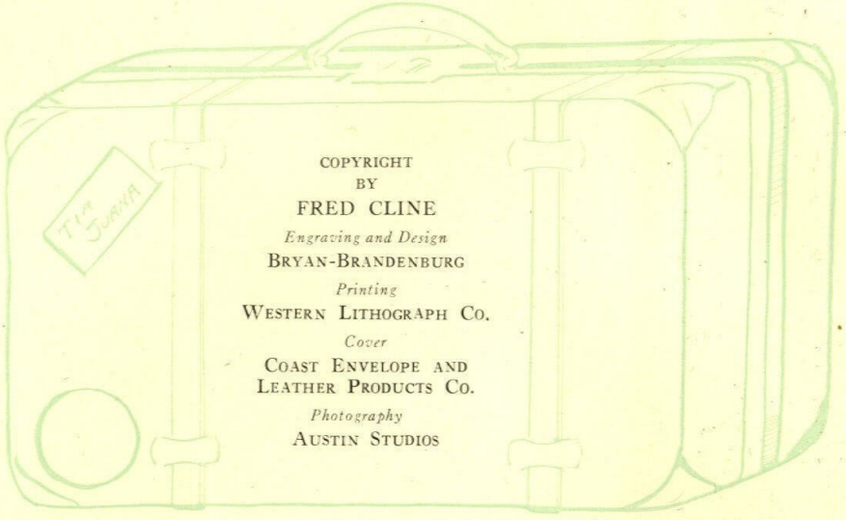
INSTITUTE OF
CALIFORNIA
TECHNOLOGY
1929

THE BIG T OF 1929



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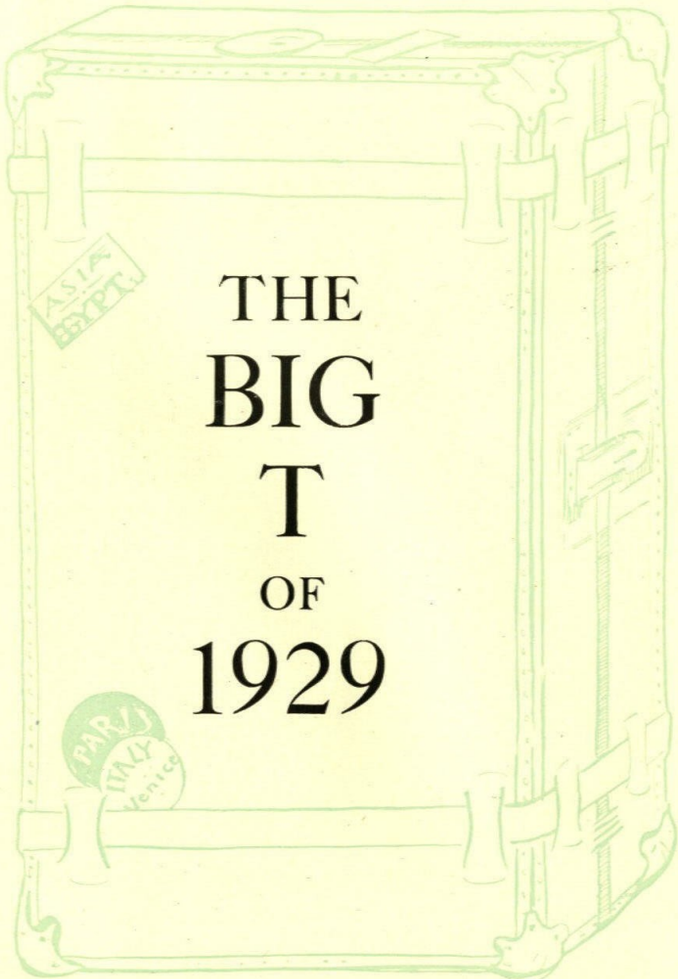

