave a fine demonstration of long distance hitting when they hit homeruns in succession. Other extra-base hits were Schombel's triple and doubles by Dorwart and Nollan.



Santa Barbara State College, undefeated conference leaders, visited Tournament Park on the following Saturday and scored a shutout victory over the Beavers. Fisher, towering curve ball pitcher, allowed the locals 6 scattered hits, while his mates scored five runs. The powerful Saints gained only 8 hits and two earned runs, but the Tech defence cracked and a half-dozen errors were committed.



The Beaver losing streak continued when Pomona crashed through to a 14 to 5 victory in the latest contest. A hectic seventh inning in which the Sagehens enjoyed a hitting spree and the Beavers were guilty of several errors served to run the score far above what the Beavers could reach.

Three major games remain to be played; that they will be hard fought ones is certain. That the Beavers will win one or more is probable. The style of play shown by the individual players has improved during the last few weeks and, as a team, great progress has been made. Two deserving first string men were unfortunately excluded in the photographs obtained. They are Danny Schuman, hard hitting shortstop, and Hal Frost, who is best remembered for the sensational catches he has made in the outfield.



(At left) Sklar, third base; Schombel, center field; Engelder, first base; Dorwart, pitcher, and Seaman, manager.

FROSH BASEBALL

Under the able tutelage of Warren Potter, the frosh baseball team this year enjoyed a very successful season. Although the turnout of twenty-two men was large, most of the candidates had had little previous experience, and the squad was, at first, a green one. With competent coaching and enthusiastic practice, a well-rounded and capable team was developed.

Early inexperience cost the Beaverbabes their first two games, with Redlands frosh and Montebello high school. The locals went into the former with but a week's practice under their belts; this, coupled with the fact that the game was played away from home, accounts for the decisive defeat at the hands of the Redlands first-year men. The Techmen trailed by only one run until the fifth inning, when the Bullpups seemed to find the range, and blasted out a 14-1 win. Gewe and Winchell were the Tech moundmen. With a scant two days more work, the team traveled to Montebello, where a similar beating was administered by a score of 13-1.

Although a number of errors in hitting and fielding were recorded in these games, many promising candidates were unearthed. Practice meets with student house teams and the varsity reserves gave the diamond-men further experience which helped them in their following games.

The next tussle, with Pomona frosh, proved to be the turning point for the Techmen. Trailing 10-1 in the sixth inning, the locals put on a furious rally, pounding out three opposing pitchers, and pulling up to a score of 10-7. In the last of the ninth, the locals saw their hopes fade, when, with the bases loaded with three tying runs, the side was finally retired. Tech pitchers were Gewe and Lee. Although losing the decision, the squad gained a confidence and assurance which stood them in good stead for the rest of the season, in games with the Oxy frosh and Webb School; and return meets with Redlands and Pomona.

Team members were: Pitchers, Gewe, Lee, and Winchell; infielders, Englehart, Freede, Jewett, Kuttler, McCreery, McDonald, Miller, Paul, and White; outfielders, Anderson, Asakawa, Battle, Carstärphen, Hagen, Schnieder, Smith, Strong, and Veenhuyzen; managers, Gillou and Stirling.

(Rear) Potter, Gewe, W. Smith, Carstärphen, Jewett, White, Engelhardt, Strong, Paul; (Front) Veenhuyzen, Winchell, Battle, Lee, Schneider, Miller, Freede, McCreery, Asakawa, Agin.



INTERHOUSE



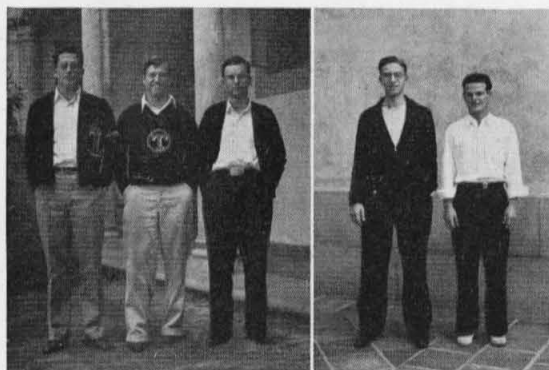
RICKETTS FOOTBALLERS
(Rear) Monerief, Ellery, Fenzi, Sullivan, Nash, Horkey, Nojima, Frampton, Ridgway; *(Front)* Baker, Works, Knight, Jewett, Lavender, Wilkinson, Ropp, Zezukevich.

Fleming house started its defense of the Interhouse trophy by nearly dethroning the almighty Throop indoor team. Both teams ran through their games with Blacker, Dabney and Ricketts and met in the final game to decide the championship. The pitchers of the two teams were far above the average, with Swanson of the Throopers having a slight advantage over Edwards. Airtight ball was played by the two infields with Schuman turning in the best game at short for Throop. Finally the more experienced Throopers outhit the Red riders from Fleming to eke out a 1-0 victory. This game was filled with thrills providing the spectators with an opportunity for making noise that they didn't pass up; so a good time was had by all.

The next sport scheduled was cross country. With surprising strength, Dabney's ace team of Voorhees, Gates, and Waddell wore down all the opposition to become undisputed champions of the hill-and-dale caravan. Lowell of Ricketts and Veysey of Throop provided the only competition for the Dabney men but the lack of support made their work useless.

Ricketts house was the next to enter the win column when their football team upset the dope to win this crown for the second consecutive year. Competition was very close and no team emerged undefeated. Trailing Ricketts were Throop, Fleming, Dabney, and Blacker, who furnished the champions with some very full afternoons of trouble. The most outstanding play was made by Ricketts when they executed a double lateral against Dabney which so befuddled the boys that Ricketts scored a touchdown. Dauben of Fleming came near the hall of fame by eluding most of Dabney's team and running 70 of the necessary 95 yards, but finally weakened when safety man Wolfberg

Dabney C. C. Men Waddell, Gates, Voorhees
Dabney Handballers Griffis, Sidler



INTERHOUSE

knocked him out of bounds. Ricketts has Jewett to thank for his brilliant line plunging which led to the championship. The other outstanding Ricketteers were Horkey, Knight, Nash, and Baker.

Wrestling gained much popularity this year because the intercollegiate system was substituted for the tournament plan. A powerful and well-rounded team from Dabney emerged winners after close tussles with Fleming and Throop. Fleming managed to scrape out a second place while Throop only squeezed a tie with Ricketts. The outstanding men were Mills and Belzer; they put on the battle of the century and Belzer came out on the wrong end. Belzer was astonished to find that one of his students could manhandle him. Probably their return match next year will be even more spectacular than the last.

The interhouse basketball competition brought forth the largest number of men yet witnessed on the "dirt Plains". The Fleming Red Riders seemed to be more at home in the clouds of dust and the slippery footing and dominated the play to cop the championship. Coach-Prexy Humason attributes this to similar conditions existing in the house. The team, composed of Benton, Austin, Zimmerman, Penn, and Davidson forced the other men to eat their dust and like it. Rumors have it the other housemen are going to wear gas masks next year when the Red Riders roll around.

Fleming Basketeers

Zimmerman, Austen, Benton, Llewellyn, Wileman



Dabney Wrestlers

M. Mills, House, Carstarphen, Miller, C. Gates



Throop Indoormen

Schuman, Sheppard, Colvin, Dorwart, Dickinson

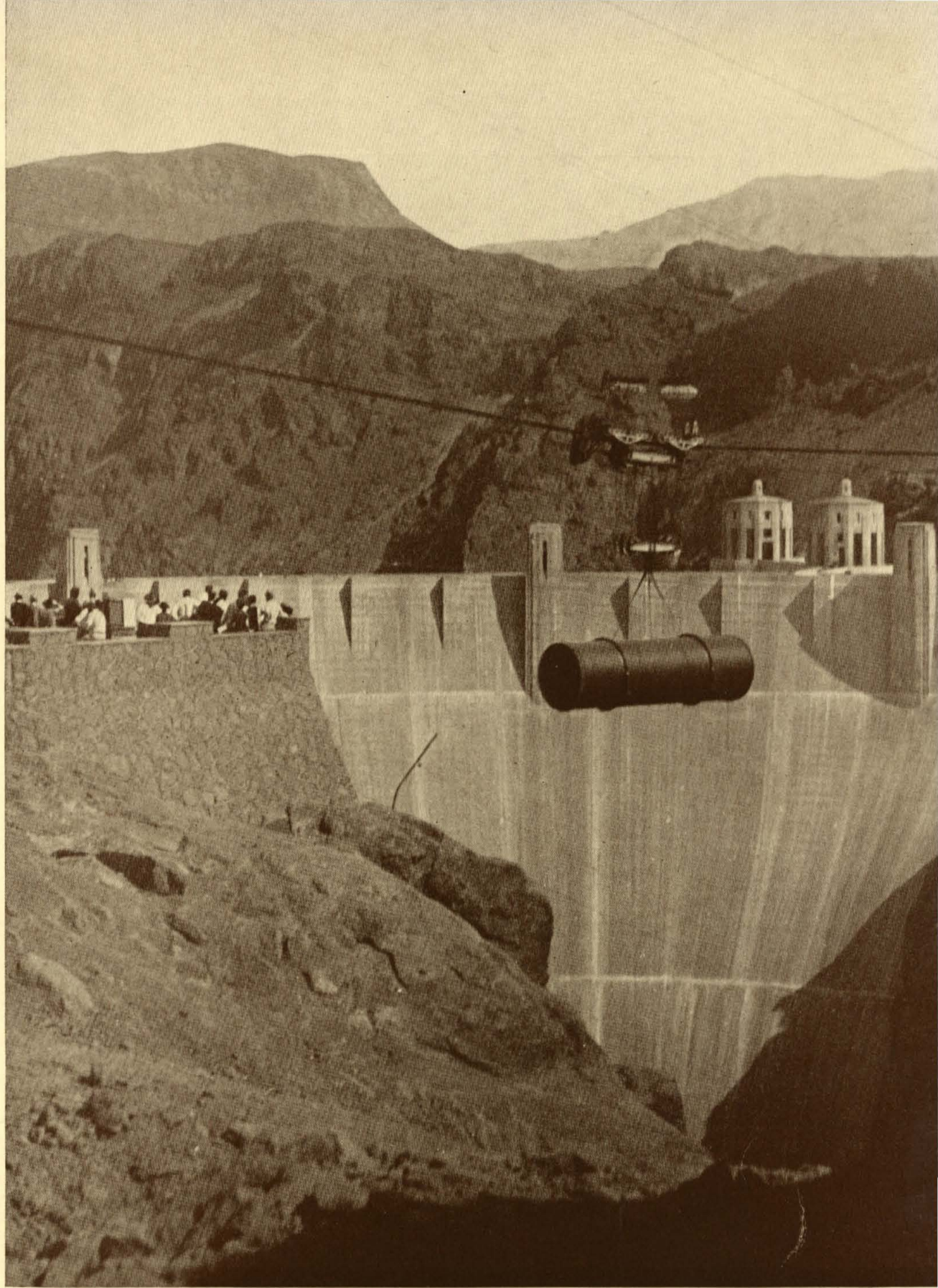
In the interhouse track meet the Throop frosh garnered enough points to cinch the title while the Fleming men barely nosed out Dabney for the second spot.

The handball competition again proved the superiority of Dabney's team of Griffis and Sidler. These two defeated the other teams easily and thus repeated their feat of last year.

At the present time the competition is not yet finished. There remain the tennis, swimming and baseball results still to be added. However, it is apparent that only Throop and Fleming are in the running. Fleming appears to have the edge in swimming, but the baseball and tennis should be toss-ups.

HOUSE

HOUSES



LOWER AWAY!

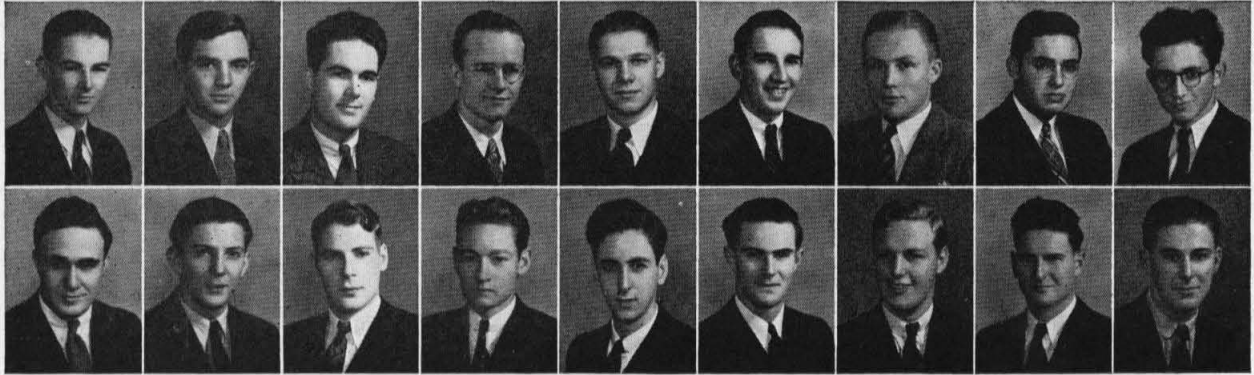


INNER COURT



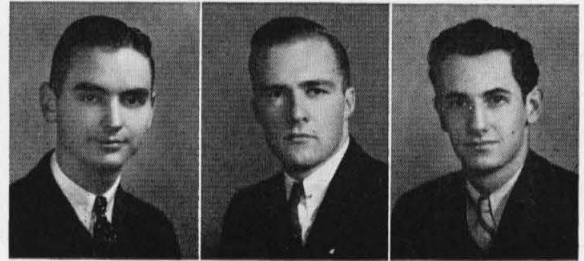
RICKETTS HOUSE

BLACKER HOUSE



Beavon Boyd Burnight Caldwell Cornwall Craig Edmundson Estrada Frankel
 Bonham Brush Bush Clarke Cowie Dougherty Ellings Forward Gewe

The fifth year of Blacker House history turned out to be, like all the previous years, one of success and satisfaction. With members of many different types all contributing their part to the making of a single story, with their varied interests running in all directions, Blacker presents a satisfactory picture of undergraduate life to those who tried a new plan five years ago when they built the houses at Tech.



SCHAFFNER PRICE WEBSTER
 President Vice-President Secretary

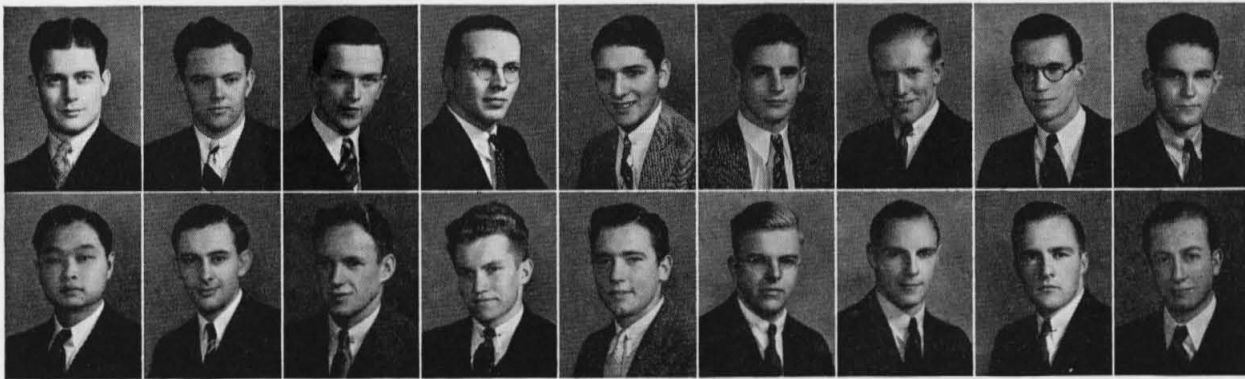


Although so complete and interesting a line of activity could well take all one's time, Blacker stood well up in scholarship, and played an important part in school activities. Men represented Blacker in all different divisions, excelling in dramatics and forensics, in each of which most of the load was carried by Blacker men.

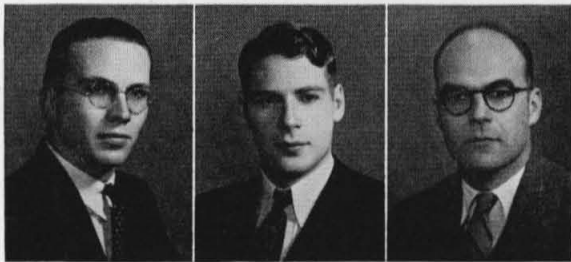
Goodell Grobecker Hamacher Hayward Horovitz Ingalls Johnson Kasnicka Kinley
 Griffiths Hadley Hammond Hopkins Huggins Jewett Jones Kent Kybal



BLACKER HOUSE



Lewis Luckenbill Macleish McMahon Metzner Moran Nickerson Peek Rechif
Li MacDonald McLean Mellin Miller Morgan Park Price Richards



McMAHON BUSH EAGLESON
Treasurer Athletic Manager Res. Associate

Paul Schaffner, president; Edward Price, vice-president; Martin Webster, secretary; Martin McMahon, treasurer; Kenyon Bush, athletic manager.

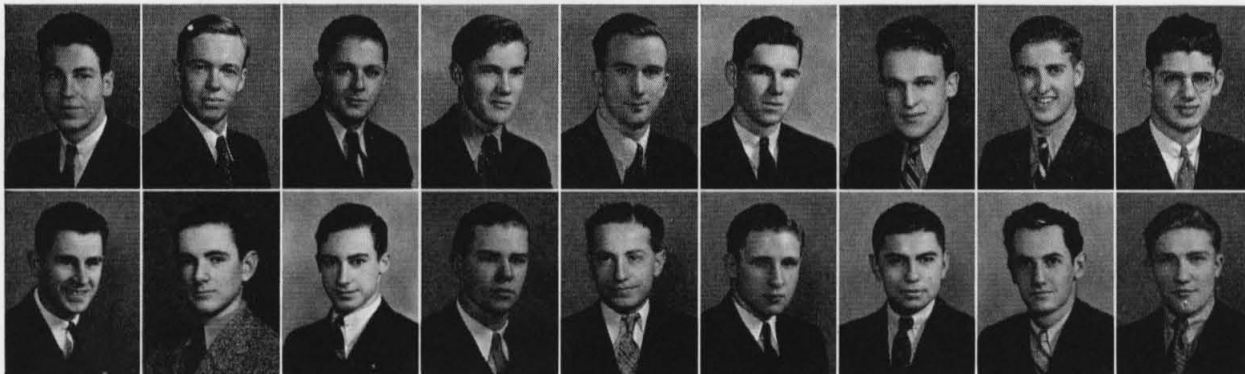
Members of the upperclass committee were: Paul Schaffner, Edward Price, Howard Hamacher, Kenyon Bush, Robert Kent, Robert Burnight, Jack Kinley, Glenn Lewis, and Peter Serrell.

Paul Hammond served as President of the Student Body for the past year. Student Body officers for next year from Blacker are: Jack McLean, Secretary; Martin Webster, Publicity Manager; Charles Miller, Representative-at-Large.

Blacker's officers for the past year were:



Segelhorst Serrell F. Smith W. Smith Stone Thomas L. Van Dusen Webb Westheimer
Selberg Sherwin P. Smith Steel Test C. Van Dusen Velasquez Webster Wood



BLACKER HOUSE

Because Blacker is one of the smaller houses, and because of its geographical location, farthest away from the classrooms, Blacker men have achieved a remarkable unity in their quiet atmosphere, almost undisturbed by external influences. The men are all interested in the house, and, to a great extent, are absorbed by its activities. The Blacker lounge is probably the most popular house lounge on the campus, being in constant use by the members, and bringing them in close contact with each other. The attractions of the lounge consist chiefly in reading from a variety of magazines, listening to the radio and phonograph, card-playing, and the usual "bulling" with other members of the house.

To supplement the normal mixing of the members within the house, many social activities are always planned and carried out by the group. This year the social program was very successful under the leadership of Peter Serrell. Dances are always the most popular of the activities along this line. A number of informal radio dances were held, most of which were well-attended and furnished a great deal of pleasure to all who came. At the interhouse informal dance in November, Blacker danced to Bob Mohr's orchestra in a beautiful setting closely resembling Hawaii. For the second time Blacker's dance turned out to be the most popular of all given on the evening.

During the second term the big event was the Blacker formal supper dance, held, according to tradition, at the house. The third term brought an off-campus tea dance and a costume party which again exhibited the beautiful and elaborate decorations which have marked former Blacker dances. Other social activities included: A Sunday afternoon tea for the house's non-resident associates; a tea at the home of Mr. and Mrs. Max Farrand, associates of the house, which was greatly enjoyed by all who went; a theater party; a treasure hunt; a roller-skating party; a week-end at Balboa; a smoker.

Most of the men in the house wore the Blacker coats, blue sport wool with an old English "B" on the pockets; these were first used last year, the first coats to be worn by the members of any house on the Tech Campus.

Besides the many organized social activities, Blacker men found many different diversions. Bridge, which seemed almost on the point of dying out, though the intercollegiate bridge cup was won by Blacker men a few years ago and still rests on the Blacker mantle, found a sudden revival of interest and attracted a number of new players, with the result that it was the usual thing to see two or three games going on simultaneously in the lounge. Chess was another game which proved popular in various parts of the house. The ping-pong table in the court was also used a great deal.

One of Blacker's and Tech's greatest assets is Dr. Harvey Eagleson, the resident associate, who has always been of great help to the house through his valuable suggestions and interest in house activities, as well as in helping the individual men when they wish it. The house greatly appreciates the work of "Doc," and hopes to keep him as its associate for a long time to come.

DABNEY HOUSE

After a busy period of rushing the Freshmen, Dabney set out to enjoy the rest of the term socially. The first event was a yacht party, a wholly new idea for a house function; a yacht was chartered for a day, and the Dabneyites and their girls took a trip to Catalina which resulted in much pleasure and fun for all. At the interhouse dance Dabney held its annual Hallowe'en "Hodge-Podge," the lounge was fittingly decorated and a slide at one of the doors provided a popular means of entrance; Costumes of all sorts were worn to add to the gala atmosphere of the evening. A party at Omar's Dome on Thanksgiving Eve climaxed the first term's social events. During this period a smoker was also held to welcome the Freshmen into the house.