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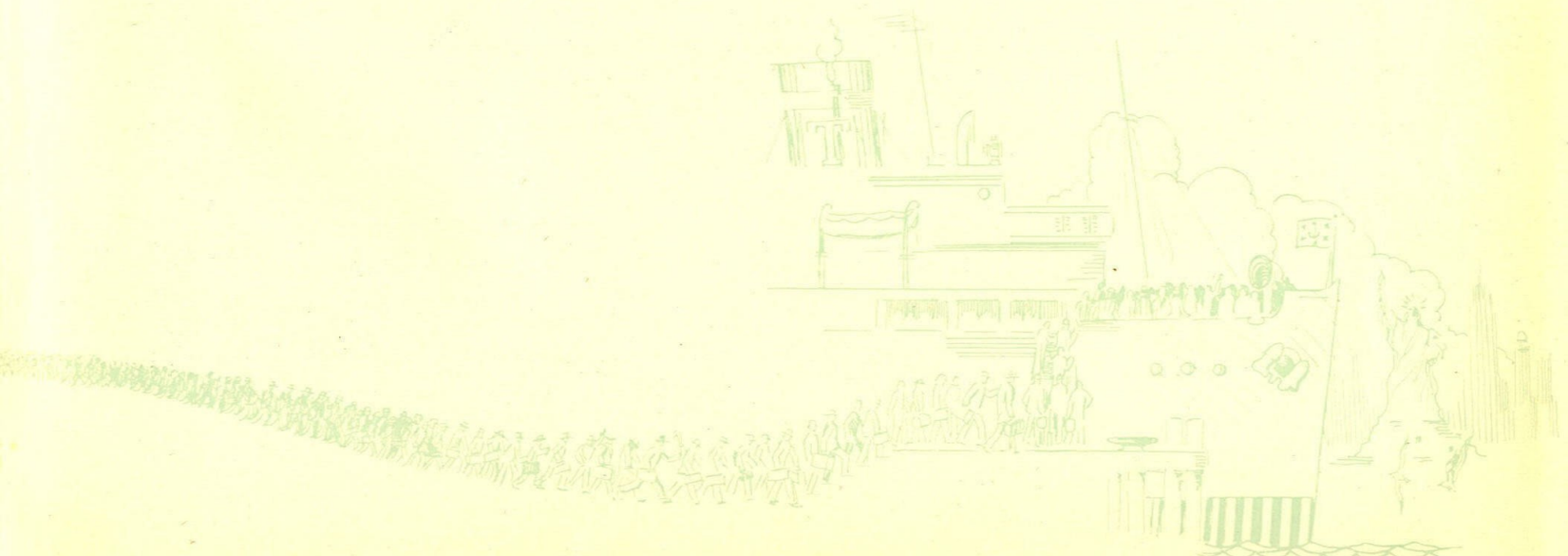


Foreword

IN this little book we present a log of our journeys thru the past year. We have considered them in a surrounding of a foreign atmosphere, though they now seem very domestic, for we once looked on the perils of the year as a path very strange, and beset with dangers. However, we have ourselves broadened out till things we once thought of as foreign and unreal have assumed a familiar and homelike aspect. As it was with our contacts during the past year, it will be with life itself, and this we have depicted in our book. Today most of us are familiar with only a small sphere, but ere long we shall see, and consider commonplace, scenes that we now embrace only in the wildest flights of our imaginations.

Dedicated

WILLIAM G. KERCKHOFF

Who, as a prominent member of one of the pioneer families of California, put his shoulder to the wheels of progress in a territory unaccustomed to the touch of civilization, and strove to make the light of truth prevail. The Institute cherishes with the deepest respect, the memory of this one who contributed so materially toward its progress.

In Memorium

William G. Kerckhoff

John E. Stillwell

Itinerary

OUR JOURNEY WILL TAKE US THRU THE WORLD
WITH SOJOURNS IN THE FOLLOWING LANDS:

Administration

Classes

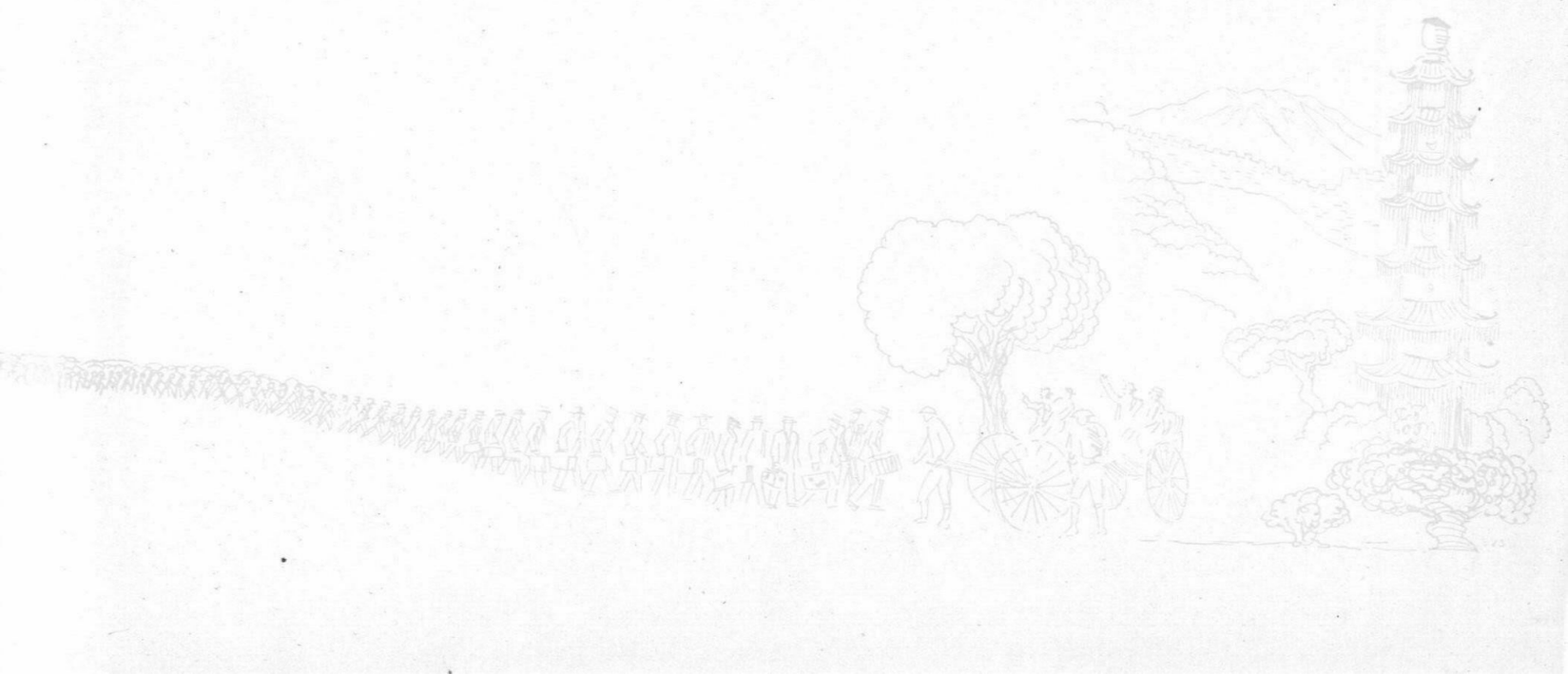
The Year

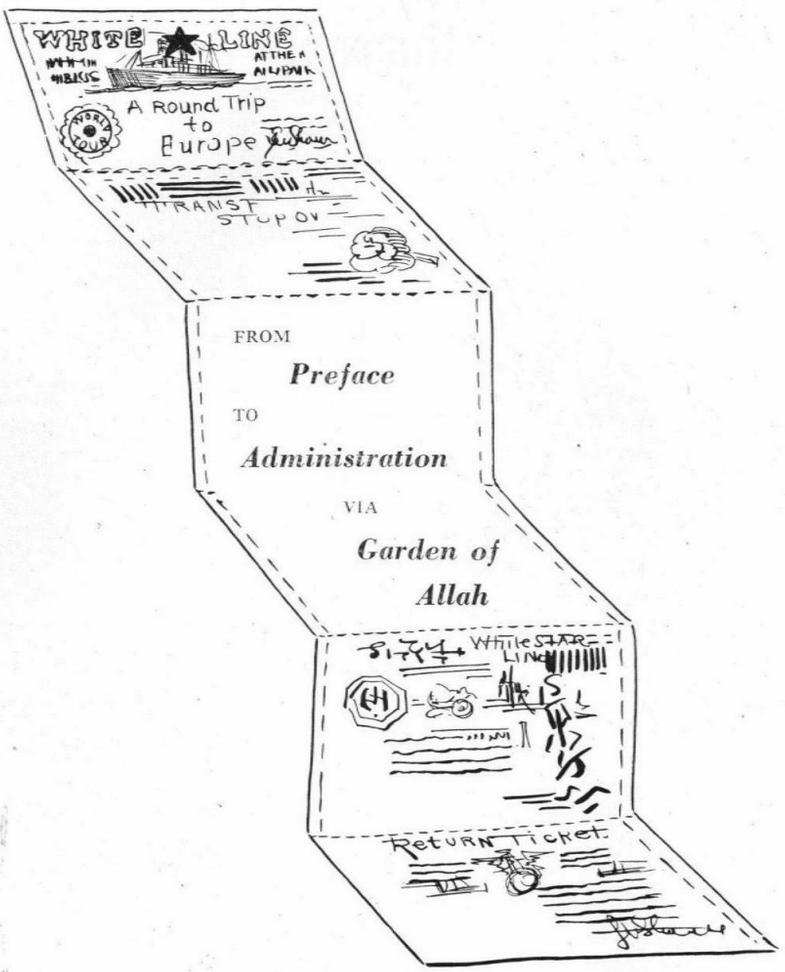
Activities

Athletics

Organizations

Humor

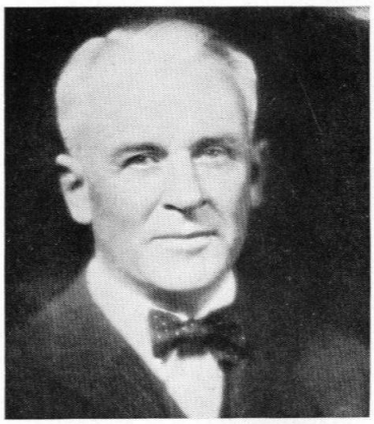



WHITE STAR LINE
A Round Trip
to
Europe
FROM
Preface
TO
Administration
VIA
Garden of
Allah
Return Ticket

SIAM

Administration

FACULTY ADMINISTRATION



ROBERT A. MILLIKAN

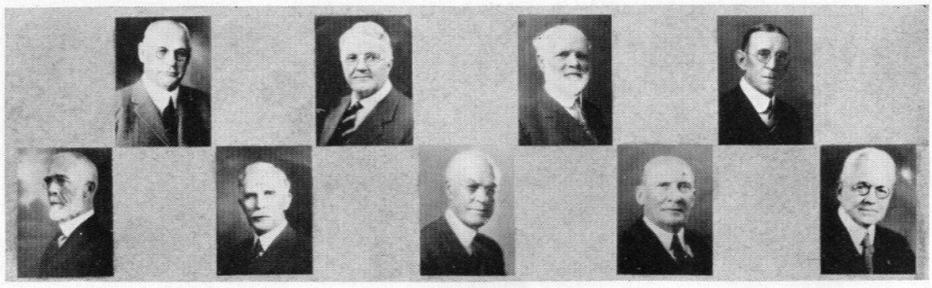
ARTHUR H. FLEMING

There are two ideas, or beliefs, upon which, in the last analysis, the weal or woe of the race depends. The one is the belief in the reality of moral and spiritual values, and the other is the belief in the scientific method and its applicability to all the affairs of life.

ROBERT A. MILLIKAN,
Chairman of the Executive Council.

The aims and purposes of the Trustees of California Institute, can be stated in four words, namely—"Develop Leaders of Men." Men with thoroughly trained minds, capable of straight and exact thinking such as should result from the high-grade instruction in science and engineering offered at this Institute, are greatly needed not only in our own country, but throughout the world, and it is the hope of the Board that through our present selective method of admitting students, and the five-year course now in effect, the large majority of our graduates should be equipped and able to take such places of leadership in the chief lines of business and governmental activities.

ARTHUR H. FLEMING,
President, Board of Trustees.