The Dabney winter formal was held during the second term at the Deauville club. The house rented a cabin in the mountains one week-end and took advantage of the winter sports offered by one of the seasonal snow-falls. An informal dance was held at the house near the end of the term. A formal dance at the Valley Hunt Club was given in April, provided through the kindness of Dr. and Mrs. Munro, associates of the house. The annual spring formal was held in May, and the climax of the social year came just before finals in June with a beautiful dance held in the Dabney court. This has become an annual custom at Dabney, and their exquisite decorations deserve a great deal of praise. The planning and carrying out of this social program has been in charge of Dabney's social chairman, Ethan MacMichael.

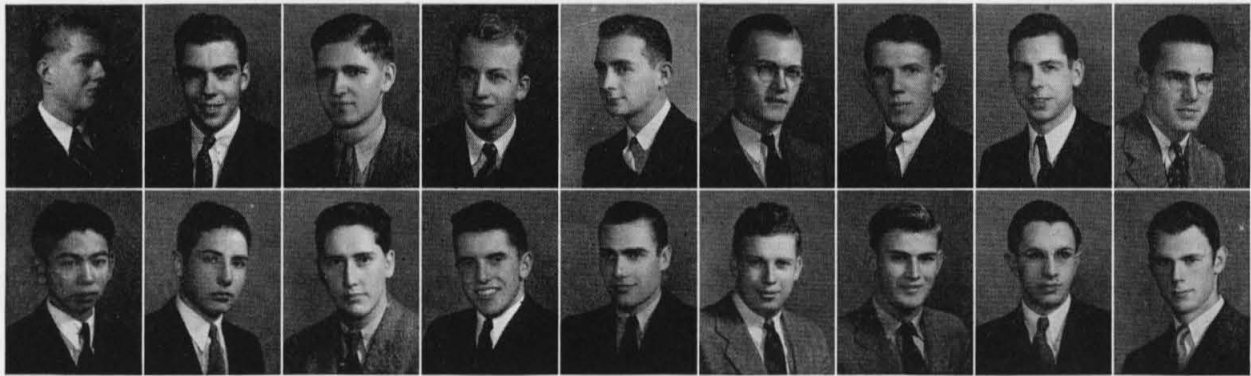
This has been a good year for Dabney athletically as well as socially. Their interhouse teams have been doing better this year than before, and several championship teams were produced. Outstanding among these was the undefeated handball team of Griffis and Sidler. Mark Mills was champion in wrestling for his weight. That sports interest was keen in Dabney was shown to the other houses who tried to keep the coveted Discobolus for any length of time, for a challenge from Dabney always spoiled the plan. The result has been that Dabney has had the "little discus thrower" on its mantle more than any other house during the past year.

Outside interests did not seem to interfere with "snaking" as Dabney climbed out of the "cellar" this year and led all the other houses in scholarship.

Within the house the popular diversions were much the same as in other houses. There were many bridge devotees in Dabney, each of whom was said to have a system all his own; this resulted in many interesting situations during the course of the year, but failed to damp the ardor of the participants. Chess was another game with many followers. Ping-pong was also popular, Dabney having originated the idea of playing the game in the house lounge during the cold winter months.

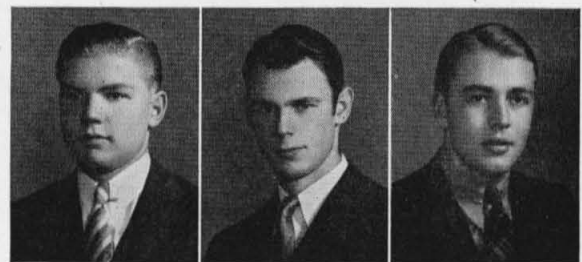
Mr. C. K. Alexander in his second year as resident associate in Dabney offered much advice and assistance which was appreciated by the members of the house.

DABNEY HOUSE



Arvin Asakawa Bauer Berg Bishop Boothe Brahtz Bussard Cain Campbell Carlson Carroll Carstarphen Davidson Dennis Dion DuFresne Elliott

Dabney, located in the southwest corner of the block composing the student houses, is the smallest of the four. The Dabney men have found, however, that smallness is no disadvantage; in such a group the members come into closer contact with each other, and as a result, Dabney possesses a remarkable unity.



RICHEY *President* ELLIOTT *Vice-President* H. SMITH *Secretary*

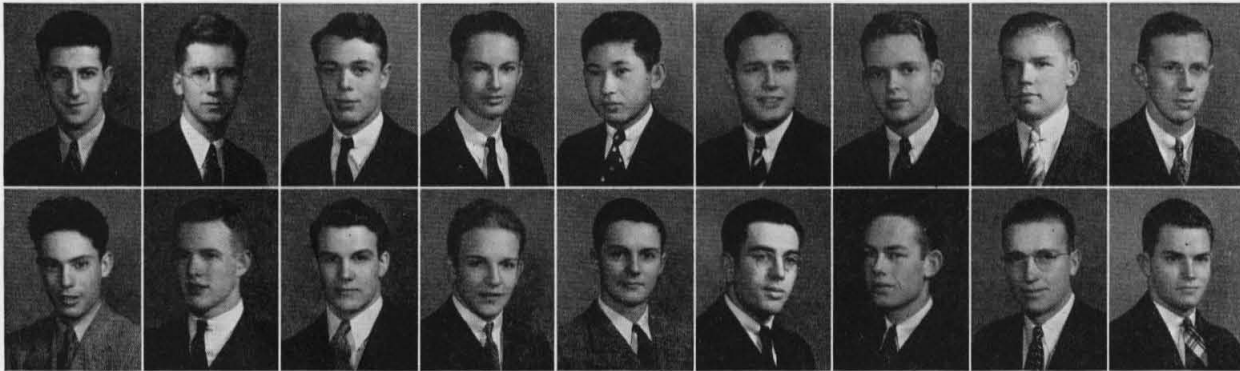


All-around excellence has been the aim of the house and its members, and it is doubtful if any house can beat Dabney for having "a finger in every pie." Dabney men were prominent in school activities of all sorts. Student body officers from the house for last year were Wendell Miller, vice-president; and Charles Gates, yell leader. This coming year Gordon Bussard will be treasurer; William Wetmore, athletic manager; and Charles Gates again yell leader.

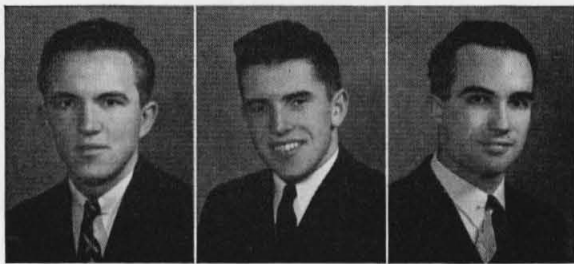
Erickson Folkins Fraser C. Gates J. Gates Griffis Gross Harper Hotz House Jones Kazan King Koons Kyte Lebow



DABNEY HOUSE



Legge Levit	Lewis MacMichael	Meanley Miller	C. Mills M. Mills	Morikawa Paul	Powell Rector	Regan Reppert	Richey Rugar	Segerstrom Sharp
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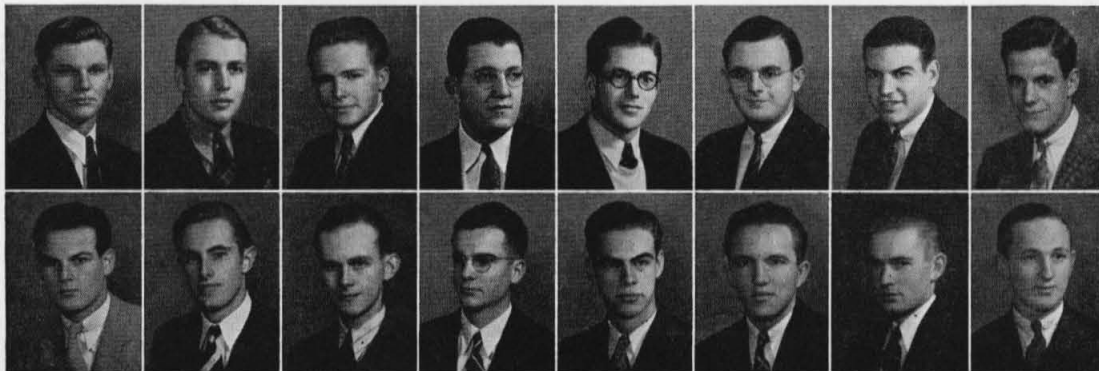
WETMORE <i>Treasurer</i>	BUSSARD <i>Athletic Manager</i>	ALEXANDER <i>Res. Associate</i>
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In intercollegiate athletics the house held its own, having several men on the squad in every sport, football, basketball, track, tennis, cross-country, and baseball. In basketball it was a common sight for four or even five Dabney men to be playing on the varsity at one time.

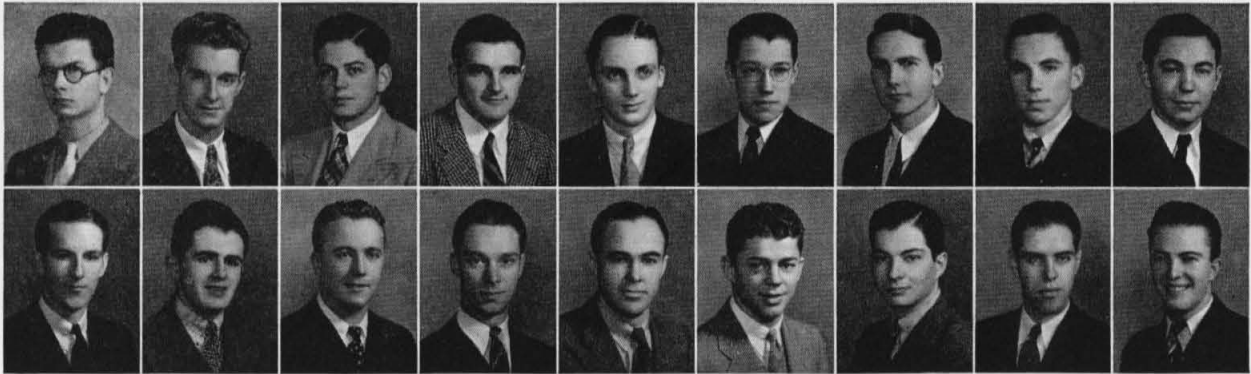


Important within the house were the officers: William Richey, president; Robert Elliott, vice-president; Harold Smith, secretary; William Wetmore, treasurer; Gordon Bussard, athletic manager; and the upperclass committee, John Gates (chairman), Gordon Bussard, LeVan Griffis, Harold Sharp, Robert Elliott, Clark Wiget, John Legge, and William Richey.

Sherwood Sidler	H. Smith W. Smith	Snyder Teague	Tejada Voorhees	Waddell Warner	Weinberger Wetmore	Wiget Williams	Williamson Wolfberg
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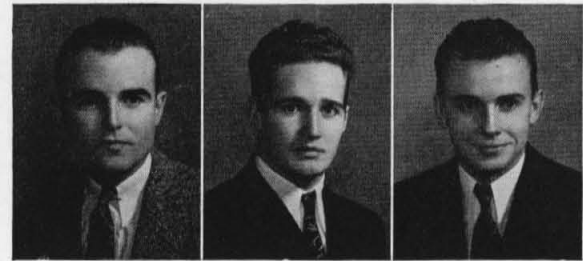
FLEMING HOUSE



Anderson Austin Battle Bradshaw Bucknell Davidson Dowd Farnham H. Freede
 Austen Avenali Belzer Browne Creal Davis Farneman Fleming W. Freede

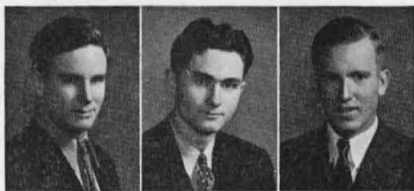
For the past few years the boasts of Fleming House have been a strong spirit of house loyalty and cooperation, outstanding athletic prowess, and an originality in house activities unequalled by the other houses at Tech. This year has been no exception. The men kept up the Fleming tradition successfully and maintained their standing on the Tech campus.

Fleming has more men participating in inter-collegiate athletics than any other house, having



HUMASON DAUBEN CLARKE
President Vice-President Secretary

UPPERCLASS COMMITTEE

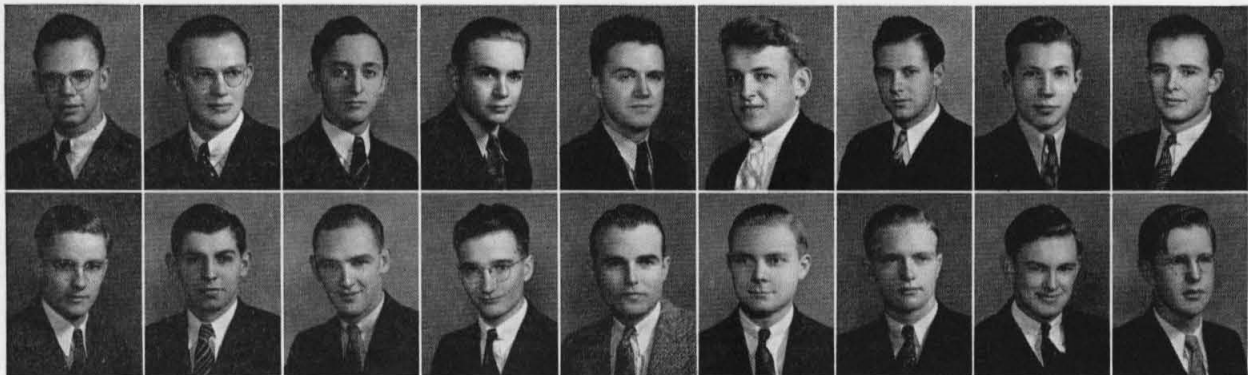


Benton
 Bishop
 Griffith

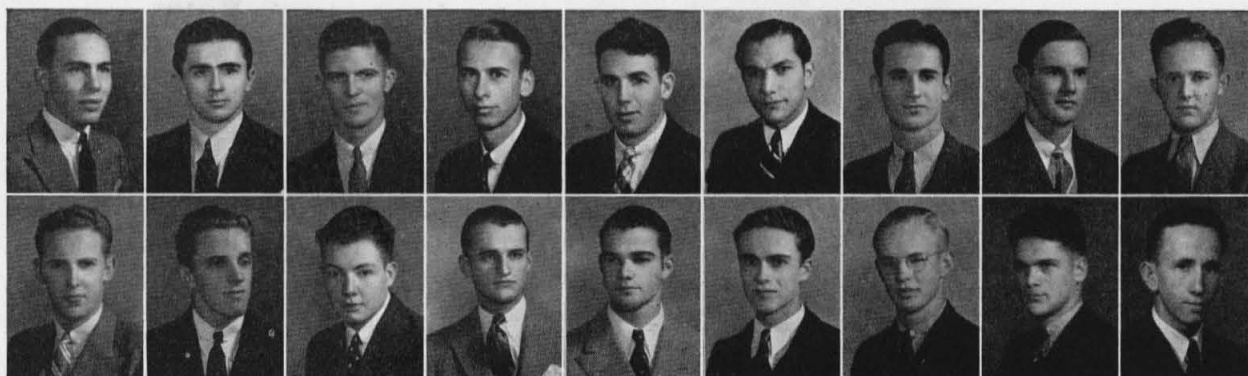
lettermen in every sport. Sports leaders in Fleming House during the past year include: Frank Davis, two-year captain of the football team; Al Creal, two-year captain of the track team; Elmer Dauben, two-year captain of the golf team and captain of the basketball team; Everette Griffith, captain of the tennis team.

Fleming student body officers during the past year include: Robert McIntyre, treasurer;

Friend Gardner Gilbert Haver Hoiles Isham Kimball Langerud Lawson
 Frost Gerlough Grainger Heitz Humason Jordan Klockslem Lawrie Lee



FLEMING HOUSE



Llewellyn Lockheed Lycett McCreery McGraw McIntyre McSparran Milbourn Miller Mueller Murad Offeman Penn Peterson Pierpont Pinney Ross Rynearson



EDWARDS *Treasurer* FAHRNER *Athletic Manager* ROCKEFELLER *Res. Associate*

William Humason, president; Elmer Dauben, vice-president; Charles Clarke, secretary; Jack Edwards, treasurer; John Austen, entertainment chairman; Tom Belzer, social chairman; Ted Fahrner, athletic manager; John Simonds, freshman chairman. The upperclass committeemen were: Ralph Benton, Arthur Bishop, Everette Griffith, George Mann, Leo Milan, Euclid Watts.

Ralph Benton, athletic manager; John Austen, rally committee chairman; Al Creal, representative-at-large; Ralph Haver, business manager of the California Tech. Next year Willard Farnham will be business manager of the California Tech.

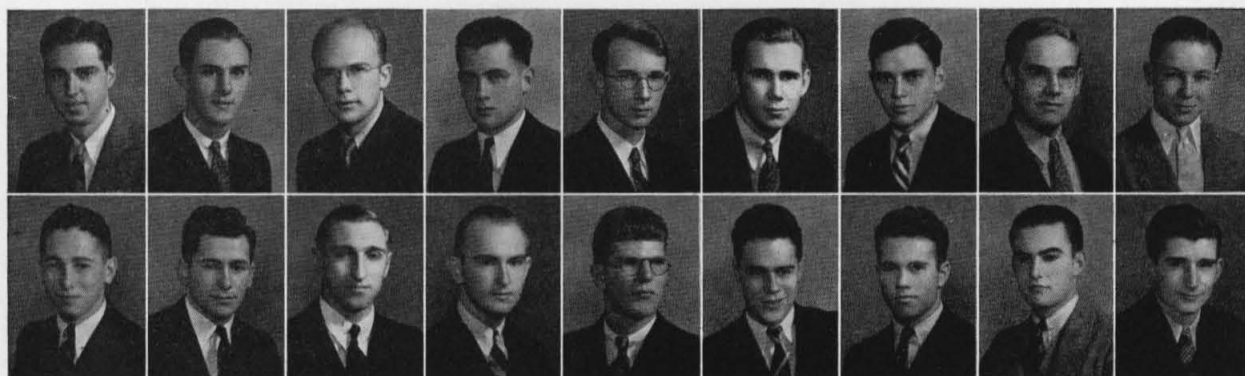
By having a large number of house officers, Fleming is able to have a very efficient system of house government. Its officers this year were

UPPERCLASS COMMITTEE

Mann
Milan
Watts



P. Schneider Siechert Simpkinson Spelling Sundt Van Riper White Winchell Youngs
S. Schneider Simonds Sklar Spalding Townsend Walker Wileman Wilson Zimmerman



FLEMING HOUSE

Like the other houses, Fleming spent the first four weeks of school in rushing the Freshmen; the results turned out very successfully from the standpoint of the house, and the Freshmen selected seem to be capable of carrying on the house traditions in future years.

After the rushing period was over, the house devoted its efforts toward winning the interhouse athletic trophy again. Fleming has won the trophy for the past two years and, at the time of this writing, is leading all others in points toward a third straight victory. With the third term's sports left to decide the contest, Fleming is given an even chance to win. No other house has ever won the beautiful bronze plaque, it having gone, during its first two years to the old non-resident club. Much credit is to be given to the house for keeping up their long-continued effort and organization along this line. Fleming also manages to keep the Discobolus its due share of the time, winning it from other houses in a variety of sports.

Fleming also stood out socially. After two radio dances early in the year, Fleming held one of its famous smokers for the Freshmen who had just entered the house. At the five-house dance in November, the Fleming lounge was beautifully decorated with ivy to resemble a grape arbor; the fountain in the fireplace attracted considerable attention. About Thanksgiving time a joint Fleming Throop informal dance was held in Altadena and went over very successfully. During the second term a formal supper dance was held at the Beverly-Wilshire and a formal dinner dance was held at the Del Mar club in Santa Monica; each of these affairs attracted nearly fifty couples and was greatly enjoyed. A full program was held during the third term with a barn dance, a formal dinner dance at the house, a sport dance, and a delightful dance put on for the house by the Freshmen.

As in the other houses bridge and chess were ever popular diversions. The competition for the Austen inter-alley trophy, an original Fleming idea, kept many of the men interested in thinking up and carrying out new contests; the trophy may be challenged for by any alley in any original contest with a team of five or more men; the competition has been a source of no end of amusement and comment all over the campus. Fleming also published a live house paper. With all this activity, Fleming men were still able to keep their grades up to a respectable level and to take part in many school activities. Their great interest is shown by the fact that a dozen or more men from Fleming were chosen as members of the Beaver organization which was formed on the campus this year.

This was Mr. Rockefeller's first year as resident associate of the house, and the men have been extremely well pleased, both with him and with the assistance he has given them. Fleming has also greatly appreciated the kind help of its house associates and wishes to express its thanks to them.

RICKETTS HOUSE

Early in the school year Ricketts began their social program with a tea given for their non-resident associates. The affair, the first of its kind on the campus, was an outstanding success. In an effort to allow the men in the house to become better acquainted with not only the associates, but also other prominent people off the campus, this tea was followed up by an intensive guest program. House guests were invited to dinner every week; afterwards it was customary to sit around and talk for an hour or so. The annual Thanksgiving dinner was given for the Mexican orphans of the Pasadena Community Settlement. Everyone enjoyed it, especially the entertainment afterward.

As usual, the big dance of the Fall was the Barn Dance. This was held in a lounge which had been decorated to fit the occasion of straw hats, tattered pants, and gingham dresses. The incoming freshmen were welcomed by a smoker at which all forgot their scruples and sandwiched in gambling between trips to the bar.

During the winter term the Ricketts social life went on apace, with the big attraction the formal at the Trocadero. At this function, thirty-five young ladies were escorted by the same number of gallant exponents of the opposite sex all attired in their best bibs and tuckers. Such was the notoriety of the assemblage that Allen even got his picture in the society page of the Examiner.

But this was not all that was done to forward the terpsichorean instincts of the house. Mr. and Mrs. Harold C. Hill, of San Marino, associates of the house, arranged to furnish girls, mostly from South Pasadena, for all who were interested for an informal radio dance. This dance was for the express purpose of allowing the freshmen who had come from a distance to meet some of the local girls. The affair was a pre-eminent success, with Tobin as the "little boy blue."

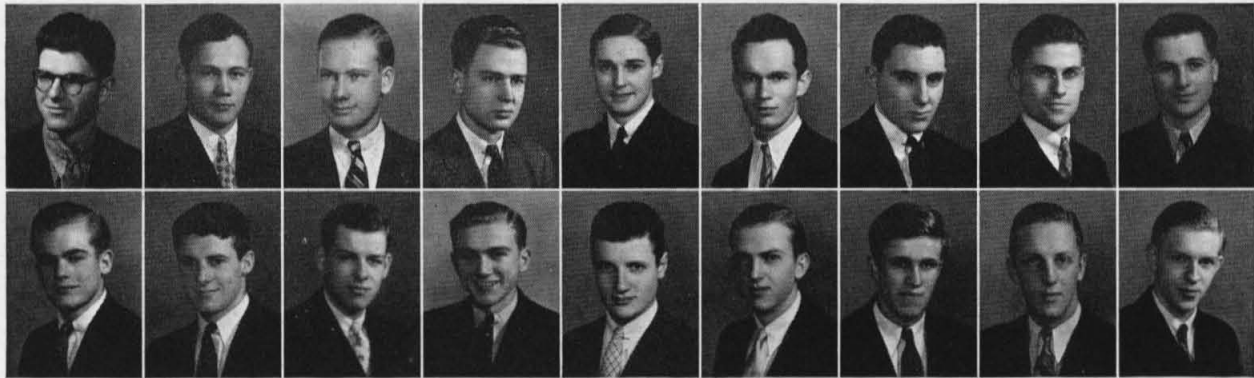
Activities in the third term rival those of the preceding terms. There is the annual spring dance which is usually held in the house. A great deal of time is spent on the decorations for this dance, and with the cooperation of the whole house, they are always ingeniously artistic.

Later in the last term Ricketts men went on a trip to the beach. The day of the beach party is always a full one, starting early in the morning on the beach, and ending with an evening of dancing.

House elections furnish one of the most exciting times of the year. A quaint custom that members of the house have adopted is that of dumping the new officers in the pond at the Pasadena City Hall. This swim is then followed by a long walk back through the city in the garb of wet shorts.

Believing that a college education should be more than what one learns from books, Ricketts House has attempted to mix extra-curricular activities with class work and to give its members a well rounded education.

RICKETTS HOUSE



Ahlroth Ballreich Blodgett Carr Chatham Elliott Engelder Ferguson Frost
 Allen Balsley Brown Caulfield Cox Ellis Fenzi Frampton Gelder

As this year rolls to a close, Ricketts House looks back on one of its most successful periods. Within the house, the spirit of friendship and congeniality advanced in leaps and bounds, as small cliques gave way to the larger spirit of the house group. Carrying on the traditions left them by the Gnome Club, members of the house took an active part in forensics and student government.

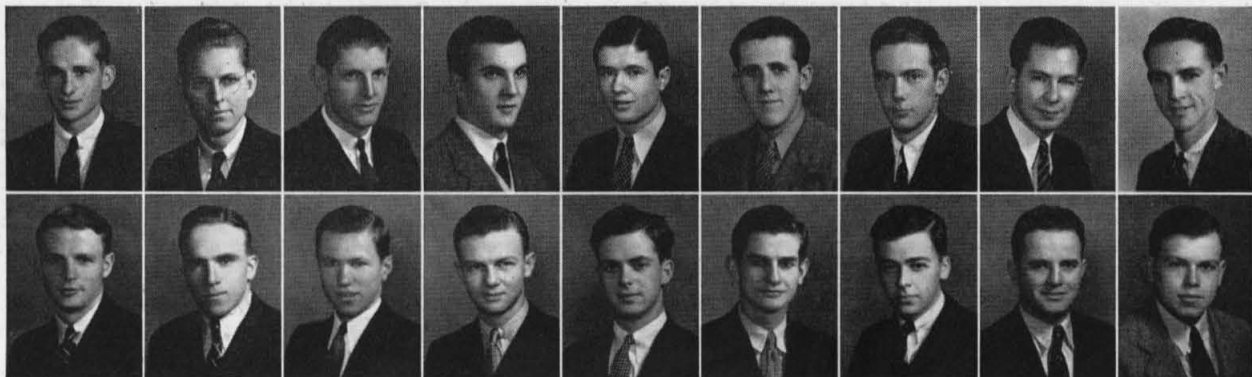


BECKLEY BAKER JEWETT
President Vice-President Secretary

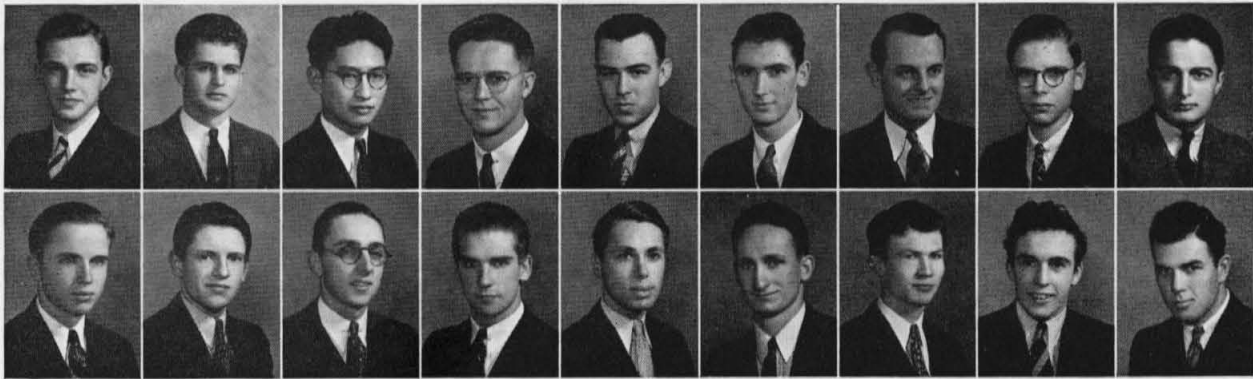


Besides having several lettermen on the varsity football and cross-country teams, Ricketts House came from behind to win the interhouse football championship; this was the second successive year. Track, basketball, and rugby had the ardent support of many of the Ricketts men. In addition to these, the house can boast of one certain and one prospective

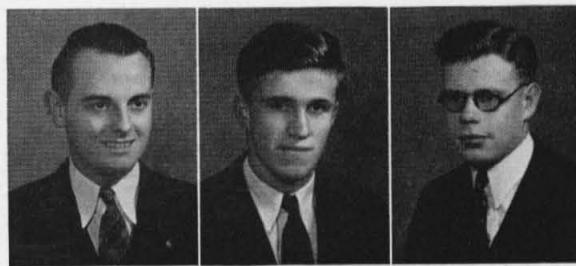
Hagen Heath Horkey Jewett Lavender Longfelder MacLean Merriam Morse
 Harker Henderson Hulbirt Knight LeGrand Lowell Mahoney Moncrief Muller



RICKETTS HOUSE



Munsen Nichols Nojima Page- Phillips Pond Ridgway Root Rosencranz
 Nash Nicholson Norton Parker Poggi Rainwater Rollow Ropp Rowell



RIDGWAY FENZI McRAE
Treasurer Athletic Manager Res. Associate

Much of the credit for the success this year should go to the house president, Bruce Beckley. Other officers were Carroll Baker, vice-president; Frank Jewett, secretary; Richard Ridgway, treasurer; Warren Fenzi, athletic manager; and J. W. McRae, resident associate. Upperclass committeemen were Robert Carr, Charles Heath, Edward Horkey, Robert Mahoney, William Nash, Malcolm Schmidt, and Jack Works.

member of the American Olympic team. Frank Jewett won the elimination for the one-man sailboats; and Bob Parker is a contender in the hammer throw.

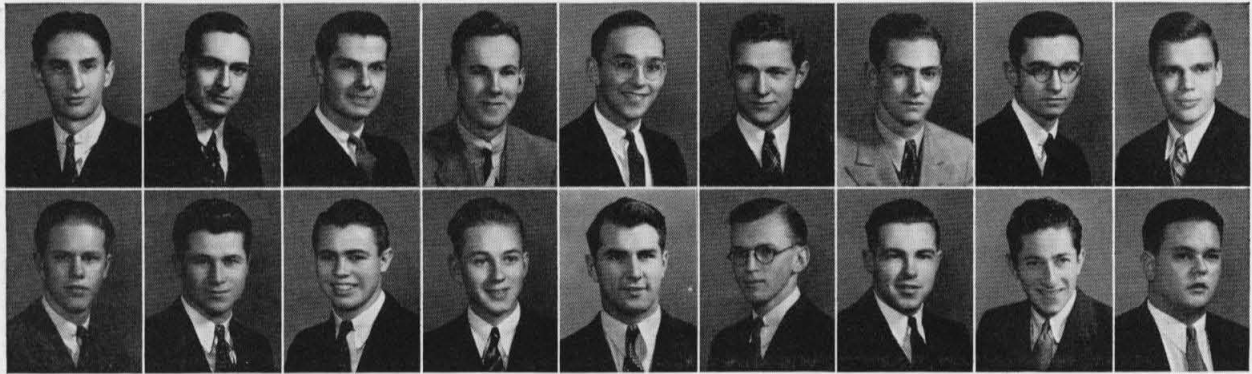
Election week found several men from this house running for student body offices. After a strenuous campaign, Robert Mahoney and Frank Jewett were elected to the offices of president and vice-president respectively.



Salisbury Schmidt Smith Streightoff Swain Tobin Van Deusen Womack Works
 Sandberg Shimer Spotts Sullivan Thomas Tyler Wilkinson Wood Zuckerman



THROOP CLUB



Agin Anderson Axtman Barry Black Bragg Brenner Clark Colvin
 Althouse Ashkenas Baker Beck Blake Braithwaite Brown Cohen Conant

Progress is the keynote of the times, and if there is one place where progress should be more thoroughly accepted than anywhere else, it is in a scientific school such as Tech. Yet even Techmen are amazed at the initiative and vitality shown by one organization on the campus, which in the brief space of two years has attained an almost unchallenged position as the Institute's outstanding social organization.

Two years ago, non-resident students of the campus had almost no facilities or opportunities to engage in the social life of the campus. A loosely-knit organization was handicapped by lack of a suitable home and by consequent inability to provide incentives to active membership. Today, thanks to the tireless efforts of a dozen men, backed by the enthusiastic support of the rest of the members, the Throop Club boasts a splendid new lounge, excelled by none on the campus, which for two terms has acted

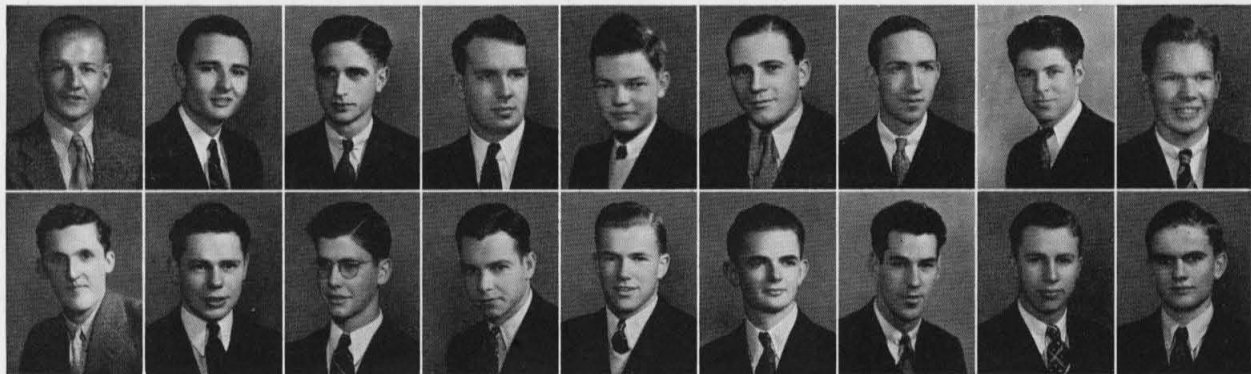


SWANSON P. JONES COLVIN
 President Vice-President Secretary

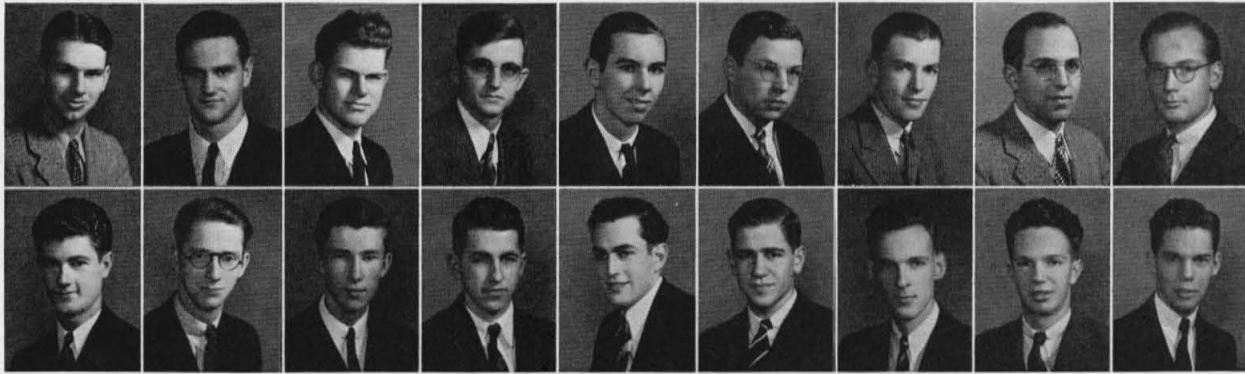
as a home for its manifold activities. It also boasts a membership of one hundred fifty active men, whose sole reason in joining the club is to participate in its functions and to enjoy its benefits. And it has inaugurated a social program which has done much to raise school spirit.

Realizing that the only practical solution to their problem of a suitable headquarters was

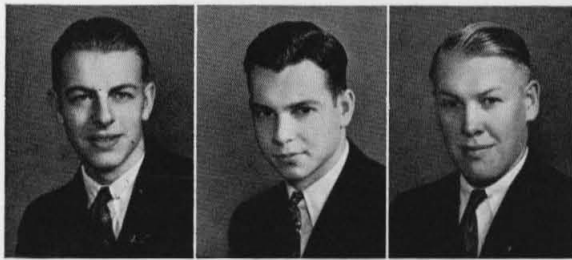
Cooper Custer H. Davis Degnan Diehm Dorwart Downing Elconin Evans
 Cortelyou Davies T. Davis Dickinson Dixon Douglass Dunbar Engelhardt Flint



THROOP CLUB



Fowler Frazier Frisius Geddes Gerfen Gerhart Getzman Gombotz Goodin Goodwin Graybeal Hall Hartlein Hicks Hofeller Horine Horne Israel



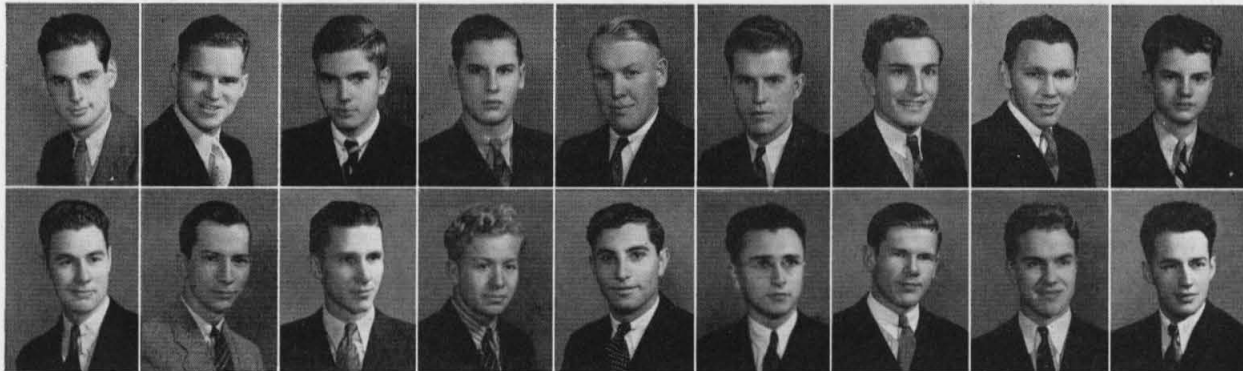
PABST *Social Chairman* DICKINSON *Treasurer* LARSON *Athletic Manager*

the remodelling of the tradition-filled but sadly neglected Dugout, officers of the Club early last fall secured the services of Myron Hunt, noted Pasadena architect, in making plans for the reconstruction. The next difficulty was the raising of funds for the work. Through the gracious assistance of Mrs. Robert A. Millikan and the generous contributions of members of the faculty and of the Board of Trustees, the financial worries were finally overcome.

The actual work of remodeling was done almost entirely during Christmas vacation, by the Club members with some professional supervision. When the walls were finished and painted, and the floor sanded and waxed, the furnishings were designed by Mrs. Gordon L. Kaufmann. The furniture of heavy mahogany was made to order especially for the Club, and the drapes and rugs were selected to harmonize with the interior.

Finally everything was in readiness for the gala opening, and on Friday, January 17, a tea was held for the faculty associates and for all those who had assisted with the work. Guests were without exception amazed by the completeness of the change from the old Dugout and charmed by the warmth and coziness of the new lounge. The center of the room was of course, the huge fireplace, with the inscriptions of alumni and faculty on its brick face, and with its large bronze T standing out as a symbol of

Janes Jensen P. Jones R. Jones Keller Kiger Kimball Kolb Larsen Lavine Leggett Lipson Lockwood Maescher Maines Matthew McClung Meneghelli



THROOP CLUB



Sewing Circle — Flowers to Mrs. Millikan — Reception — Lounge-warming — With Fleming at Altadena

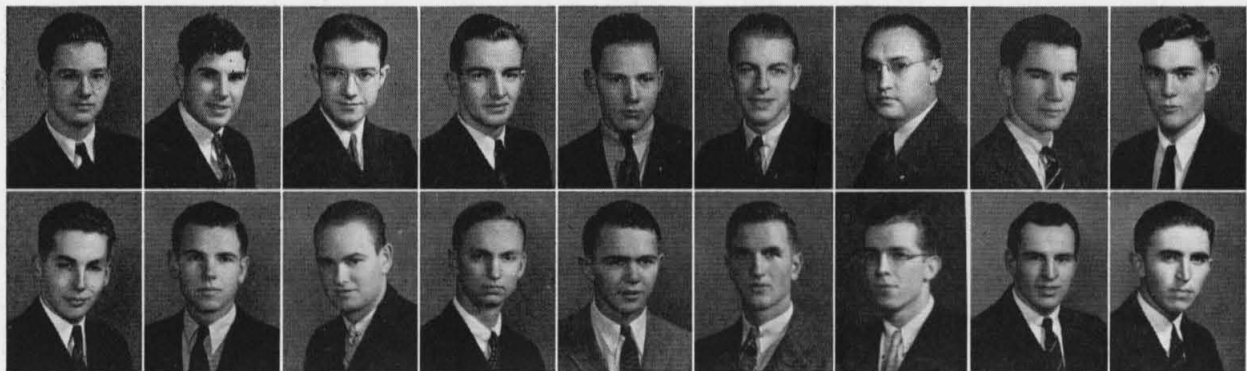
the club. Interest was also manifested in the library and the dressing rooms opening off of two corners of the main room.

Members of the Club held their lounge-warming with a dance on January 18, at which time Mrs. Millikan was presented with a bouquet of roses for her services as guardian angel of the new lounge. The music was appropriately furnished by an orchestra led by one of the Club's members, Henry Evans. The next Saturday night an opportunity was given for parents and friends of members to look over the new lounge and the first of the additions to the library, presented by Mr. and Mrs. Henry M. Robinson.

The Club's social program was begun last fall with a stag in the old Dugout to welcome new members, especially freshmen. Next came an informal dance in Dabney Lounge, and then, in conjunction with Fleming House, an impressive semi-formal dance at the Altadena Recreation Center. At the end of the first term a formal initiation for freshmen, followed by a movie, was held, establishing a Club precedent.

The second term started out with the lounge-warming dance which was followed by a theatre party and dance, and by a series of informal Friday and Saturday evening radio dances in the lounge. Following these was a special dance for the Non-Resident Girls' Club

Meyer Moore Nance Nellis Nestler Nollan North Ohlsson G. Osborn J. Osborn Pabst Peat Peugh Porter Quarles Rogers Rudkin Seaman



THROOP CLUB



Plumbers — Carpenters — Footballers — Tea Drinkers — Paint and Polish — Satisfaction

at Occidental. These dances were held during the third term, a semi-formal on April 17, followed by a sports dance, and then by another semi-formal. Other activities on the program included a beach party, a theatre party, and an ice-skating party.

Athletically the Club continued its customary vigorous policy, aided by a revision of the point system, and jumped into a lead for the Interhouse Trophy from the very beginning of the season.