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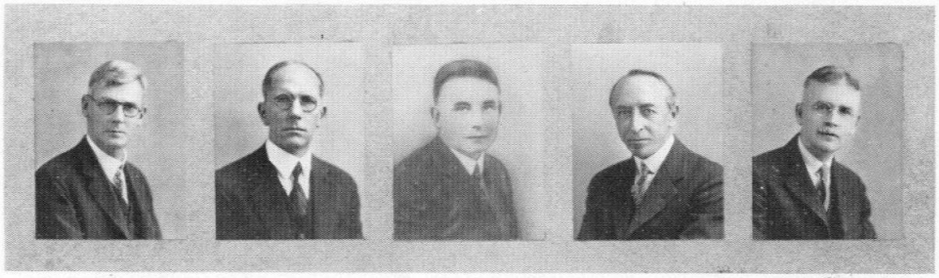

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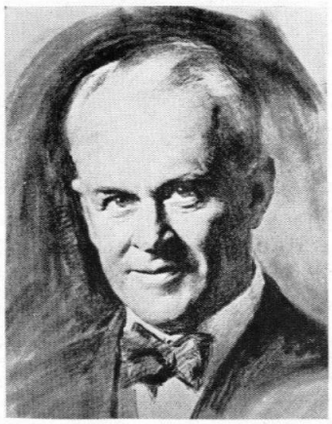


MILLIKAN

PHYSICS

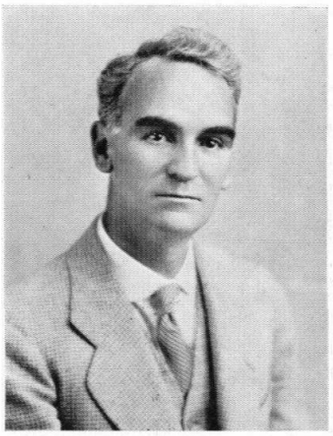
Under the leadership of the personnel second to none, the Norman Bridge Laboratory of Physics continues to contribute a large share to the accomplishments and distinction which are usually credited to the Institute.

Drawn by the magnetism of the profound and extensive program of research and investigation, coupled with the presentation of an eminent staff of advanced physicists of conceptions of wave mechanics, quanta, electricity, optics, and frequent seminars on kindred subjects, a large number of men are to be found in the Graduate School who have come from all parts of the world. Within the year there has been announced the establishment of a great college of Astro-Physics to take place within the next few years. This department will be equipped with a two-hundred-inch reflecting telescope and many auxiliary instruments. The prime purpose of the connection of this new observatory with the Institute is to secure the advantages in the design, construction, and operation of the new unit, of the combined knowledge and experience of the strong group of investigators in the research laboratories of the Institute and in the neighboring Mount Wilson Observatory.

The purpose of the Astro-Physical Observatory is thus to supplant not to duplicate, the Mount Wilson Observatory. The increased light-collecting power of the two-hundred-inch telescope will permit further studies of the size and structure of the galactic system; of the distance, radiation, and evolution of stars; of the spectra of brighter stars under very high dispersion; of the distance and nature of the spiral nebulae, and of many phenomena bearing directly on the constitution of matter.

The undergraduate courses in Physics are thorough and comprehensive, embracing a preliminary two-year course in mechanics, heat, electricity, sound and light; and in the Senior year, courses in analytical mechanics, and electricity and magnetism. The Laboratory facilities are complete for effective laboratory work.

MATHEMATICS



BELL

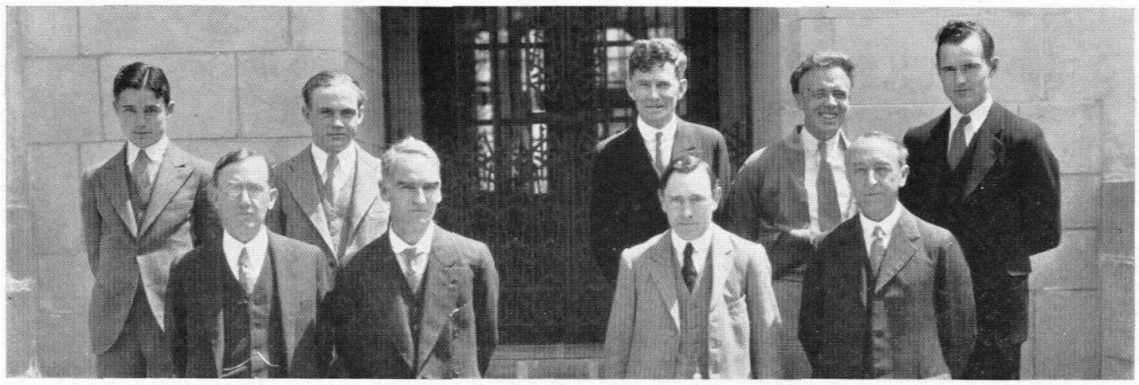
The Mathematics Department of the Institute is one of the most important on the campus both from the standpoint of work accomplished and from the standpoint of personnel. It is to this department that much of the credit for scientific and engineering success must be credited. Through its close connection with other departments it is able to carry to completion many of the strictly technical results which are obtained by experimental methods.