Other attractions which the Club offered its members were a series of Monday night dinners featuring entertainment, interesting talks

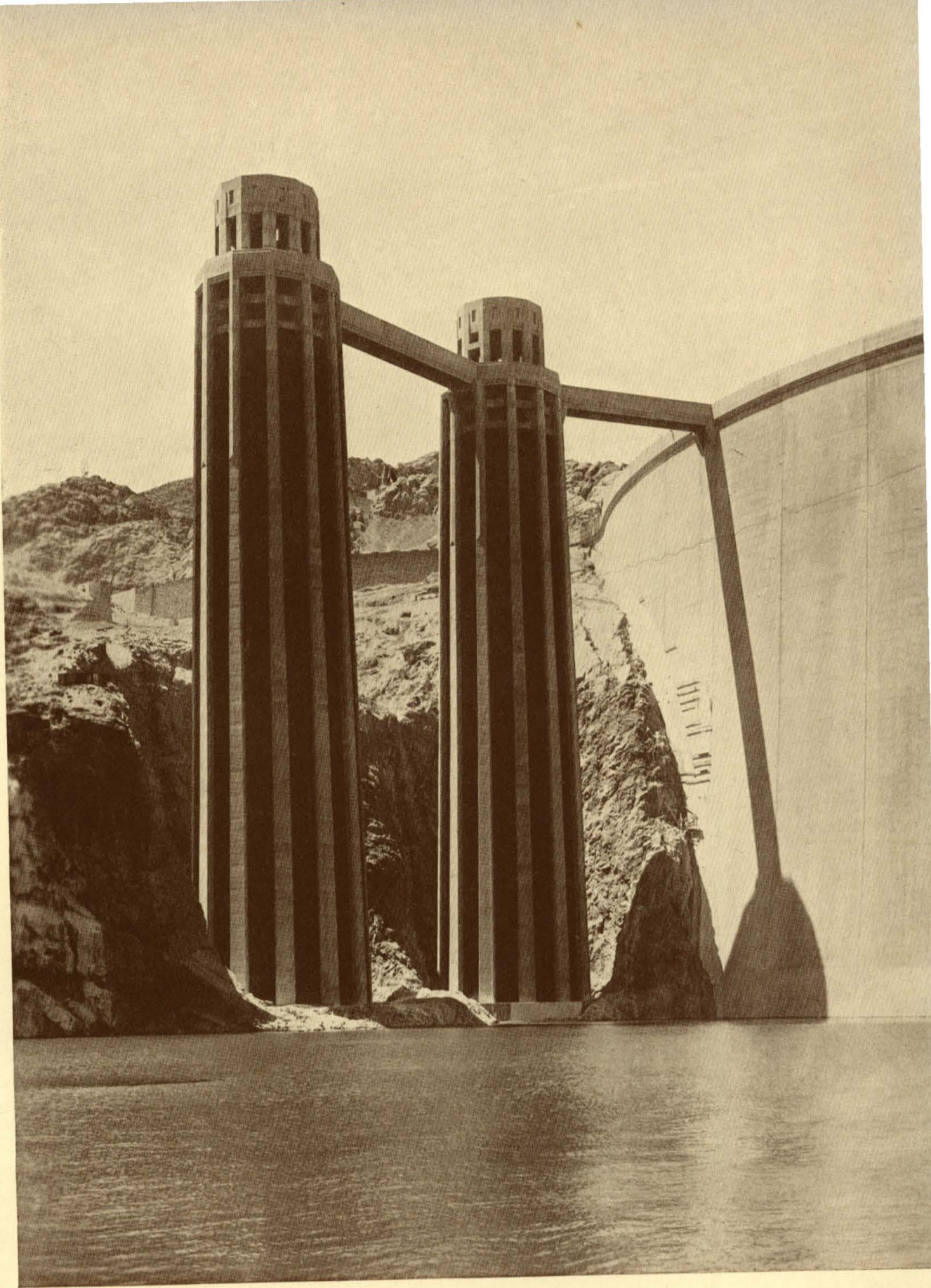
by faculty associates and others, and business discussions; and a new scheme of honor-point awards, consisting of guards for the official Club pins given to the men who rendered outstanding service during the year.

Officers of the Club were Wally Swanson, president; Paul Jones, vice-president; Hugh Colvin, secretary; Holley Dickinson, treasurer; Carl Larson, athletic manager; Victor Veysey, publicity director; and Al Pabst, social chairman. Faculty associates were W. Howard Clapp, Horace N. Gilbert, L. Winchester Jones, Samuel S. Mackeown, Robert L. Daugherty, and Dean F. W. Hinrichs.

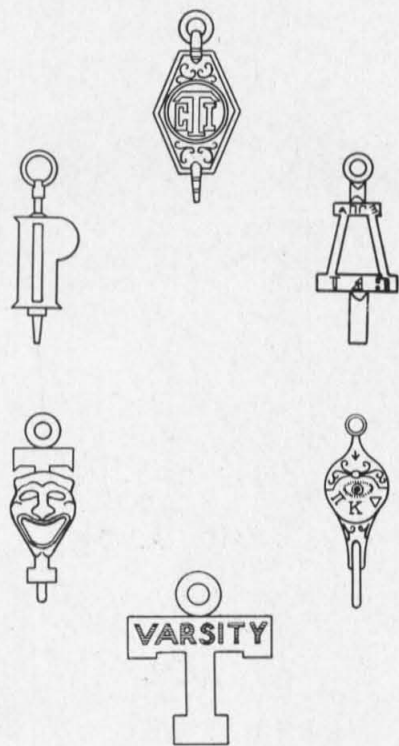
Shapiro H. Sheppard A. Smith Strong Tsubota Unholtz Veenhuyzen Veysey Woolsey
C. Sheppard R. Smith Stirling Thompson Twiss Van Horn Vermeulen Wimpres Yale



ORGANIZATIONS



INTAKE TOWERS



HONOR KEYS FOR 1936

RALPH BENTON	JOHN KLOCKSIEG
ARTHUR BISHOP	ROBERT MAHONEY
KENYON BUSH	ROBERT MCINTYRE
HUGH COLVIN	JACK MCLEAN
ALBERT CREAL	WENDELL MILLER
ELMER DAUBEN	MARTIN POGGI
WILLIAM ELCONIN	EDWARD PRICE
ARTHUR FROST	RICHARD RIDGWAY
JOHN GATES	RICHARD ROSENCRANZ
HOWARD HAMACHER	HERBERT SHAPIRO
PAUL HAMMOND	MAURICE SKLAR
RALPH HAVER	WALFRED SWANSON
CHARLES HEATH	JOHN TYLER
RAY JENSEN	VICTOR VEYSEY
PAUL JONES	THEODORE VERMEULEN
EDWARD KASNICKA	MARTIN WEBSTER



DABNEY GARDEN

CALIFORNIA TECH



CALIFORNIA TECH STAFF

(Back row) Longfelder, Rosencranz, Rowell, Webster, Mahoney, Mills, Rechif, Flint, Gewe; (Third row) Davis, Jensen, R. Davidson, Lycett, Seaman, Ellis, Muller, Stirling, Beck, Kasnicka, Avenali; (Second row) Jordan, Klockslem, Watt, Farnham, Elconin, Maines, Frost, Colvin, Windsor, Veysey; (Front row) Bucknell, Sklar, Hofeller, Heitz, Levit, Farneman, Getzman, S. Clark, Larson.

Under the editorship of Bill Elconin, the California Tech experienced a decidedly satisfactory year. The student body was amazed to behold two issues of the Tech which were eight pages, a magazine that had not been seen for many years past.

The most outstanding feature of the Tech this year was the abundance of columnists contributing. Editor Elconin was the weekly author of "The Editor's View," which reviewed world events and aroused considerable comment among the politically minded men on the campus. One of the most interesting parts of the sports section was sports editor Noble Maines' crispy column, "Sports Spectra," which contained pertinent comment on Tech athletics. On the features page, were to be found Charles Jordan's "Musical Musings" and a radio column written at various times by "Baron" Allardt and Wilson Bucknell.

The destiny of the news department was guided by Art Frost and Chauncey Watt, who managed to uncover at least one "scoop" during the year. Charles Jordan edited the scientific reviews carried weekly. John Klockslem, features editor, had superlative talent in the persons of Howard Hamacher, theater reviewer, and "Leonardo" Horovitz, book critic. Sports editor Maines was capably assisted in the handling of sport news by Bob Davidson, interhouse sports editor, and Pete Avenali, frosh sports editor. Emanuel Windsor, exchange editor, deserves special mention, as do the many capable

reporters who spent much of their time to make the Tech a success.

The finances of the paper were capably cared for by business manager Ralph Haver and his efficient staff of workers. Haver arranged for a one dollar prize to the author of the best news story and the best sport story in each issue. These prizes did much to stimulate activity on the part of the reporters.

Many members of the Tech staff attended Professor MacMinn's journalism class, where the Tech was constructively criticized and the fundamentals of newspaper writing and makeup were discussed.

From the large number of capable men who served on the Tech this year, Noble Maines has been selected as the 1936-37 editor; and Willard Farnham has been elected business manager.

WILLIAM ELCONIN
Editor



RALPH HAVER
Business Manager



BIG "T"

BIG "T" STAFF

(Rear) Bingham, Davis, Shapiro, Janes, Kolb, Kimball, Sklar, Dauben, Watt, Price, Colvin, Kasnicka, Tobin; (Center) Veysey, Ingalls, Vermeulen, Heitz, Larson, Frost, Webster, Jordan, S. Clark; (Front) Goodheart, Spalding, Kloksiem, Hamacher, Macleish, Maines, Browne, Van Dusen.
(Not in picture) Beek, Beekley, Bishop, Braithwaite, Caldwell, E. Clarke, Cornwall, Estrada, J. Gates, Jensen, P. Jones, Morse, Munsen, Nance, Seaman, Tejada, Tyler, Waugh, Westheimer.



By a vote of 301 to 60 the student body last May established compulsory subscription to the Big "T" for a year's trial. Subscriptions in previous years had averaged three hundred. Two hundred more copies could be printed for almost nothing, and the five-dollar price, felt by many to be excessive, was cut almost in half.

Thus the funds, though limited, were guaranteed. Editor Ted Vermeulen and Manager John Tyler have worked hard trying to spend the money to the best advantage, shopping around for short-cuts which would improve the quality and size of the annual.

JOHN TYLER
Business Manager



THEODORE VERMEULEN
Editor



Excellent teamwork and cooperation have made a large job easier. Forty students have contributed generously of their time and abilities, and the representatives of the business firms have assisted in a friendly, interested fashion: John Jackson, for the printers; Walt Roberts, for the engravers; Robert McGrath, for the binders; and W. Albert Martin, photographer.

Several men have made really outstanding contributions to this year's book. Tom Davis, as associate editor, read much of the copy submitted for publication; because of his service this year, he will edit the 1937 Big "T". Maurice Sklar helped in many ways, and earned the post of assistant editor. Art Frost supervised senior personals, while the faculty section was edited by Charles Jordan. Louis Kolb, Photo Club chairman, was photographic editor. Ed Price contributed the student house write-ups.

Vic Veysey and Elmer Dauben helped on sports layouts and assignments. John Tyler, in addition to his successful solicitation of advertising, and his cooperation with the editor in the letting of contracts, assisted in the scheduling of individual photographs and the mounting of snapshots. Unfortunately space is lacking to mention the contribution of each of the men pictured above, but they all played an important part in the publication of this yearbook, and their work is truly appreciated.

HANDBOOK

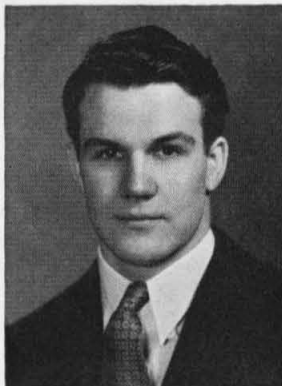
With a bright orange suede-paper cover the 1935-36 Little "T" also gave evidence of the year's progress in the field of student publications. A new policy was put into effect by which the student body took upon itself the responsibility of publication, which had for fourteen years been carried by the Y.M.C.A. Appointed by the Board of Directors, Bob Mahoney edited and Wendell Miller managed the handbook, both with gratifying success. Walton Wickett, before transferring to Stanford, also helped to lay the groundwork for the book.

Serving as an informative manual comparable to the "frosh bibles" of other colleges, the Little "T" is financed largely by advertising and helps Tech students also as a business directory of the city of Pasadena. Its aims have been to describe the functions and to list the officers of every undergraduate organization; to help to perpetuate campus traditions; and to open the door to extra-curricular activities of every sort. Yells and songs were included, together with the complete corporation by-laws which were adopted in January, 1935.

The editor and business manager of next year's handbook are yet to be named. Bob Mahoney, now student body president, plans for an increased appropriation for next year's handbook with the result that it will probably become a complete campus directory.



ROBERT MAHONEY
Editor



WENDELL MILLER
Business Manager

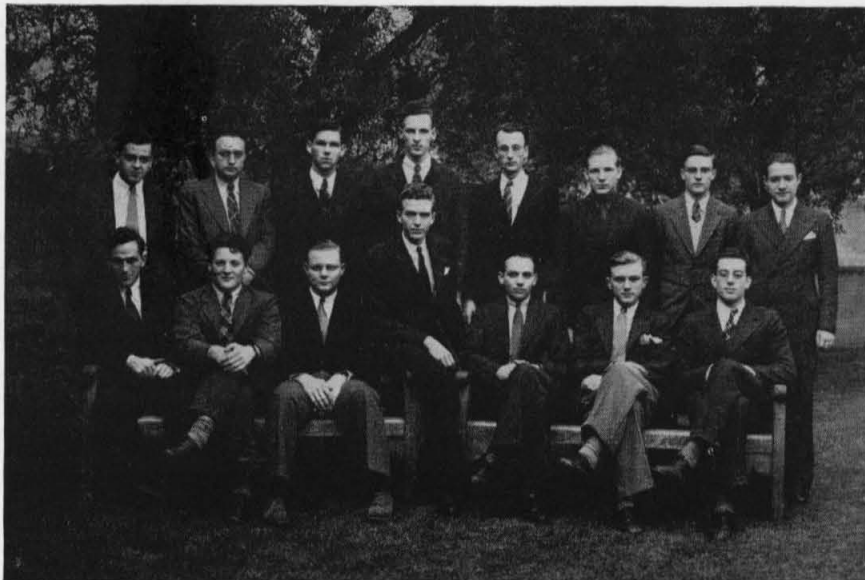


EXHIBIT COMMITTEE
(Rear) Mahoney, Peugh, Thomas, Hicks, Sheppard, Womack, Frost, Nestler; *(Front)* Best, Horowitz, Jordan, *chairman* Watts, Shapiro, Caulfield, Rector.
(Not in picture) Bonham, Montag, Nelson, Merriam, Poggi.

EXHIBIT DAY

The Annual Exhibit Day and Open House was held on April 17 and 18. A throng of persons in excess of 10,000 crowded the campus during the two days, making it difficult for mere students to thread their way about.

Undoubtedly the outstanding attraction this year was the glass for the 200 inch telescope, which was to be seen on the polishing machine in the Optics Laboratory. All phases of the telescope's construction were explained by students under Charles Jordan, division chairman.

As in past years the spectators were electrified by the giant sparks displayed by graduate students in electrical engineering in the High Voltage Laboratory.

Robert Thomas was chairman of the aeronautics exhibit which demonstrated aids to safety in aviation and the operation of the wind tunnel.

The civil engineering department, chairman Verne Peugh, featured two series of lectures, describing the activities of the Metropolitan Water District and the construction of the All-American Canal.

Martin Poggi acted as chairman of the meteorology demonstration, which featured lectures on "Air Mass Meteorology."

The A. I. E. E. sponsored the popular electrical engineering display, chairmaned by Eugene Rector and Wasson Nestler.

The Gates Laboratory exhibit, with its universal eye, ear, nose and throat appeal, delighted the many who inspected the comprehensive display of commercial and analytic chemistry, arranged under the chairmanship of Charles Best.

Bruce Hicks was chairman of the interesting physics department display, which starred the historic lecture on "Liquid Air."

Gear-minded individuals spent much time inspecting the mechanical engineering display, of which Herbert Shapiro was chairman.

The biology department, chairman Leon Horowitz, featured a series of lectures on vitamins, hormones, and cell division.

The humanities, under Robert Mahoney, geology, under Loyal Nelson, and x-ray, under Charles Sheppard, also attracted countless interested spectators.

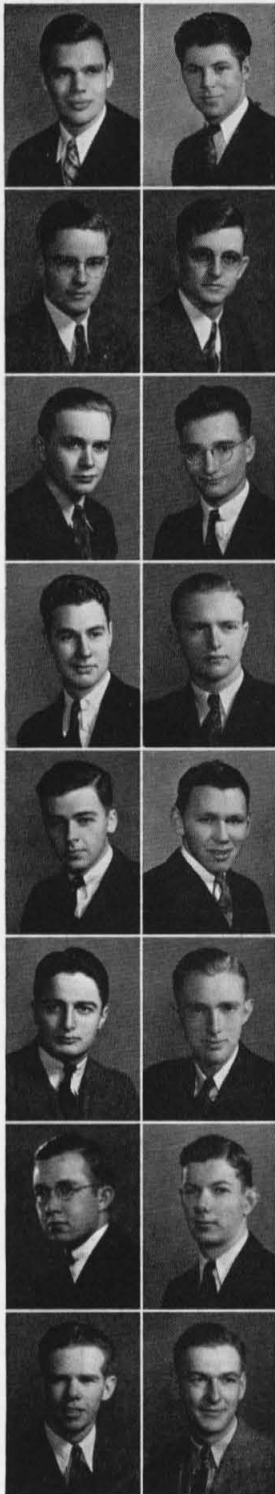
Much credit is due general chairman Euclid Watts for the comprehensive picture of campus work and research which was presented.

Others who assisted on the program were Kenneth Womack, lighting; Henry Caulfield and George Montag, traffic; Art Frost, publicity; and the many men who prepared exhibits, gave lectures, acted as guides, and performed numerous other services essential to the success of the occasion.

WATTS
Chairman



PRESS CLUB



Colvin

Elconin

Frost

Getzman

Haver

Heitz

Jensen

Klockslem

Mahoney

Maines

Rosencranz

Swanson

Tyler

Vermeulen

Veysey

Watt

The most widely recognized work of the Press Club this year was the publishing of the annual "hot rivet" edition of the California Tech. This edition, one of the best in several years, was a replica of one well-known Los Angeles paper when read through from the front and of another city paper when read through from the back. Pages of pictures contributed materially to the success of the edition, which passed all boards of censorship with flying colors (or did it sneak by in the dark?).

The semi-annual initiations were another highlight in the club's year. Pledge duties required the wearing of visors, carrying of flatirons, and writing of interesting interviews on hitherto untouched subjects. Men initiated in the spring term were Kasnicka, Hamacher, Muller, Farnham, Tom Davis, Bob Davidson, Webster, and Avenali.

The year was tapered off with a gala slumming party which took place in May. On this party the men made a thoroughgoing investigation into vice conditions in the local area. They found these conditions truly appalling and intend to place the full pressure of the power of the press in a push to purge Pasadena for posterity.

The Press Club has maintained its position as an honorary organization well during the year. Only men who have devoted much time to Tech publications and shown considerable ability have been considered for membership. Because of this restrictive policy the membership of the organization has never become large.

Credit is due President Victor Veysey for much of the Club's success. Officers assisting him were: Richard Rosencranz, vice-president; John Klockslem, secretary; and Art Frost, treasurer.



VEYSEY
President

TAU BETA PI

Under the leadership of President Bill Campbell, the California Beta chapter of Tau Beta Pi has enjoyed an active and highly successful year. In recognition of the completion of Boulder Dam, Francis T. Crowe of Six Companies, Inc., was initiated at the regular ceremony on December 7, for the University of Maine; and at the second initiation of the year, on April 7, Walker R. Young of the federal Bureau of Reclamation became a member of California Beta.

Each initiation was followed by a well-attended dinner in the Athenaeum. In December the principal speaker was Professor Daugherty, explaining the pumping system for the Metropolitan Aqueduct. In April Professor Soares spoke on "Looking Backward," showing by historical example how a too conservative attitude deters social progress.

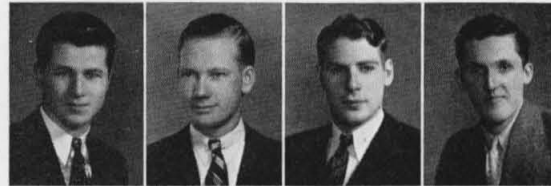
A roller skating party and an evening of bowling had served to acquaint members with those prospective candidates who were scholastically eligible for election. Only those men who had also demonstrated a wide variety of interests and devoted service to the school were elected to membership.

A formal dance in Dabney Lounge on February 15, and a beach party late in the third term furnished social relaxation to the scholars. Outstanding was the service to the chapter of the corresponding secretary, Wasson Nestler; the other officers for the year were Euclid Watts, vice-president; Tyler Thompson, treasurer; Harry Lew, recording secretary; and Ted Vermeulen, cataloguer. Bob Kramer, last year's president, represented the chapter at the national convention at Michigan State College in October.



CAMPBELL
President

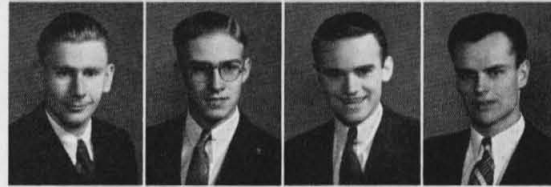
Ashkenas
Blodgett
Bush
Cortelyou



Dowd
Edwards
Frost
Gates



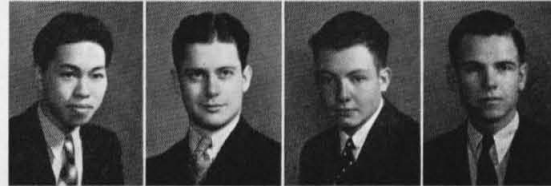
Goodheart
Griffis
Hammond
Harper



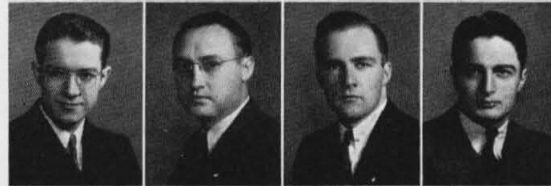
Heitz
Hicks
Janes
Jones



Lew
Lewis
McIntyre
Nellis



Nestler
Peugh
Price
Rosencranz



Serrell
Sklar
Snelling
Thompson



Tsubota
Vermeulen
Watts
Wood



BEAVERS



(Rear) Harper, C. Gates, Mann, Larson, Parker, McLean, Bush, Jensen, Creal, Price, Edwards, Sharp, Dauben, Griffith, McIntyre;
(Center) Watts, Ridgway, W. Miller, Maines, Bussard, Humason, Zimmerman, Roseneranz, Dickinson, Schaffner, Austen, Veysey, Swanson;
(Front) D. Davidson, Mahoney, Hammond, Wetmore, Jewett, Spotts, P. Jones, Elconin, Pabst, Vermeulen, Caulfield.
(Not in picture) Davis, Frost, Wilson.

Early in the second term the Board of Directors and Board of Control jointly founded an honorary organization to promote friendly relations with other colleges and to see that all possible courtesies are extended to visitors. This step came as the result of suggestions made by Doctor Hanes and by Michael Brunner and Stuart Seymour, prominent alumni officers.

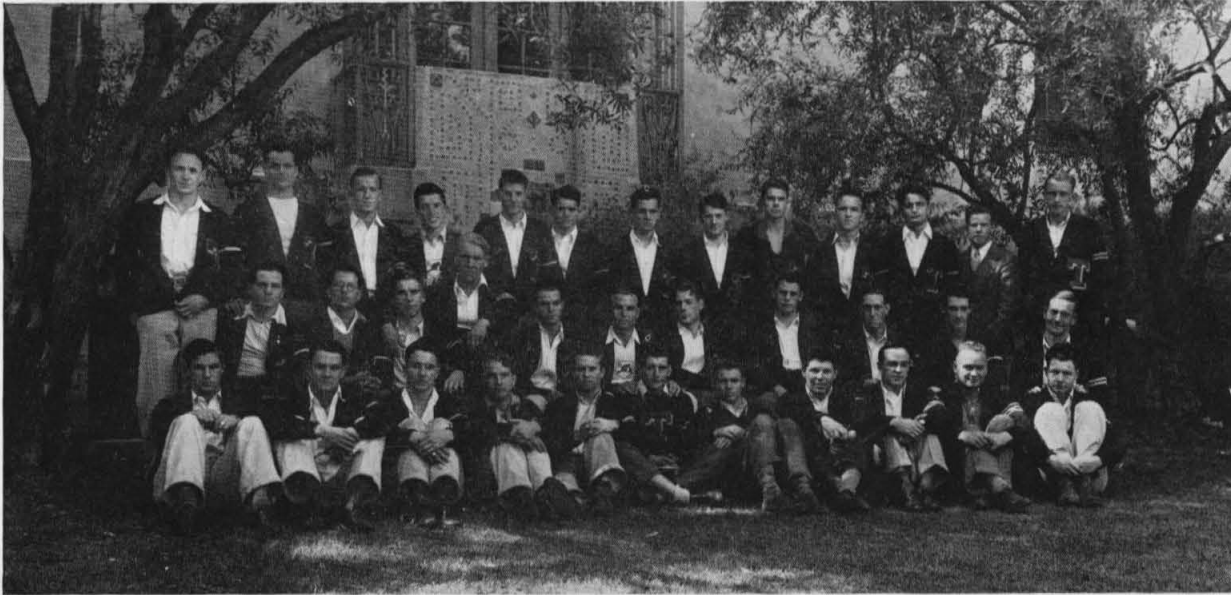
The members, men who are most prominent in student activities, attend all student body affairs and make every effort to increase interest within the student body. A marked effect of the organization's work was evident throughout basketball season, during which the former turnouts to games were often tripled. Continued efforts of the men also insured the success of Student Body dances and of Exhibit Day.

The first main project of the Beavers was the task of raising funds to send Tech's crack relay team to the Drake Relays in Iowa late in April. Through the cooperation of the Community Playhouse, the entire house was purchased for Thursday evening, April 2, at a sufficiently reasonable figure so that a sell-out for

the performance would net a worthwhile return. The faculty cooperated generously by meeting each dollar earned from ticket sales with one from Institute funds. Sympathetic assistance from various civic organizations aided materially in the distribution of tickets. Therefore the combined efforts of the student body, the individual houses and Throop Club, and the Beavers warranted the success of the project.

The Beavers to no degree represent an idea of exclusiveness, but are instead a group of fifty men with a sincere interest in doing everything within their power for the good of the student body. Acting with little ceremony and with no wish for material returns, they encourage participation in activities on the part of other members of the student body; and, if future results follow past indications, the Caltech student body will make great progress. With a consideration for the future, the officers (Frank Davis, president; Wally Swanson, vice-president; and Gordon Bussard, secretary-treasurer) have endeavored to build the organization on a permanent base and have great hopes for its possibilities of service next year.

VARSITY CLUB



(Rear) McLean, Harper, Griffith, Bussard, Horkey, Ellery, Snelling, Balsley, Salisbury, Wetmore, Rosencranz, Veysey, Swanson; (Center) Dorwart, Waddell, Parker, Larson, Sharp, Humason, Bush, Elliott, Gates, Austin, Blodgett; (Front) C. Smith, Miller, Mann, Dowd, Wilman, Zimmerman, Baker, Eleonin, Creal, Nollan, McIntyre.
(Not in picture) Benton, Colvin, Davis, Heath, Janes, Rowell.

The Varsity Club completed its sixteenth year of existence with a record of increased activity throughout the year. Members are elected from those men who have won a varsity letter or two letters in minor sports. It has been the aim of the club to create and maintain an interest in intercollegiate sports among Tech students. In the past the club has also been instrumental in formulating the athletic policies of the student body.

Under the leadership of President Frank Davis several innovations were begun which met with popular approval. Prospective candidates were required to undergo a period of pledgship previous to initiation. The pledges wore small pins in the form of an orange V and were obligated to do the bidding of regular members. Many meetings were held throughout the term with a large percentage of members in

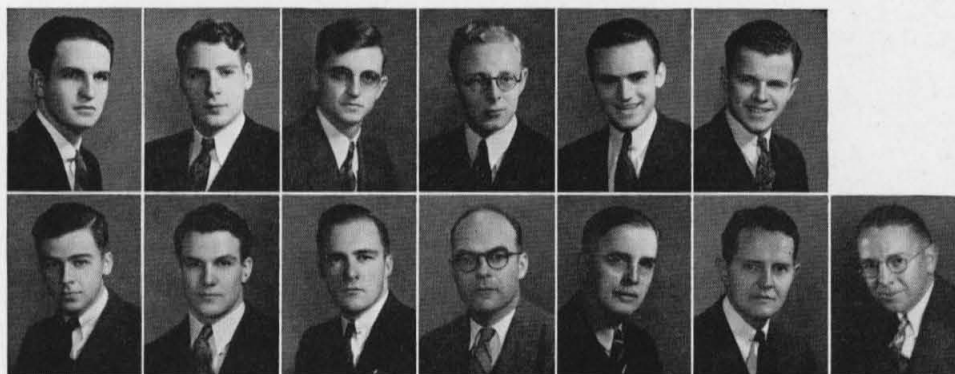
attendance. Much enthusiasm was shown.

The annual initiation of new football lettermen was as always well attended. This year the event was held at Big Pines early in January. The trip included an overnight stay. Pledges were initiated Saturday night and the following Sunday was given over to recreation. The absence of snow proved the only disappointment.

During the annual exhibit day the club sponsored an athletic exhibit in which trophies and pictures of past athletic heroes were displayed.

The third term was marked by the initiation of new lettermen in track, basketball, tennis, and baseball, and a smoker well attended by members and alumni. The officers for the year were Frank Davis, president; Victor Veysey, vice-president; and Albert Zimmerman, secretary-treasurer.

PI KAPPA DELTA



Beckley
Mahoney

Bush
Miller

Getzman
Price

Hamacher
Eagleson

Hammond
Macarthur

Kasnicka
Stanton

Untereiner

Each year a select number of members of the Varsity Debate squad are chosen to become members of the California Institute of Technology Gamma chapter of Pi Kappa Delta, national honorary forensics fraternity. Dr. Stanton, Dr. Eagleson, Dr. Untereiner, and Dean Macarthur who is a past national president of the organization, are honorary members of the local chapter.

Each year Pi Kappa Delta sponsors a classical play during the first term, the proceeds of which help to defray the expense of sending two members to the convention. This year, the eleventh biennial convention was held in Houston, Texas; and the chapter sent Howard Hamacher and Paul Hammond to represent it in debate. The local team made a fine showing, but was unable to get into the final rounds.

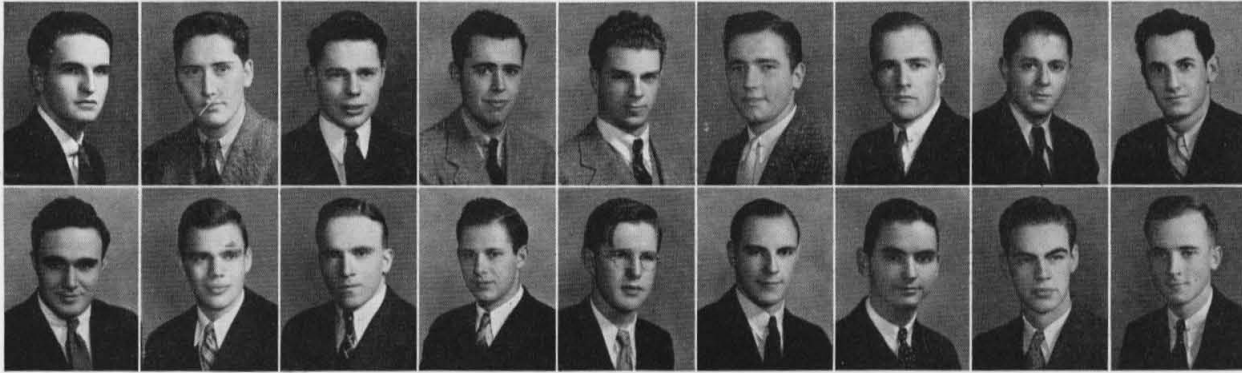
The fact that we are able to have a local chapter on our campus is clearly indicative of the fact that Tech men are interested in promoting all forms of forensic activity, and that they have made distinctive showings in this field in the past as well as at the present time. There are only three other chapters of Pi Kappa Delta in the state of California, which in itself shows the singular honor attached to membership in the organization.

Besides having to be selected because of distinction, each new member is submitted to the vicissitudes of an intensive pledging period during which a pledge pin is worn. The bits of compulsory adornment are a hair ribbon and, for the final week of pledging, a red carnation. Each prospective member must make a ten-minute soap-box oration in a public place before an audience of at least fifty people, and keep a notebook of sins against the chapter and its members.

GREEK PLAY



DRAMA CLUB



Beckley Boothe Davies Hopkins Kinley Miller Price F. Smith Webster
 Bonham Colvin Henderson Kimball Lee Park Schaffner Warner Wood

The Drama Club has, this year, enjoyed an extension in its activities; a key was adopted to be awarded to those members who have rendered distinctive service to Tech dramatics; current plays were read and discussed at meetings; and a special banquet will be held at the end of the year. In addition the club continues to perform its regular function of presenting a play during the third term of each school year. Membership is honorary and elective from among the men who participate in either the Pi Kappa Delta annual classical play or the Drama Club spring play.

The play which was chosen for presentation this year is the much-heralded "Taming of the Shrew" by the immortal Shakespeare. Long spoken of as one of Shakespeare's best comedies, it promises to be even more comical than ever when produced with an all-male cast.

The men tentatively slated to take part in the "Taming" are Ray Richards, Chauncey Watt, Alan Grobecker, Ed Kasnicka, Franklin Page, Kenyon Bush, Noel Park, Doug Rollow, John Kinley, Ed Clarke, Paul Smith, Paul Schaffner, Joe Westheimer, and Raymond Boothe.

The Drama Club is assisted in its functions by Dr. Roger Stanton and Dr. Harvey Eagleson who direct the Drama Club play as well as the Pi Kappa Delta play, and act as Club advisors. The success of Tech drama productions is attributable in a great measure to the activity of these two men.

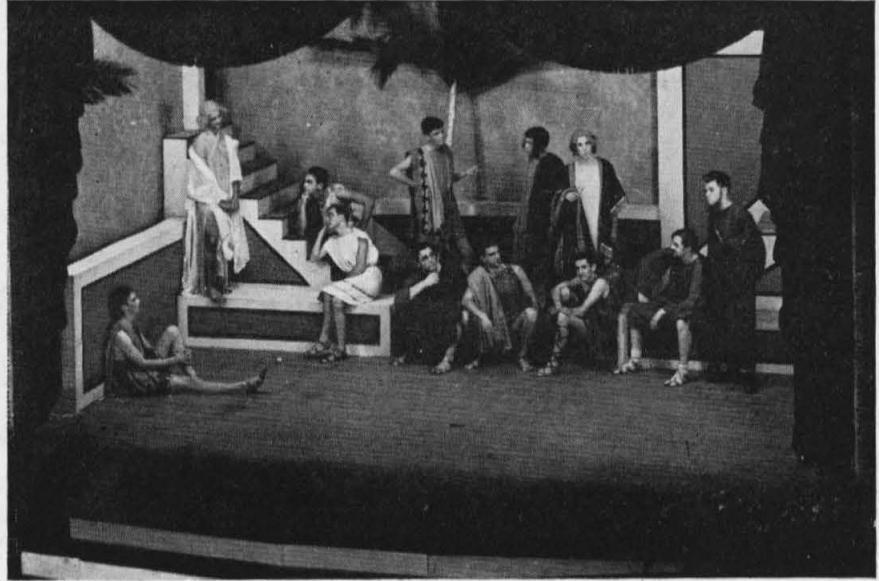
The Drama Club is also fortunate in having as two of its honorary members Prof. and Mrs. Graham Laing. Professor Laing has materially assisted in the construction of various stage settings, and Mrs. Laing acts in the indispensable, though unofficial capacity, of costume seamstress.

The Drama Club, generally speaking may be called a most unusual organization—unusual on a technical campus certainly, and more unusual because it has been able to remain such a vital part of extra-curricular activity.



OFFICERS
 Rollow
President
 Kasnicka
Vice-President
 Serrell
Secretary
 Eagleson
 Stanton
 Laing

ADELPHI

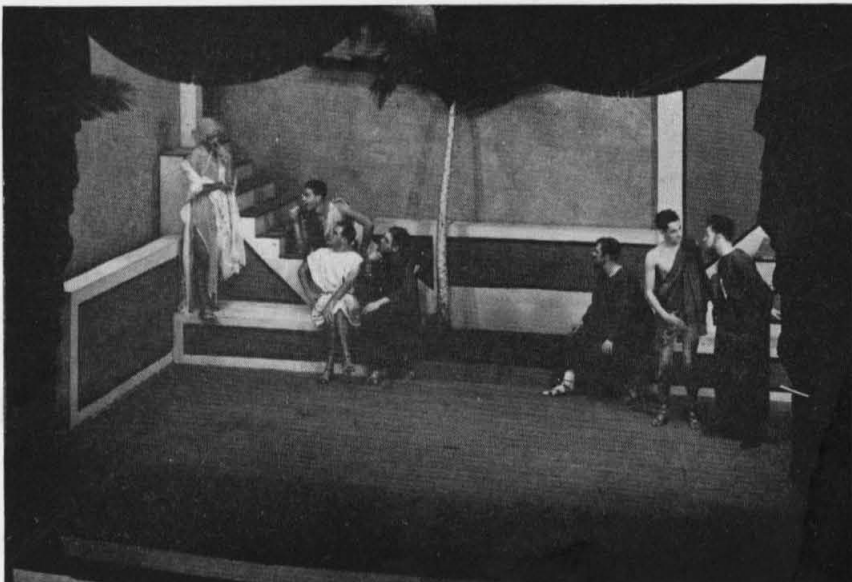


Pi Kappa Delta presented its thirteenth annual classical play, *The Adelphi*, (*The Brothers*), late in the first term of the year. The presentation this year was particularly apt, because of the contemporary problem which it presented.

The two brothers, who are the title role carriers, have conflicting theories in regard to the proper manner in which to bring up a son—the city-dwelling brother, who has been used to luxury all of his life, believes that no restrictions should be placed upon a growing young man but that he should be allowed to follow the natural bent of his inclinations—the dry-

as-dust, penny-pinching country farmer, who is the other brother, is diametrically opposed to this view, and retains the old fashioned system of the rule by an iron fist.

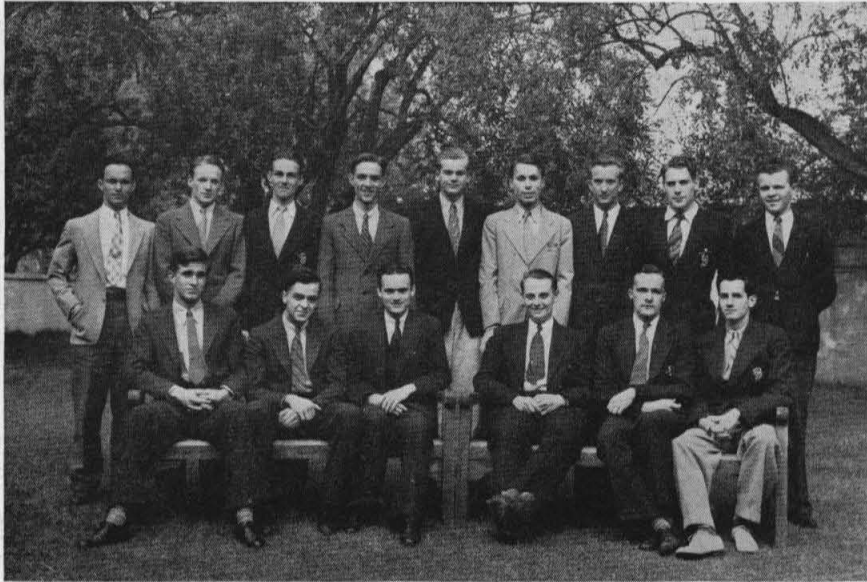
Exactly what happens when the two brothers test their respective theories on their sons is divulged in the play. The unrestricted son turns into a decided playboy, while the suppressed son does covertly those very things which the other does openly. The action which ensues when the country brother discovers his son's philanderings proves highly entertaining, as does the procedure by which he arrives at this knowledge.



CAST

Micio, an old gentleman of Athens, *Curtis Lee*; Demea, brother of Micio, resident in the country, *Edward Kasnicka*; Aeschinus, son to Demea, adopted by Micio, *Douglas Rollow*; Ctesipho, son to Demea, *Walter Diehm*; Hegio, an old gentleman of Athens, *Charles Miller*; Sannio, a slave dealer, *Hugh Warner*; Syrus, servant (slave) to Micio and Aeschinus, *Jack Kinley*; Geta, servant (slave) to Sostrata, *Martin Webster*; Sostrata, a lady of Athens, *Stewart Fraser*; Canthara, an old crone, servant to Sostrata, *Noble Maines*; Parmeno, servant (slave) to Aeschinus, *Noel Park*; Pamphila, beloved by Aeschinus, *Paul Schaffner*.

DEBATE



Varsity Debate

(Back row) Elliott, McLean, Beavon, Morse, Allen, Poggi, Stone, Bush, Kasnicka; (Front row) Fenzi, Mahoney, Hammond, Ridgway, Price, Webster.

The large number of men who turned out this year for both varsity and frosh debate indicates an increasing interest in forensic activity. This year's varsity squad had as its members Hamacher, Hammond, Mahoney, Kasnicka, Bush, Price, Webster, McLean, Beavon, Stone, Allen, Morse, Poggi, Elliot, Fenzi, Ellery, and Ridgway who also acted as manager. The squad was coached by Dr. Ray Untereiner. The Frosh squad, under the tutelage of Paul Hammond, consisted of Caulfield, Lipson, Osborn, Flint, Ruggero, Caldwell, Nicholson, Hoiles, Sullivan, and Ingalls.

The varsity opened its season when Hammond, Mahoney, Hamacher and Kasnicka, accompanied by Doctor Untereiner, attended the San Francisco State Teachers College Tourna-

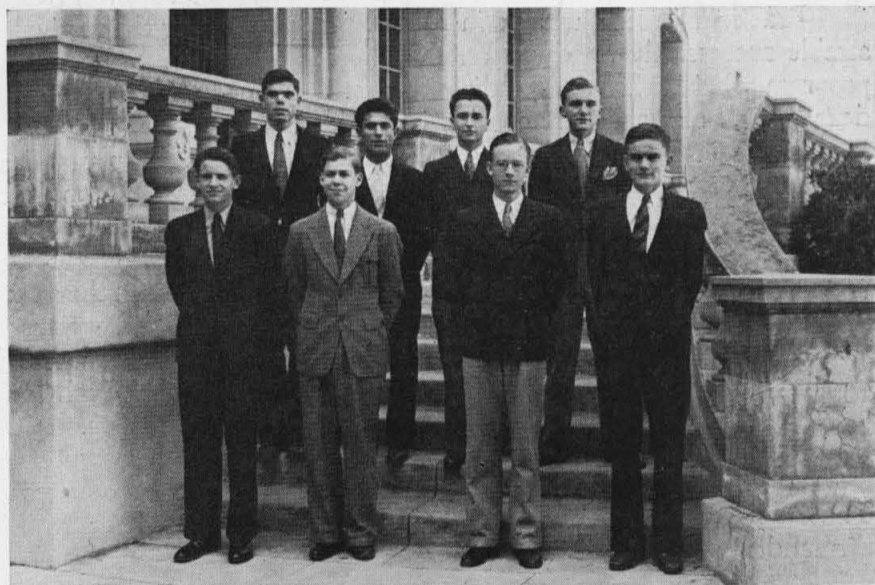
ment. Hammond won first place in extempore speaking, over a field of sixty-four contestants.

The second major conflict, the annual Redlands Practice Tournament, was attended by the entire squad. Hamacher, Hammond, Beavon, and McLean represented Tech in the conference meet. The Pi Kappa Delta Regional Tournament, held at Redlands, afforded Hamacher and Hammond the opportunity of earning medals for taking second place. This Tournament saw the close of a highly successful Varsity season.

The Frosh squad sends two teams to the Conference Tournament and has various outside debates scheduled with individual teams representing sundry of the Southern California Colleges.

Frosh Debate

Sullivan, Ruggerio, Lipson, Caulfield, Nicholson, Ingalls, Caldwell, Flint.



ORCHESTRA



First Violin
 Simon Ramo
 Benjamin Kazan
 Moe Rosen
 Volney Rasmussen
 Bruce Hicks
 Robert Heitz
 Frank Rechif
 Jack Knight
Piano
 Carl Thiele
 Robert C. Jones

Second Violin
 Ted Fahrner
 Ed Kasnieka
 Hanns von Stegel
 Richard Brice
 Olaf Ohlsson
 John Lockheed
 Tom Webb
Viola
 Sherwood Haynes
 Paul Siechert
 Andrew Thackeray

Cello
 Jacques Monad
 Al Broadhert
 Noah Anderson
Bass
 Armand du Fresne
 Edwin Paxson
 Richard Martin
 Richard Segerstrom
Percussion
 Clay Smith
 Henry Evans

Flute
 Donald Hyers
 Mark Foster
 James Bonner
Oboe
 Everett Henderson
Bassoon
 Emmett Holman
French Horn
 Richard Rosencranz
 Charles Heath
 Gustav Albrecht

Trumpet
 Lowell Hulbirt
 William Cardwell
 Bruce Kelly
 Robert Cox
Trombone
 Stuart Fraser
Clarinet
 John Franeman
 Alfred Guillou
Bass Clarinet
 Thomas Meanley

The concert orchestra began the year with one major project in mind, the fulfillment of which late in May has given meaning to the whole year of work, as the most successful of the recent era. Conductor William Bergren accepted for the group an invitation to take part in the Pasadena Music Festival, a noteworthy event in the musical world, dedicated to the composer Beethoven. It was the pretentious assignment of the Tech group, among other things, to perform in their own concert of the series, the Jena Symphony (played in the West for the first time) and the first American presentation of the Triumphal March from Tarpeja.

Practicing twice a week in special preparation for the festival, during the third term, the ensemble successfully appeared on the Civic Auditorium stage on May twenty-third, opening a program whose other outstanding feature was the performance of Beethoven's only opera, "Fidelia," with Richard Lert conducting.