Dr. E. T. Bell, one of the greatest living mathematicians in the country, is head of the department, and along with others on the campus, has contributed greatly to the furtherance of advanced mathematics. His help in the solution of problems in the fields of physics, chemistry and aeronautics is incalculable.

The undergraduate instruction in mathematics is very sound and thorough, with basic courses in differential and integral calculus, as well as analytic geometry offered in the first two years. However, a rather important change is being instituted this year. Instead of the general mixed-up course in Freshman and Sophomore Math that has been given before, this year's Freshman Class started out with almost a term's work in analytic geometry, followed by an almost equal period of nothing but differential calculus. This policy of splitting up the mathematics courses into more or less definite subjects is a step back toward the older and more conservative method of teaching mathematics, and is a departure from the Institute's previous policy.

Courses in the second two years of undergraduate life are elective and are taken advantage of by many men who are far visioned enough to see the importance of a full knowledge of this very important subject. Among the courses given are both those of a very high theoretical nature, for the use of chemists, physicists, and other students of the pure sciences, and those of a more practical nature, such as those closely connected with economics.

Dr. Clyde Wolfe is justly famous for the far-reaching improvements which he has instituted in the construction of different types of calculating machines. These improvements have both simplified the machines and also made them capable of doing very involved problems.



MORGAN

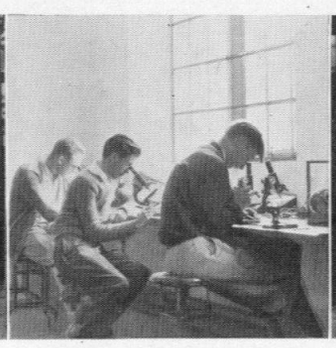
BIOLOGY

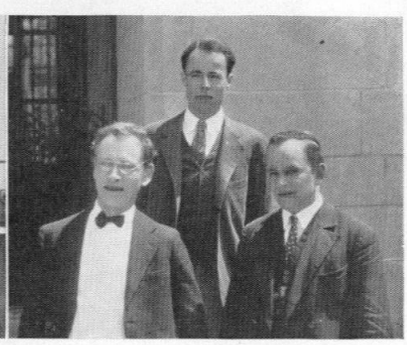
This year marks the beginning of an entirely new department on the campus, the Department of Biology. Its organizer, Dr. Thomas Hunt Morgan, is one of the most prominent workers in the field of biology and he is ably supported by a staff of competent workers in various fields. At present, research is being carried on along the lines of plant and animal genetics, experimental embroyology and protozoology. In the future it is planned to secure groups of trained investigators to pursue work in the fields of general physiology, developmental mechanics, biophysics, biochemistry and perhaps later, experimental psychology.

The existing building is only one unit of the proposed group which will be known as the William G. Kerckhoff Laboratories of the Biological Sciences and will occupy the corner at San Pasqual and Wilson. This group will include a library and a large fresh and salt-water aquarium. The department also hopes to secure a piece of land close to the Institute to be used as a farm for extensive work in plant genetics. A marine station has been temporarily established at the entrance to Newport Bay, a place rich in marine Fauna and Flora. At present it is in a very embryonic state consisting only of a small shed, a landing and one rowboat. If the location proves to be favorable a fully equipped laboratory will be established. Material obtained here during the year has already proved of great value in studying problems in experimental embryology.

An undergraduate course was given in the third term. It was very general in nature and was conducted more or less as an experiment. Next year regular courses will be scheduled. An elementary course is planned which will be required of all Sophomores. No graduate courses have been announced but they will be established as rapidly as there is need for them.

Dr. Morgan heads the staff, and is one of the most eminent biologists in the country. Before coming to Tech, Dr. Morgan was associated with Columbia University. Assisting Dr. Morgan are A. H. Sturtevant, E. G. Anderson, and S. H. Emerson.