Other music of a lighter vein was also kept on the repertoire of the group, which broadcast twice over KNX, and gave two concerts before the student body in assembly. At one of these, the difficult Rienzi Overture was essayed.

The members of the organization have responded admirably to the increased need for practice, since the membership is greater and more faithful in rehearsal now than in any of the other three years since Bergren has taken the baton. Cooperation was received from several men in the graduate school, and the director has also obtained occasional outside players whose presence has been helpful, while still leaving the orchestra essentially a Tech organization. Soloists on various programs were Simon Ramo and Benjamin Kazan, violinists.

"Bill" Bergren has been most of all unsparing of his own efforts, both in organizing and in musical leadership. To him is due the greatest credit for any success which may have been won. The officers under him were Richard Rosencranz, president; William Cardwell, manager; and Armand Du Fresne, librarian.

BAND

Under the capable direction of dynamic Audre L. Stong, who in his five years of work with the Tech band, has developed it from a small group of musicians to a snappy ensemble of thirty men, the band has completed its most successful year of activity.

The band in its bright orange uniforms supplied the rallying point for the small but enthusiastic crowds of Tech rooters who turned out for football games. In pre-game rallies the band was on hand with the necessary pep. In the Oxy Pajamarino the horn tooters occupied their traditional place at the head of the parade, riding on a truck and trailer.

The high point of the first term was the invitation to play at the San Diego Exposition in the Ford bowl. A weekend at the fair with two concerts assisted by the Glee Club, was the outcome of this. According to the write-ups in the San Diego papers, this event was "the outstanding program of the week."

The work of the second term is unique among college bands. Instead of embarking on another heavy outside schedule, the Cal Tech bandmen spent their rehearsal time "sight reading" modern and classical music borrowed from the Pasadena Junior College Band's library. To climax the term's work, the band displayed its wares in the final assembly of the quarter. The varied program, running from the latest swing music to the older classics, was overwhelmingly voted by the student body as the most popular assembly feature of the term.

For Cal Tech day in May, the Institute financed another trip to San Diego. This time the Spreckles Organ Amphitheater was the scene of an outdoor concert, well received by a perspiring, shirt sleeved audience.

The final appearance of the school year is at commencement, when bright orange shirts are discarded in favor of dark suits, which are more in keeping with the dignified air of graduation exercises.

To hustling president Martin Poggi and hard working librarian "Red" Lewis, goes much credit for inaugurating and running smoothly this complex program. To the loyal group of hard working musicians goes the student body's appreciation for the development of a crack Tech Band.

Axtman, Cardwell, Cox, Dion, Drake, Du Fresne, Ellery, Evans, Forward, Fraser, Gerlough, Grainger, Henderson, Horine, Hulbirt, R. Jones, Kelley, Kennedy, LeGrand, W. Lewis, Meanley, *president* Poggi, Rainwater, R. Richards, Rollow, Ruggerio, Snyder, Wetmore, Wimpress, Wolfberg.



GLEE CLUB



(Back row) Nicholson, Davis, Ashkenas, Levet, Fahrman, Mr. Farley, R. Jones, Janes, Rowell, R. W. Jones; (Front row) Dorwart, Shapiro, Cortelyou, McMillan, Jones, Munsen, Dennis, Thompson.

The Institute Glee Club has been fortunate this year in being able to retain the services of Erin Robert Farley, vocalist, voice teacher, and conductor, whose contribution was not only to beat time to the boys' yodeling, but also to teach them some of the nicer points in the fine art of vocal production. The club has always possessed sufficient volume, but has often lacked that absolute precision of pitch, unity of purpose, and capacity for concerted action which should characterize a true singing organization.

Under Mr. Farley's competent direction, the Glee Club has evolved from an aggregation of noise-makers whose conception of group singing was competitive rather than cooperative, and whose performance was rather to be endured than enjoyed, into a group which gives real promise for the future. To aid him in the development of a vocal organization on this campus, the director also established a voice class, open both to beginners and to those desiring more advanced work. In addition, four of the more experienced members have combined themselves into a quartet, at times helping to add variety to programs. These four are Cortelyou, Thompson, Paul Jones, and Janes.

The first performance of the year, under the baton of Mr. Farley, was a program broadcast over radio station KECA. The program was augmented by piano solos from the finger tips of Henry Evans, the Club's accompanist, Robert Jones, and numbers by the quartet. Shortly after school resumed in September, the Glee Club appeared at a half-hour concert at the San Diego Exposition. Admission to the Exposition was free, dinner was provided, and other activities were enjoyed. In the presentation of the cantata, "The Holy City", by the Pasadena Civic Chorus, of which Mr. Farley is the director, the club had an active part, also singing several introductory numbers on the program.

Subsequent programs were given at the Pasadena Kiwanis Club and at the Colorado Theater. At this writing the Glee Club has just completed its annual Exhibit Day Program, given in Dabney Lounge, very popular and successful. Appearances for the remainder of the spring quarter are anticipated at Redlands and Occidental. The officers for the year have been Paul Jones, president; Curtis Cortelyou, manager; Robert L. Janes, treasurer; and Robert C. Jones, librarian.

Young Men's Christian Association



Y.M.C.A. CABINET

(Back row) Dowd, Ferguson, Cooper, Mahoney, Allen, Heath, Merriam, Poggi, Friend, Lowell, Rowell;
(Front row) Wood, S. Clark, Rosencranz, Thompson, Page, Longfelder, Ellis, Minasian.

Under the presidency of Tyler Thompson, the Y.M.C.A. has carried out a full and very useful program of activities, without the assistance of a permanent secretary. Upperclassmen will remember that Chuck Schweiso held his post for a long period before he transferred to the University of Colorado in the fall of 1934. Last year Charles Thomas served part time in this position. Coach Musselman, Dean Hinrichs, and Professor Sorensen have helped to keep the ball rolling by demonstrating their interest, and by assisting in advisory capacities. Much credit is due to the officers for the continued performance of many essential functions of the "Y." Throughout the year an employment bureau was maintained, jobs being found for more than forty men.

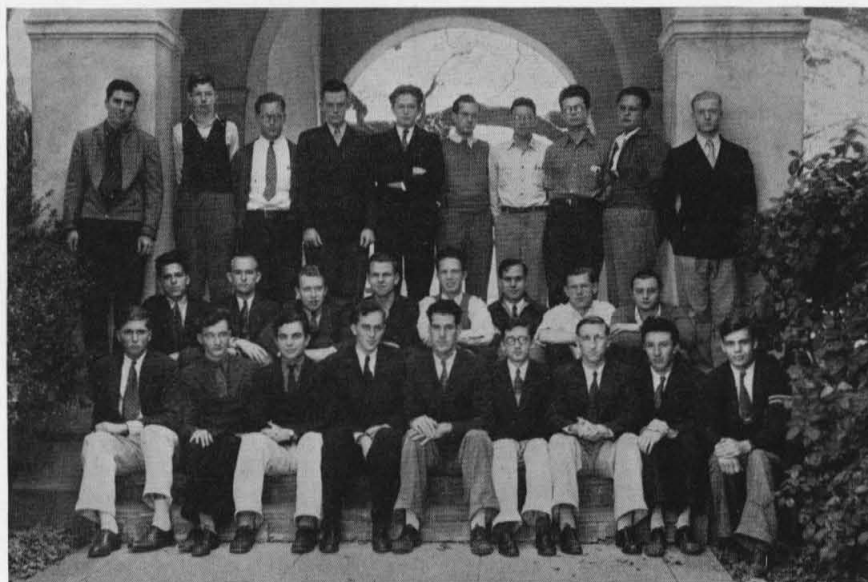
Last September, during registration week, the "Y" sponsored a "get-acquainted" program of events for the incoming freshmen, including a stay in the student houses, a series of athletic events, and several talks designed to familiarize the newcomers with campus life, opportunities, and traditions. Dr. Theodore G. Soares, Dr. J. E. Bell, Coach "Fox" Stanton, and several student leaders assisted in this work. The week ended with an enjoyable tea-dance in the Dabney Lounge on Saturday afternoon.

Two outstanding speakers were brought to the campus under the sponsorship of the Y.M.C.A. On March 9, 10, and 11, John Bennett, the brilliant young theologian and professor at Auburn Seminary, spoke on the relations between religion and science. Dr. Paul Popenoe, authority on eugenics and marriage, returned to the campus this spring for three lectures on Thursday evenings in April.

Other gatherings of several types were held regularly by the "Y." Semi-monthly luncheons at the Training Table featured many worth-while talks. An evening philosophical seminar was held by Dr. Soares; the Walrus Club met occasionally; and two retreats to Fish Canyon, back of Monrovia, provided excellent environment for lively and profitable "bull sessions." Seven students represented the Caltech "Y" at Asilomar, near Monterey, where each Christmas students from all Pacific Coast Colleges meet for a week's religious conference.

Assisting Thompson in the year's work have been Dick Rosencranz, vice-president; Don Davidson, secretary; and Franklin Page, treasurer. Page is to direct the work of the "Y" as president during the coming year.

CHEMISTRY CLUB



(Back row) Yale, Vermeulen, Horne, Kyte, Sharples, Campbell, Waugh, N. Anderson, Conant, Cooper; (Second row) Axelrod, Spalding, R. C. Jones, Nellis, Horne, DeVault, Maescher, Radovich; (Front row) Edwards, Heitz, Pressman, Best, Dunbar, Bingham, Sklar, Woolsey, Colvin.

(Not in picture) Custer, Petersen.

Although primarily a professional organization, the Chem Club has in the more recent of its nineteen years of existence engaged in an increasing program of social activities. Thus, in addition to the regular campus meetings, the club has inaugurated the plan of having two dinner meetings annually, in the course of which is fostered a more intimate contact among the members and with outstanding men of the profession both on and off the campus.

The first dinner meeting this year was held in conjunction with the American Chemical Society. Dr. A. O. Beckman, an associate of the organization, was instrumental in arranging for the entertainment given by the club before the chemical society.

At the dinner meeting in the second term, Mr. Earl Gard of the Union Oil Company explained the methods and procedure used in the development of a new process in a chemical industry, and conducted an informal discussion of job-getting.

Campus meetings of great interest were given by Dr. Yost and Professor Pauling. The former explained the recent work on transmutation of the elements by the use of neutrons. The latter obliged the club with a review of the modern conceptions of the relations between acidity and position in the periodic table.

An addition to the traditional schedule of activities has appeared during the past year in a varied program of field trips held in conjunction with some of the campus meetings. Trips were taken to the Richfield Refinery, to the Halifax Explosives Plant, and to the Trona potash and borax plant. The process involved in the first plant was described by Dr. B. H. Sage; and Professor William N. Lacey, one of the club's associates, explained the operation of the others.

As has been the custom since 1932, the Chem Club had complete charge of the exhibit day program in the Gates Chemical Laboratory. In this connection, lectures and popular educational demonstrations were presented by members of the club.

The officers, whose services contributed greatly to the success of the Chem Club in the past year, were: Charles Best, president; Robert Heitz and David Pressman, vice-presidents; Bruce Dunbar, secretary; and William Bingham, treasurer.

American Society of Mechanical Engineers



(Back row) Fahrman, Rosen, Blodgett, Kremers, Dion, Ellery, Austin;
(Third row) Dickinson, Shapiro, Serrell, Nance, Segelhorst, Kurihara, Fowler, Warner; (Second row) Peterson, Lycett, Bussard, Kloksiem, Haver, A. Smith, McSparran, Merriam; (Front row) Dr. Clark, Ashkenas, Gardner, Geddes, Hinshaw, Douglas, Getzman, Kinley, Prof. Clapp.
(Not in picture) Ambroff, Cortelyou, Hartlein, Heath, Henderson, McIntyre, Van Riper, Young.

With a lively and up-and-coming group of officers, the A.S.M.E. started the past year with a membership drive which culminated in a membership of 44, or 69 per cent of the M.E. majors. The first term officers responsible for this success were Ed Getzman, Meral Hinshaw, Malcolm Douglass, and Curtis Cortelyou.

The work of the first term was mainly that of preparing for the convention, which took place in the second term. However, a few inspection trips and illustrative lectures were held. One trip was made to the Firestone plant in Los Angeles following a talk upon the plant and its processes. Another interesting and even more satisfactory trip was taken to the Riverside Cement Plant, prior to which Dr. Lacey explained the manufacture of cement. The men who went on the trip will never forget the large plant, and the food served after the inspection. Thirds of pies, sandwiches, and drinks were refused by the poor men who had already stuffed themselves beyond their elastic limit.

The second term was devoted almost entirely to preparation for the convention of the southwestern student branches, of the A.S.M.E. Delegates from California, Stanford, Santa Clara, U.S.C., Nevada, and New Mexico were welcomed by the Tech chapter to this campus on April 3 and 4. There were two technical sessions at which papers were given by the student members competing for prizes offered by the national society. At two luncheons and one banquet one of the fundamental purposes of the convention was fulfilled by the men's mingling, exchanging opinions, and becoming acquainted. Also, in order to give the men some respite from the heavy masculine associations, a dance was held in Throop Club Lounge, which was definitely a success. The officers and committee members did all in their power to make their guests' stay as pleasant and as enjoyable as possible.

The above work could never have been accomplished had not the members taken up part of the work and responsibility. However, the majority of the work was done by the executive committee composed of our honorary chairman, Professor Clapp, and the officers for the first two terms of the year. The second term officers were Truman Geddes, Irving Ashkenas, Robert Gardner, and John Kinley.

American Society of Civil Engineers



(Back row) Griffis, Sheppard, Kiger, Gerfen, Auger, H. Smith, C. Johnson; (Third row) Moore, Dorwart, Goodwin, Janes, Fenzi, Peugh, Davis, Dean Hinrichs, Mr. Converse; (Second row) Simpkinson, Frazier, Veysey, Larson, Mahoney, vice-president Boothe, Mr. Michael Prof. Martel; (Front row) Paller, Jensen, Creal, secretary Meneghelli, president Paul Jones, treasurer Morse.
(Not in picture) Hammond, V. K. Jones, Swanson.

The local student chapter of the A.S.C.E. has completed a most active year under president Paul Jones, and with the cooperation of the civil engineering professors. This year, activities of a technical and professional nature were supplemented by several social functions.

Early in the first term Professor Thomas addressed an organization meeting on the advantages of membership in the society. Shortly after this an inspection trip was taken to the Metropolitan Aqueduct tunnels, north of Pasadena. A visit to the San Gabriel Canyon flood control dams by some fourteen members of the society constituted the other inspection trip of the first term. On the same trip, Verne L. Peugh, who was construction engineer on the Morris Dam, guided some of the members through the concrete, gravity-type dam belonging to the city of Pasadena.

During the Christmas recess, Walter Jessup, field secretary of the A.S.C.E., and Ralph Reed, consulting engineer, addressed a meeting on employment conditions and other phases of engineering. The week preceding New Year's was spent in an inspection trip to the San Francisco-Oakland Bay Bridge where Mr. Sam Olman, '29, made possible close examination of the construction.

Shortly after the beginning of the second term an A.S.C.E. dance was picturesquely staged in the engineering rooms of Throop Hall. Despite early mutterings on the feasibility of such a venture, everyone declared it to be an unqualified success. Toward the end of the period the undergraduate civils played host to the hydrology section of the American Geophysical Union, escorting visiting engineers about the campus and attending to registration. Two motion picture meetings, one a Babcock-Wilcox presentation on Boulder Dam, and the other sponsored by Columbia Steel, terminated the activities of the second term.

Twenty men participated in an inspection trip to Parker Dam and various locations along the Metropolitan Aqueduct during the spring vacation. Professor Thomas, though unable to accompany the party, secured an invitation for the chapter from the Metropolitan Water District. A few weeks later an expedition visited the harbor improvement construction at San Pedro, and inspected the Fairchild Aerial Survey equipment.

On May 13, the annual dinner meeting with the Los Angeles section took place in Dabney Garden, climaxing the year's activities.

American Institute of Electrical Engineers



(Back row) R. Nichols, Lewis, Olson, Mr. McRae, Prof. Lindvall, Hand; (Third row) Patterson, Krantz, Goodheart, Gerlough, Rechif, Watt, Seaman, A. Frost; (Second row) Nestler, McMahon, Whipp, H. Frost, Teague, Unholtz, Marsh; (Front row) Onaka, Meneghelli, Muller, Simmons, Maloney, Hadley, Rector, Bucknell.

The California Institute of Technology branch of the American Institute of Electrical Engineers provides a center for the student interest in the activities of the electrical engineering profession through its comprehensive program. Through the student branch, Techmen are enabled in several ways to come into contact with active members of the profession, as well as to keep abreast of the current developments in the industry.

Outstanding among the year's inspection trips was the one around the Tech campus conducted by Mr. L. G. Fenner of the Institute, which gave a view of the extent and complexity of the electrical equipment in use here. Among the important points of the system visited were the distribution switchboard in lower Throop, the remote control apparatus connected with the wind tunnel operation and the large motor generator set with its incident control equipment in Guggenheim, the refrigeration, blower, and other electrically operated machinery used in the attic of the Optics Shop for air-conditioning purposes, and the six-thousand-volt direct current generator in Bridge. The operation of the Metropolitan Water District's pump laboratory and the part played by electrical machinery and control apparatus included in it was also illustrated on this trip.

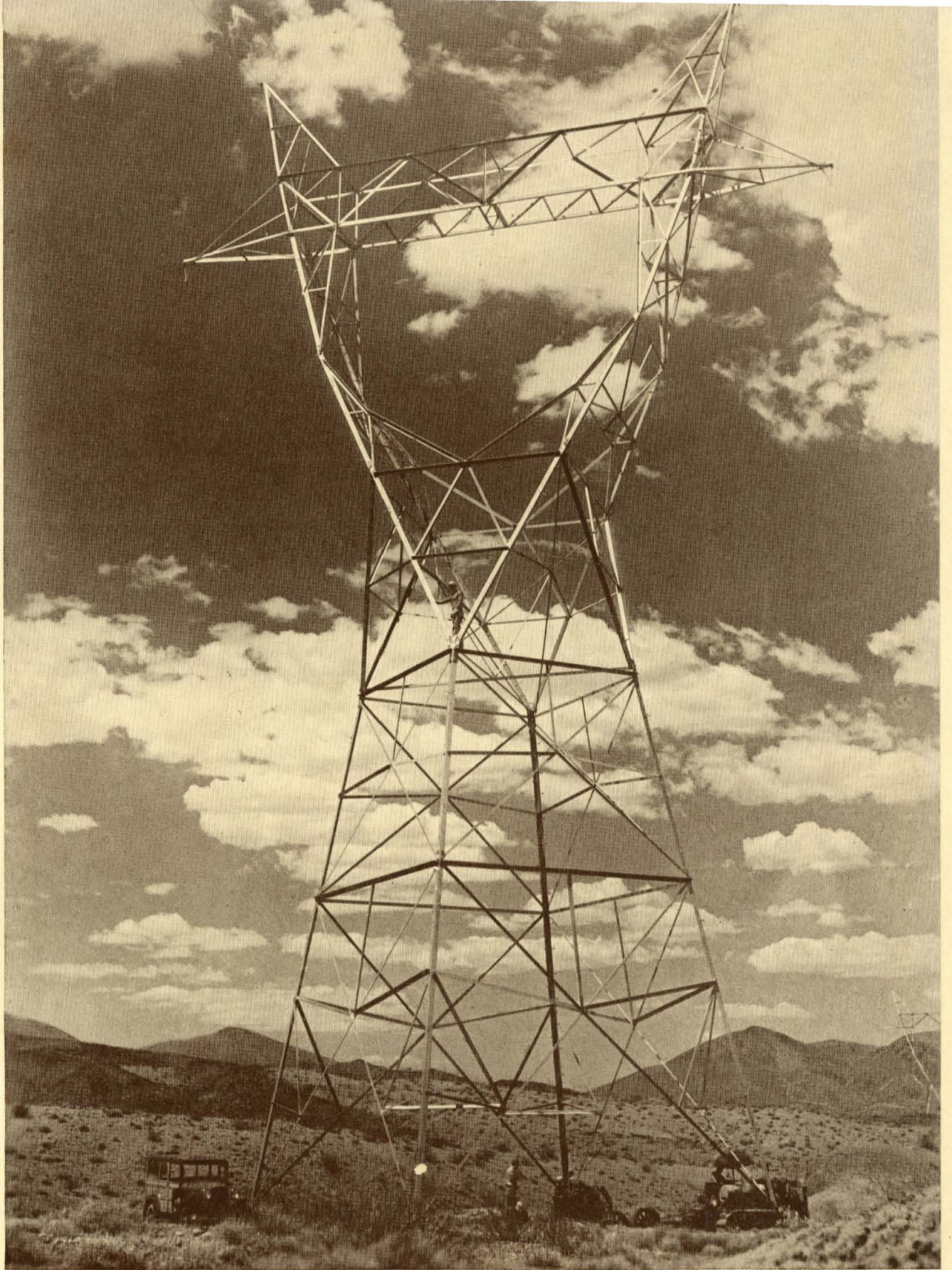
Another educational phase of the program of the Branch has been the conducting of a class for the men who desired to acquire proficiency in the sending and receiving of International Morse Code. There has been quite a bit of interest in this class due chiefly to the presence of a number of radio experimenters and enthusiasts.

The annual joint dinner meeting of the student branches of the A.I.E.E. of Caltech and the U.S.C. with the Los Angeles section was held this year at U.S.C. Student papers given at the meeting included those of Hand, Nestler, and Simmons. The meeting was well attended by the men, who realized their opportunity to meet others in the same line of work as themselves.

Among the more important things planned by the Tech branch for the coming year is the preparation for the student sessions of the 1936 summer convention of the A.I.E.E. which is to be held in Pasadena.

The officers for this past year have been Edward E. Simmons, chairman; Fred V. Maloney, vice-chairman; Conrad F. Muller, secretary-treasurer. The faculty counselor for the year has been Professor R. W. Sorensen.

MISCELLANY



TRANSMISSION



THROOP LOUNGE



ATHENAEUM WALK

CALENDAR

SEPTEMBER

- 20 Registration day for first term.
- 21 Loyola defeated varsity in football 52-6; Opening game for Tech.
- 27 Santa Barbara beats Tech team by 26-6 at Santa Barbara.
- 30 Dr. R. A. Millikan addresses student body in Monday assembly, denounces United States isolation.

OCTOBER

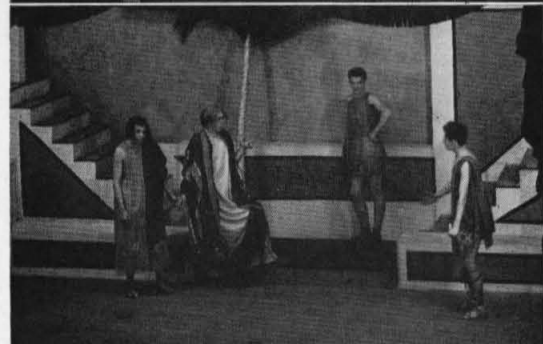
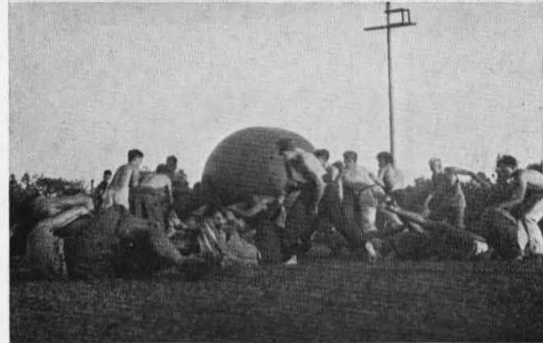
- 3 Jack McLean elected Sophomore class President.
- 4 Frosh defeated Webb school in football 25-6. Rose Bowl.
- 4 Varsity defeated by Redlands, 26-0. Rose Bowl.
- 6 Dr. Frederick Ransome, professor of economic geology, died.
- 7 Dr. Graham A. Laing talked in Monday assembly on European situation.
- 11 Marines beat Tech varsity at football 21-6 at San Diego.
- 11 Throop Club held informal dance in Dabney Lounge.
- 12 Santa Monica J. C. defeated Frosh in football 40-7 at Santa Monica.
- 14 General Harvey Arnold of U. S. Army spoke to student body.
- 14 Robert Mahoney elected Representative at Large.
- 14 Paul Hammond of Blacker defeated Bob Mahoney of Ricketts in extemporaneous speaking contest for Abe Lincoln trophy.
- 17 Pajamarino held.
- 18 Sophs annihilated Frosh in pushball, 6-0.
- 18 Oxy Frosh trimmed Tech Frosh 31-0 in Rose Bowl.
- 18 Oxy Varsity trimmed Tech Varsity 19-0 in Rose Bowl.
- 21 Throop Club won modified interhouse track meet.
- 21 Dr. Soares hit propaganda machines in Monday assembly.
- 24 Throop Club won interhouse indoor baseball title.
- 25 Bakersfield J. C. beat Tech Frosh in football 65-0.
- 26 Fresno State College beat Tech varsity 51-7 at Fresno.
- 28 Harold Smyth, concert pianist, played in Monday assembly.

NOVEMBER

- 2 Interhouse Hallowe'en Hop.
- 4 Dr. Dinsmore Alter spoke on the Griffith Park Planetarium in Monday Assembly.
- 8 Pomona Frosh beat Tech Frosh 40-0 in Rose Bowl.
- 8 Pomona varsity beat Tech varsity 18-13 in Rose Bowl, close and thrilling game.
- 12 P. J. C. beat Tech in cross-country, 28-27.
- 12 Tom Harper and Everette Griffith win doubles tourney.
- 16 Tech varsity defeated La Verne in first grid win of season, 34-7, at La Verne.
- 16 Bill Wetmore elected next year's football captain.
- 19 Tom Harper won Scott Tennis Trophy by defeating Everette Griffith 7-5, 6-2.
- 20 Ed Clarke, freshman, defeated Griffith, varsity captain, 6-3, 2-6, 6-3 to win open tennis tourney.
- 22 First performance of "Adelphi", annual PKD classical play.
- 27 Throop-Fleming joint dance held at Altadena Country Club.
- 28 Paul Hammond won Pacific Coast PKD extemporaneous speaking contest at San Francisco. 60 men entered from all over Coast.
- 30 Dr. R. A. Millikan addressed nation in first of "Searchers of the Unknown" series.

DECEMBER

- 2 Caltech orchestra under William Bergren's direction played in Monday assembly.
- 6 Ricketts won interhouse football contest.
- 14 Christmas vacation began.





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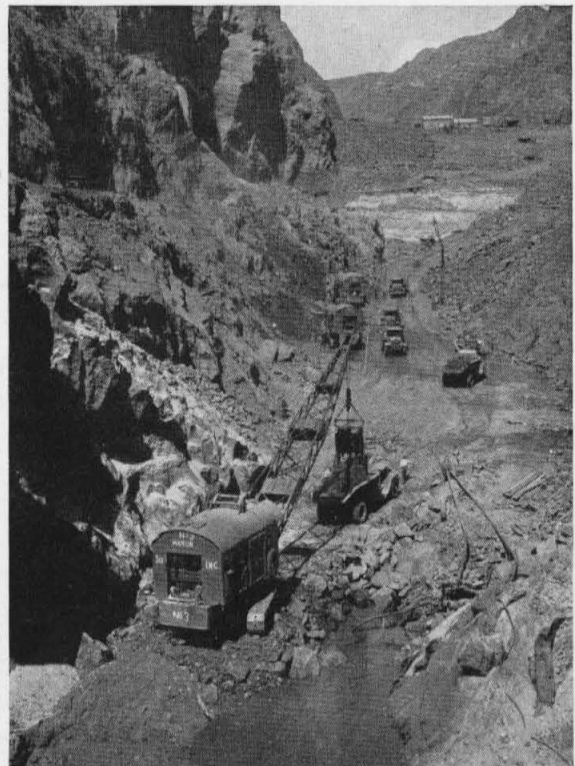
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CALENDAR

JANUARY

- 2 Frosh presented student body dance at Civic Auditorium.
- 2 Registration for second term.
- 4 Dr. John P. Buwalda gave second of "Searchers of the Unknown" series.
- 11 Pomona varsity defeats Tech hoopsters 48-30.
- 15 The "Beavers", new service organization, formed.
- 17 Frosh lose to Oxy in basketball, 61-29, at Oxy.
- 17 Varsity lose to Oxy in basketball, 51-48, in close struggle.
- 18 The new Throop Club lounge opened with semi-formal dance.
- 20 Dr. Soares spoke in Monday assembly on "The Epic of Elijah".
- 22 Table for the 200 inch mirror arrived at Tech.
- 24 Redlands defeated Tech varsity in basketball, 36-32.
- 25, 26 Varsity Club initiated new members with Big Pines outing.
- 27 Thomas Brown Henry of Community Playhouse spoke on acting in Monday assembly.
- 28 Frosh take Monrovia High School in basketball, 31-25.
- 31 Santa Barbara nosed out Tech's lead to win in basketball, 40-34.

FEBRUARY

- 3 Mr. E. A. Batchelder spoke on pottery in Monday assembly.
- 4 Fleming won interhouse basketball championship.
- 3, 4 Juniors narrowly outpointed Sophs in interclass track meet.
- 7 Fleming House Formal held in Beverly Wilshire Hotel.
- 8 Dr. E. T. Bell presented national broadcast on "Mathematics".
- 8 Tech track team defeated Glendale J. C. by 70 $\frac{1}{4}$ -60 $\frac{3}{4}$.
- 8 Tech basketball team defeated by Pomona, 49-41.
- 8 Debaters fared poorly at Redlands in new type of debate judging.
- 10 Munson J. Dowd told of American Canal construction in Monday assembly.
- 12 Euclid Watts accepted Exhibit Day Chairman position.
- 14 Dabney House Formal at the Deauville Club.
- 14 Rodeo dance presented by Frosh in Dabney Lounge.
- 15 Tau Beta Pi gave formal dance for initiates.
- 20 Press Club turned out remarkable sex-sheet edition of Tech.
- 21 L. A. J. C. blasted Tech's varsity tennis team 8-1.
- 21 Frosh defeated Cathedral High School in track, 77 $\frac{1}{2}$ -34 $\frac{1}{2}$.
- 21 Blacker House held annual formal dinner dance in its lounge.
- 22 Dorr Kimball and Louis Kolb won annual Photo Club contest.
- 22 Caltech track team defeated Santa Barbara State 66-65.

- 23 Frank Jewett, sophomore, won right to represent U. S. in sailing one-man craft in Olympics this summer.
- 24 Paul Hammond and Bob Mahoney defeated by Oxy team in debate in Monday assembly.
- 25 Oxy Frosh beat Tech Frosh in basketball, 51-31.
- 25 Oxy basketball team beat Tech 38-32.
- 27 Ricketts House held annual formal at the Trocadero.
- 27 Tech varsity tennis team beat Santa Monica J. C., 9-0.
- 28 Nominations held for student body offices.
- 29 Tech casaba artists defeated Loyola 43-38.
- 29 Loyola Frosh defeated Tech Frosh 56-19.
- 29 Pomona took Tech to camp in annual Tech-Pomona Relays.
- 29 Harold Smith was elected captain of the basketball team.
- 29 Seniors held informal dance in Dabney Lounge.

MARCH

- 2 Abas String Quartet "entertained" student body in Monday assembly.
- 2 Dabney won interhouse wrestling championship.
- 6 Student Body held elections. Bob Mahoney new president.
- 7 Redlands Frosh defeated Tech Frosh 8-1 in tennis.
- 7 Redlands varsity defeated Tech varsity 6-3 in tennis.
- 7 In SPAAU relays, Snelling, Veysey, McLean, Creal placed fourth in 4-man open mile relay; McIntyre, Rector, McLean Creal defeated Oxy to win quarter mile, 4-man, college relay.
- 9 Caltech band played in Monday assembly.
- 10 Frosh tracksters smothered El Monte High School, 66-46.
- 10 Glendale J. C. defeated varsity tennis team 7-2.
- 10 Frosh netsmen won over Burbank High School, 7-2.
- 11 Ruggers captured Prosser Trophy of Southern California Union.
- 12 Glendale J. C. defeated Tech in baseball, 14-9.
- 13 Pasadena J. C. defeated Tech in baseball, 7-1.
- 13 Frosh lost to Oxy in track, 54-77.
- 14 Occidental track squad trounced Tech varsity 89-42.
- 14 Varsity tennis team took Pomona, 5-4.
- 14 Frosh team also took Pomona, 7-2.
- 20 Frosh track team defeated Loyola, 71-49.
- 21 U.C.L.A. stifles Tech's track team, 96-44.
- 21 Officers of '34-'35 gave incoming officers a banquet at Flintridge.
- 21 Sophomores presented their dance at Flintridge, Bob Mohr's orchestra.
- 21 Hammond and Hamacher took 2nd in PKD regional tournament held at Redlands.
- 22 Spring vacation began.
- 25 Varsity baseball team defeated Fullerton, 4-3.
- 26 Varsity baseball team lost their scalp to Long Beach J. C., 19-1.
- 28 Varsity baseball team lost to Pomona J. C., 1-6.
- 30 Third term registration.
- 30 Varsity baseball team lost to Citrus J. C., 1-8.

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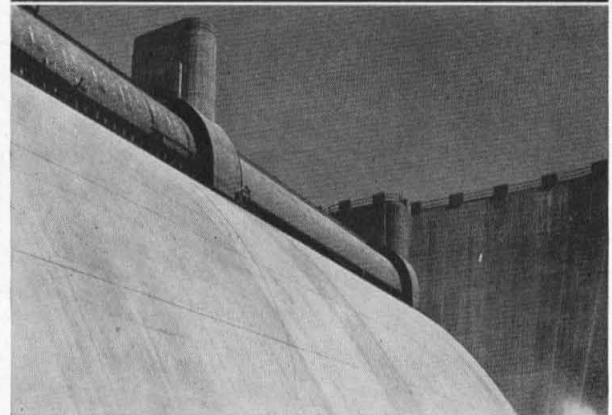
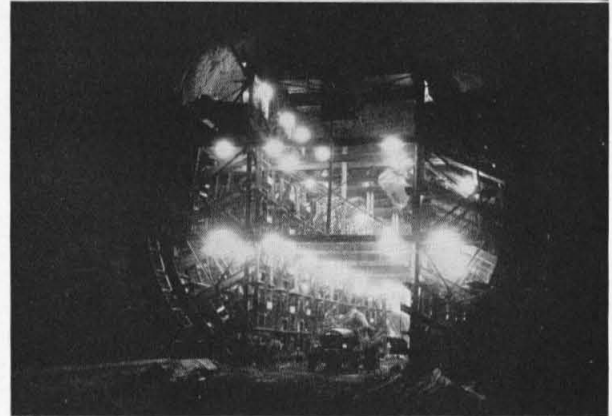
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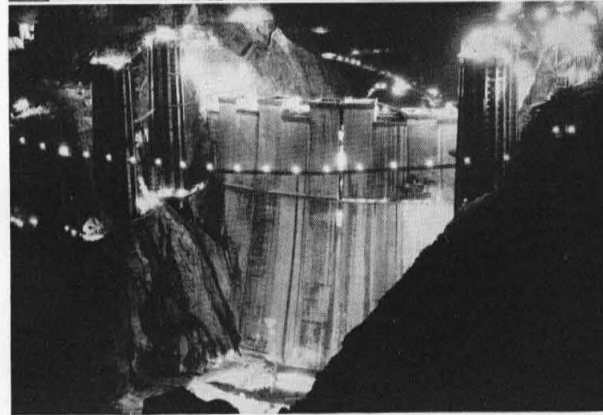
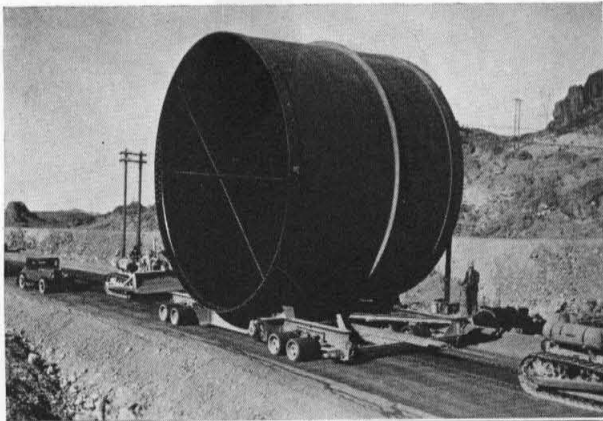
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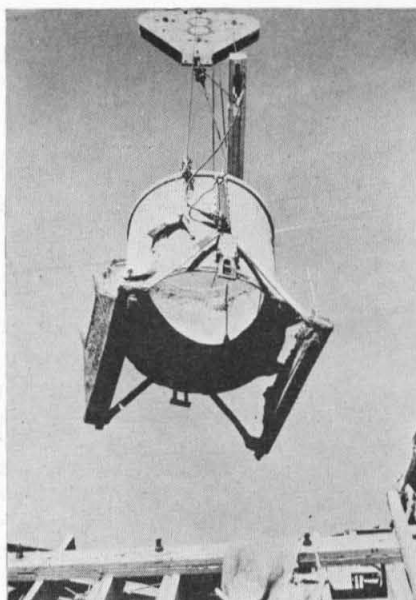
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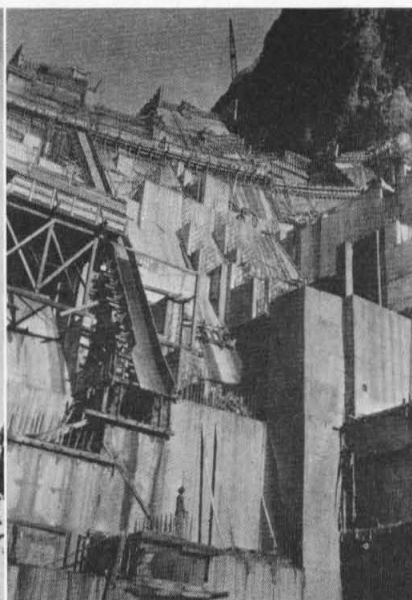
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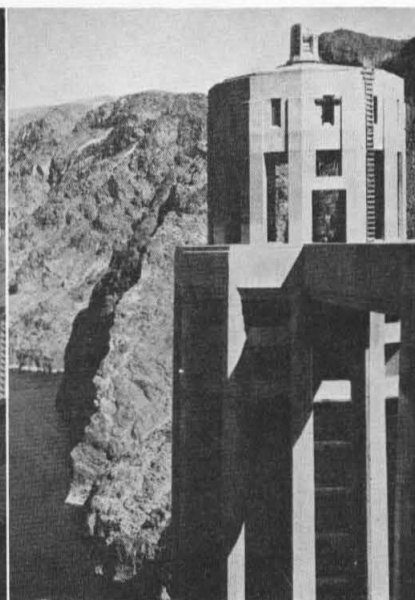
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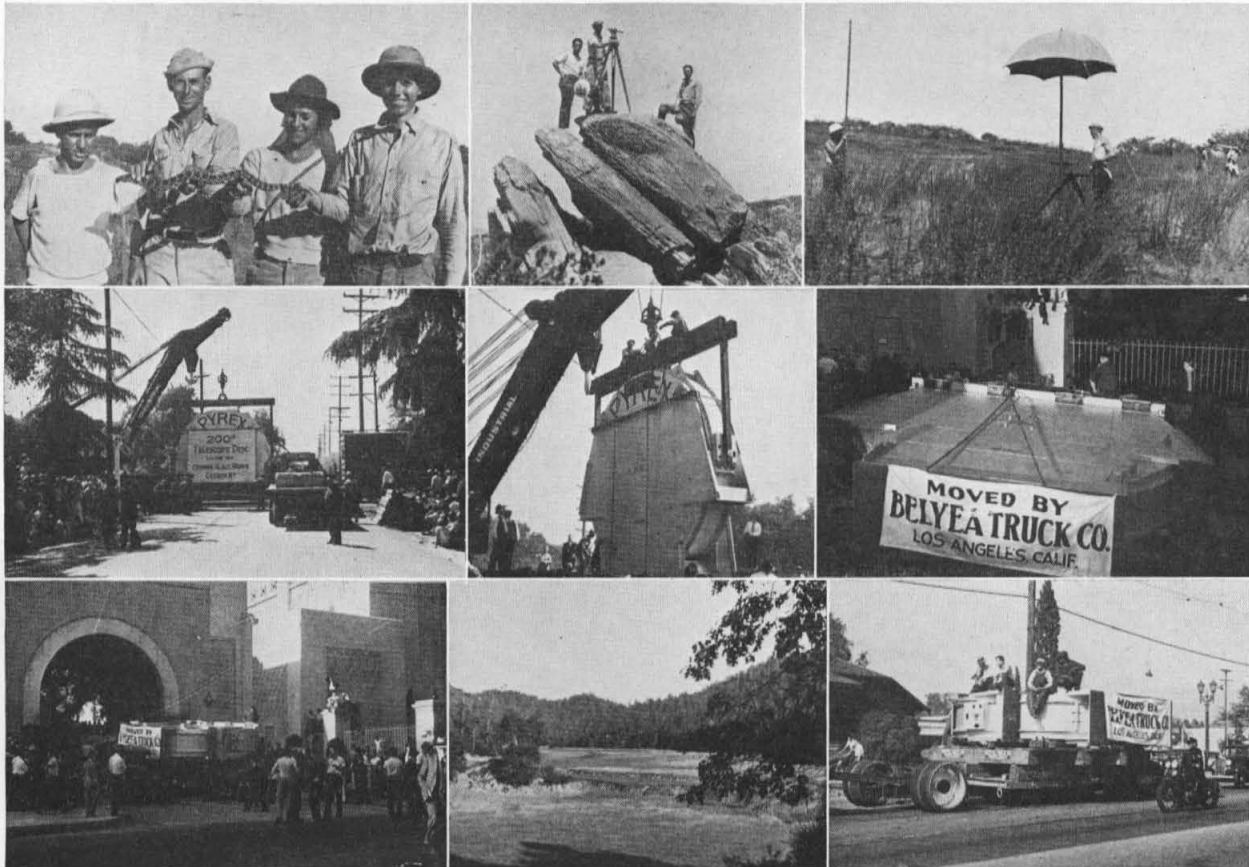
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—Knapp.

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time."
—Clark.

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slower moving liquid outside is given by: f equals 2
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—Millikan.

"No matter how long you go to Tech, you can
never become a Russian."
—Laing.

"There is more water flowing in a big stream than
there is in a little stream."
—Schultz.

"People are ingeniouser than anybody."
—McRae.

CALENDAR

APRIL

- 1 L. A. J. C. tennis squad walked over Tech's team, 8-1.
- 1 Alhambra High School defeated Frosh tennis team, 5-1.
- 2 Beavers presented benefit performance. "Hollywood Holiday," at Pasadena Community Playhouse to raise funds for relay team trip.
- 4 Varsity golf team defeated Pasadena J. C., 10-5.
- 4 Varsity track team defeated Chapman and Loyola, Caltech 102, Chapman 29, Loyola 28.
- 6 Varsity baseball team defeated Occidental, 6-3.
- 6 Professor Daugherty spoke on the Metropolitan Water District in the Monday assembly.
- 6 Varsity golf team defeated the Loyola golf team.
- 7 Varsity baseball team was defeated by Citrus J. C., 10-3.

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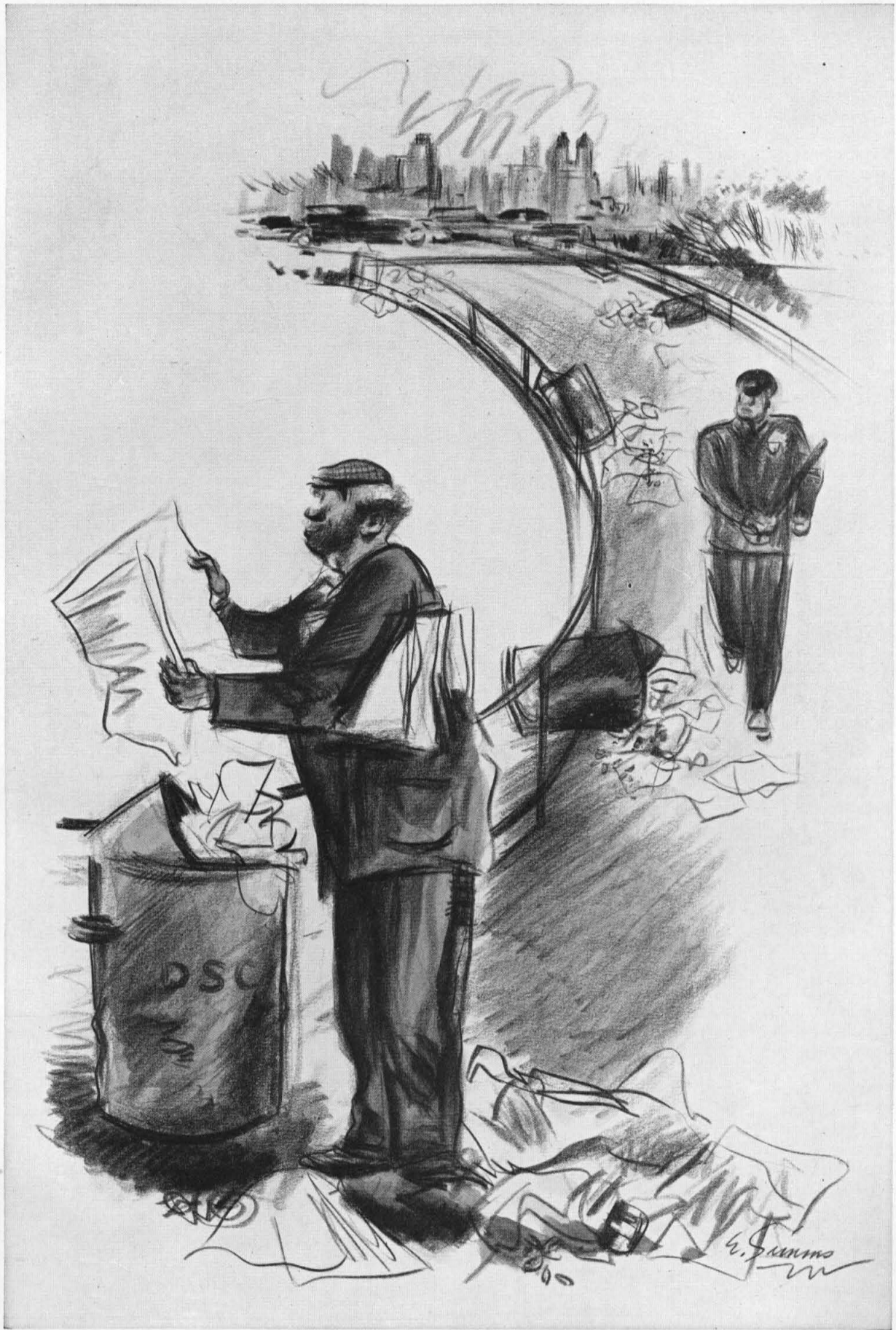
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If you can sight a transit or a level
Or move a target up or down a rod,
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And know yourself and trust the living God.

If you can wade a swamp or swim a river
Nor fear the deep nor yet the dizzy heights,
If you can stand the cold without a shiver
And take the Higgins ink to bed at night;
If you can turn a thumb-screw with your finger
When every digit's like a frozen thumb,
If you can work as long as daylight lingers
And not complain and think you're going some.

If you can run a line where you are told
And make it stay somewhere upon the map,
If you can read your notes when they are cold
And you know that contours mustn't lap;
If you can line a truss or tap a rivet
Or make a surly foreman come across,
If you can take an order as well as give it
And not make secret pity for the boss.

If you can sight thru tropic heat refraction
Or toil all day beneath a blistering sun,
If you can find a sort of satisfaction
In knowing that you've got a job well done;
If you can be an Eskimo and nigger
And try to be a gentleman to boot,
If you can use a guessing stick to figure
And know a coefficient from a root.

If your calculus and descriptive are forgotten
And your algebra just serves you fairly well,
If your drafting and your lettering are rotten
And your Trautwine's always handy by to tell;
If you can close a traverse without fudging
Or check a line of levels by a foot,
If you can set a slope stake just by judging
And never kick a tripod with your foot.

If you can climb a stool and not feel lowly
Nor have your head turned by a swivel chair,
If you can reach your judgment slowly
And make your rulings always just and fair;
If you can give yourself and all that's in you
And make the others give their own best too,
If you can handle men of brawn and sinew
And like the men and make 'em like you too.

If you can't boast a college education
Or, if you've got a sheepskin, can forget,
If you can get a living wage for compensation
And give a little more than you can get,
If you can meet with triumph and disaster
And treat them without favor nor with fear;
You'll be a man, and your own master,
But what is more . . . you'll be an engineer.

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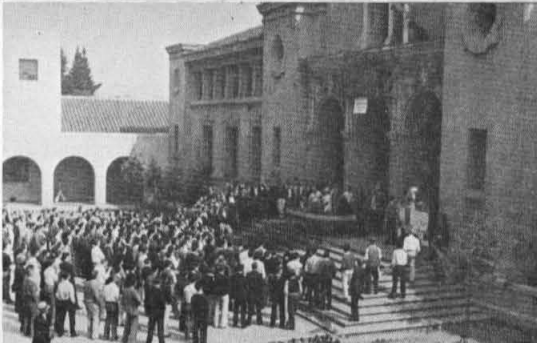


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CALENDAR

APRIL

- 8 Varsity tennis team won over P. J. C., 6-3.
- 10 Frosh tennis team played Montebello High.
- 10 Frosh track team competed with the Pomona Frosh track team. Tech won, 66½-63½.
- 10 200-inch telescope "eye" arrived at Tech.
- 11 Varsity golf team met U. C. L. A.
- 11 Tech varsity track team downs Pomona, 72-68.
- 11 Varsity tennis team played U. S. C. Dental.
- 11 Tech varsity baseball team topped by Redlands, 15-14.
- 13 Los Angeles J. C. played varsity golf team.
- 13 Bill Henry spoke in Monday assembly.
- 14 Frosh and Burbank High tennis teams competed.
- 14 Blacker House was entertained at tea at the home of Max Farrand, director of Huntington Library.
- 14 Long Beach J. C. defeated the varsity baseball team, 6-0.
- 14 Relay team departed for Drake Relays.
- 15 Tennis, varsity versus U. C. L. A.
- 17 Varsity played golf against Glendale J. C.
- 17 Frosh tennis team played University School.
- 17, 18 Annual Exhibit program.
- 18 Varsity topped University of Arizona in tennis, 6-1.
- 18 Throop Club informal dance.
- 18 Dabney House Formal.
- 18 Santa Barbara defeated varsity baseball team, 5-0.
- 20 Frosh met Montebello High in baseball.
- 21 Golf match between Tech and Pomona.
- 21 Tech frosh competed with Webb School tennis team.
- 21 Varsity baseball team encountered Fullerton J. C.
- 24 Sophomore assembly.
- 24 Informal Fleming dance at Oakwilde.
- 25 Frosh met Occidental Frosh in tennis bout.
- 25 Varsity baseball team competed with Pomona.
- 25 Frosh versus Pomona Frosh in baseball.
- 25 Guest dance at Douglas Hall at U. C. L. A. for Fleming House.
- 28 Frosh met Alhambra High tennis team.
- 28 Varsity played baseball with Chapman.
- 29 Tech varsity golf team vied with Santa Monica J. C.
- 29 Occidental and Tech varsity met in tennis.
- 29 Frosh baseball team met Montebello High.

MAY

- 1 Pomona and Tech varsity golf teams competed.
- 1 Frosh assembly.
- 1 Baseball game between Frosh and Pomona Frosh.
- 1 Student Body dance at the Riviera Country Club.
- 2 Tennis tournament between Pomona and Cal Tech Varsity and Frosh.
- 2 Dabney House invited Scripps girls to take over their vacated house for a week-end party.
- 2 Varsity played Pomona baseball team.
- 5 Cal Tech and Los Angeles J. C. golf teams met.
- 5 Varsity baseball team encountered Pomona J. C.
- 8 Varsity versus Loyola in golf.
- 8 Junior assembly.
- 8 Formal dinner dance at Fleming.
- 9 Press Club night at the follies.
- 9 Tech-Occidental baseball game.
- 9 Annual Blacker House Tea Dance at Coconut Grove.
- 9 Frosh baseball team played Occidental Frosh.
- 15 Blacker House annual Costume Party.
- 16 Varsity and Santa Barbara baseball teams meet.
- 16 Frosh versus Webb School baseball team.
- 16 Ricketts House Spring Dance at Ricketts.
- 22 Senior Assembly.
- 22 Ricketts House formal at Valley Hunt Club.
- 23 Junior-Senior garden party.
- 21-23 Drama Club play, "The Taming of the Shrew."
- 25 Conger Peace oration contest.
- 29 Ricketts House beach Party.
- 30 Formal dance for Dabney House in their court.

JUNE

- 11 Class day.
- 12 Commencement day.
- 13 Senior Prom.

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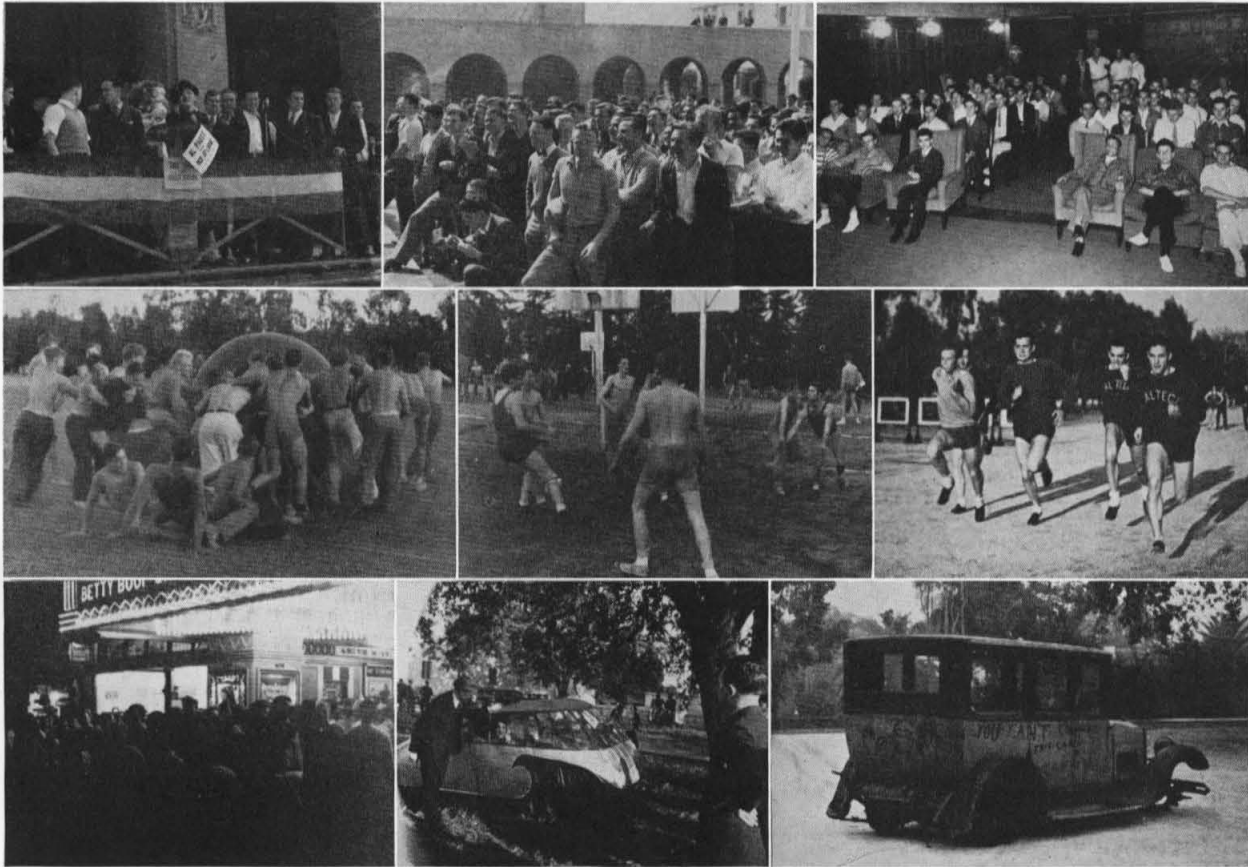
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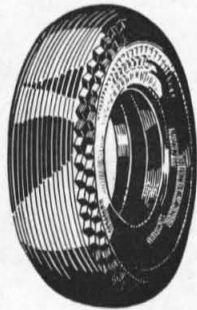
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- Bruce Beckley and Robert Waugh obtained these pictures.
- To the Los Angeles City Department of Water and Power, for
- Night* (p. 57)
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- To E. S. Bryant of the Department, for
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- Excavation* (p. 142)
- To the Union Pacific Railroad, for
- Intake Tower* (p. 150)
- To Louis Kolb '38, for
- Lower Away!* (p. 93)
- For the full-page views of the campus, thanks are due Louis Kolb (pp. 12, 115), Bernard Tobin (p. 13), Mr. John C. Stick (p. 139), the Los Angeles Times (p. 59), and Mr. Martin (pp. 28, 29, 94, 95, 138).
- Prologue panels were drawn by Mr. Charles Knight.

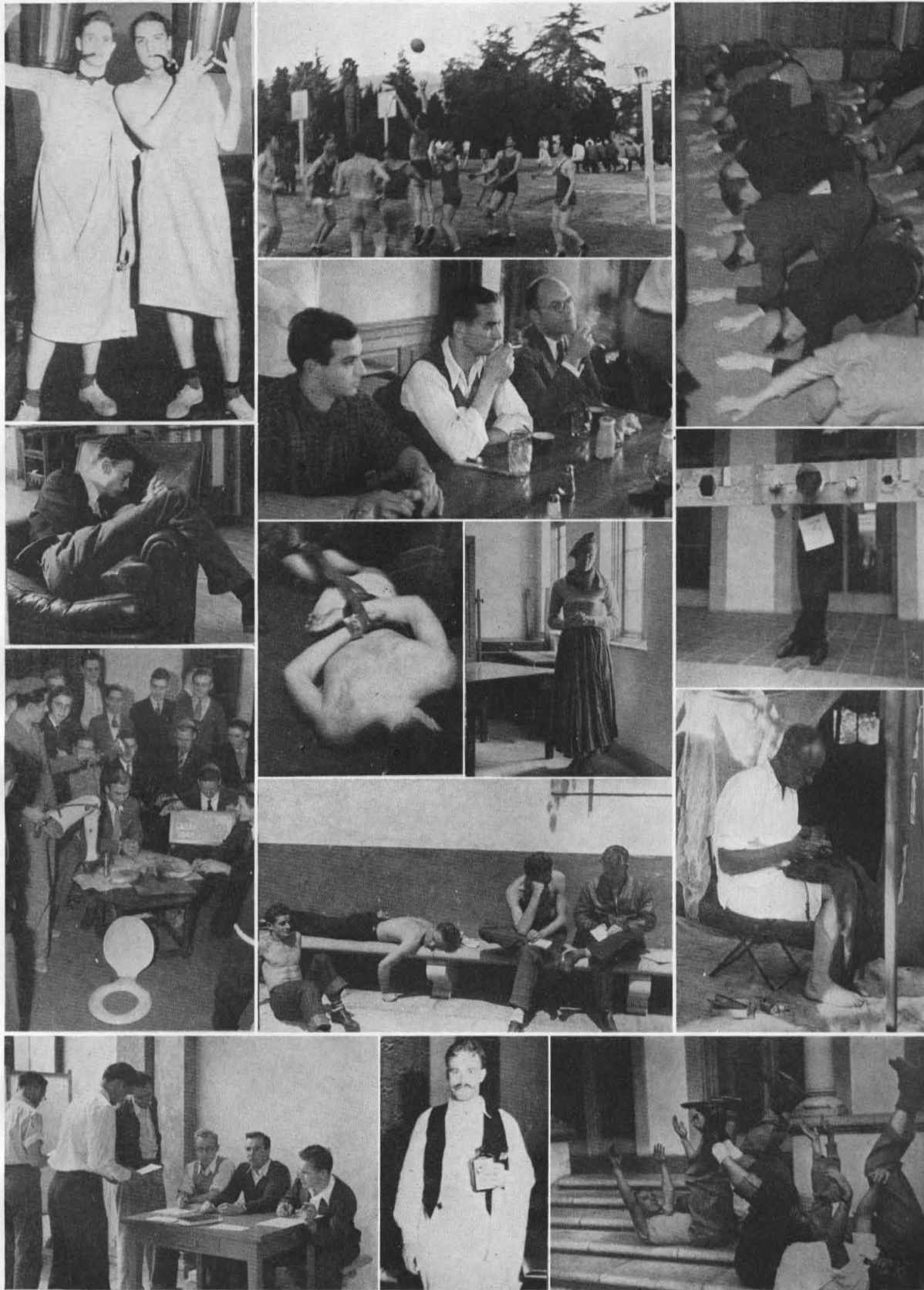
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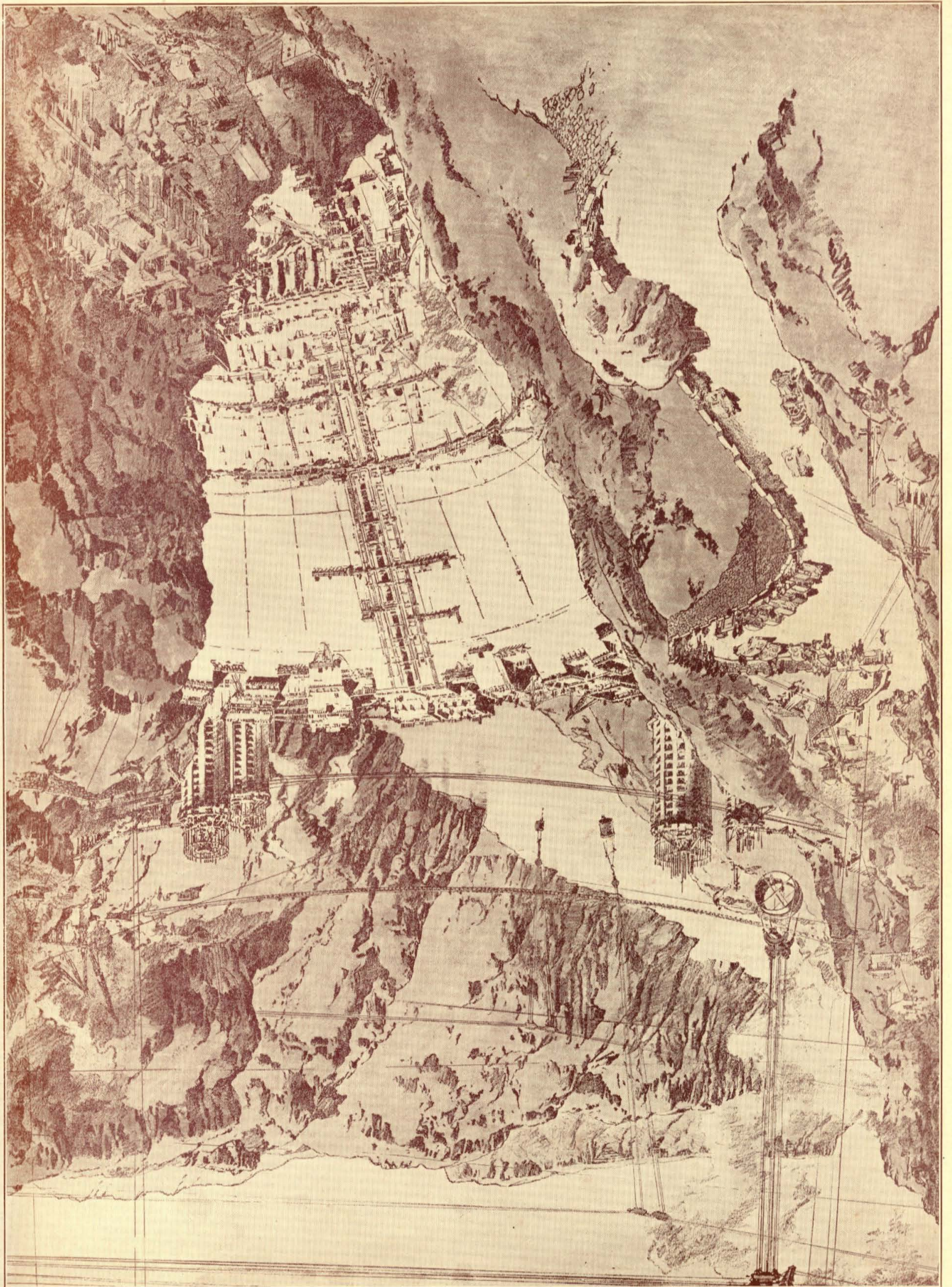
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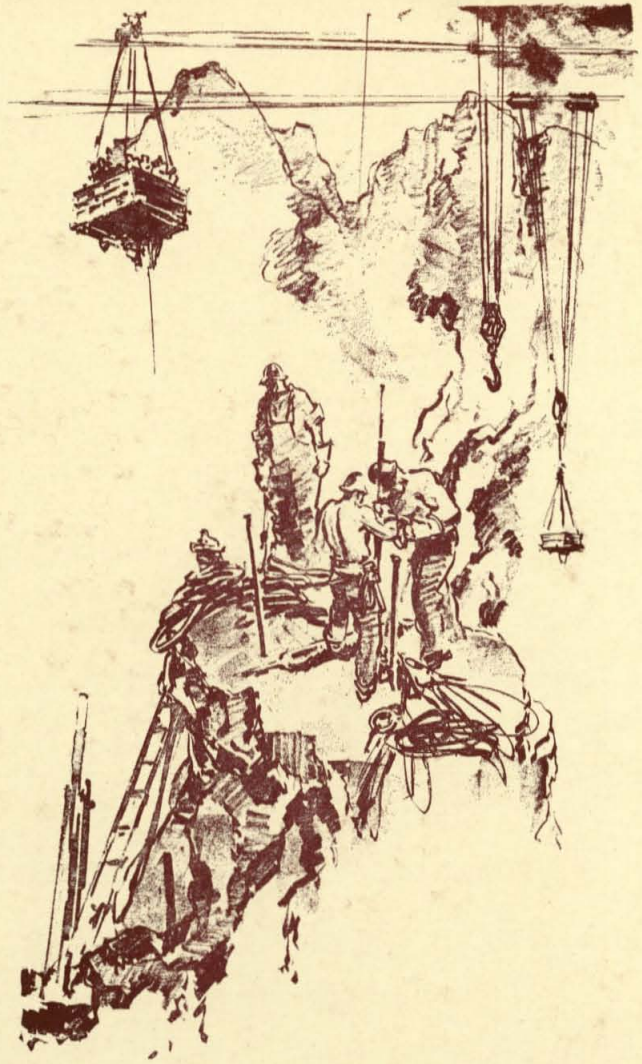
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