AERONAUTICS DEPARTMENT

BATEMAN

Two major events marked the advance of aeronautics at Tech this year. The first was the flying of the "C. I. T. 9," or the "Dill Pickle," at the National Air Races held in Los Angeles at Mines Field last September. The second was the opening of the Aeronautical Laboratory with its enormous wind tunnel.

The Daniel Guggenheim Graduate School of Aeronautics was established at C. I. T. in 1926 when the Daniel Guggenheim Fund for the Promotion of Aeronautics set aside $200,000 for the construction of the laboratory, and an additional sum to provide an annual income of $15,000 with which to support the school.

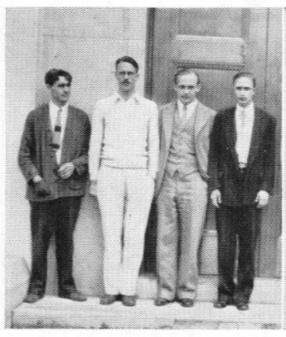
Previous to the Guggenheim donation, Professor Bateman and Mr. Merrill had instructed small classes in aerodynamics. Mr. Merrill had constructed several gliders and one experimental plane. From this inconspicuous start the department has grown to one of major importance at Tech, and will undoubtedly become a vital part in the advancement of aeronautics through research.

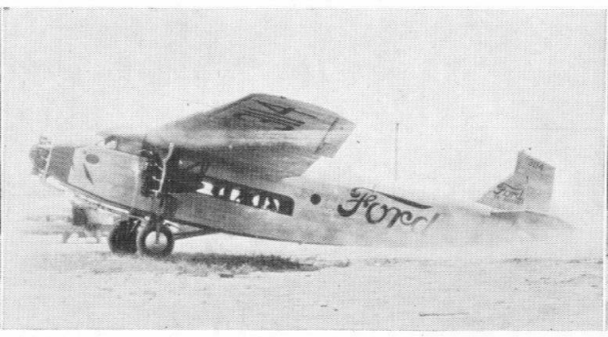
One of the outstanding courses this year given was Technical Hydrodynamics and Aerodynamics by Professor Theodor von Karman of Aachen, Germany. The Airplane Design Course is aided tremendously by the co-operation of the Douglas Airplane Company of Santa Monica, whereby their designers and engineers come to Tech weekly to instruct the graduate classes.

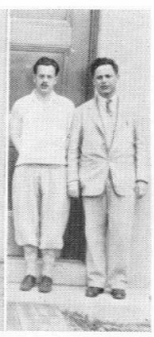
The courses given at the Institute have been supplemented this year by trips to commercial factories and to the Naval Air Station at San Diego. These trips and the Douglas Company's Engineering instruction give the students a contact with actual practice that is of infinite value.

One of the unusual opportunities offered by the graduate school is the wind tunnel, which has a working section ten feet in diameter and an air speed of 200 miles per hour. When operating the tunel at full speed the motor draws about 800 H.P.

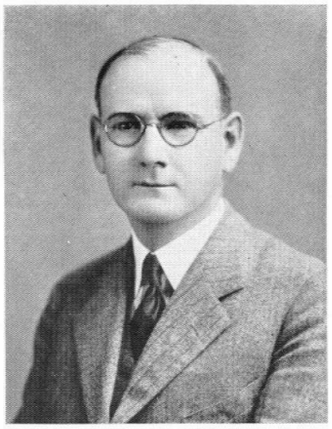
Other interesting features of the new laboratory are the extremely well-designed drafting room, the department library and seminar room, and the pole allowing rapid communication between the balance room and the third floor and the working room of the tunnel on the main floor. A large tank in the second basement is provided for seaplane hull design research. Other rooms in the basement are provided for metallurgical research work.







CIVIL ENGINEERING



THOMAS

The Senior members of the Civil Engineering Department have shown an interest in their future profession by making many inspection trips to places of engineering interest in Southern California, as well as engaging in the problems of design, and studying the theory of structures in classrooms. The fifth-year course, which was conducted under a definite schedule at the Institute for the first time this year, has turned out to be a very successful venture for both students and faculty. The course consists in general of the more intricate problems of design in steel and masonry structures. One of the interesting problems which has engaged the attentions of the fifth-year men has been the study of the design of buildings to resist earthquake shock.

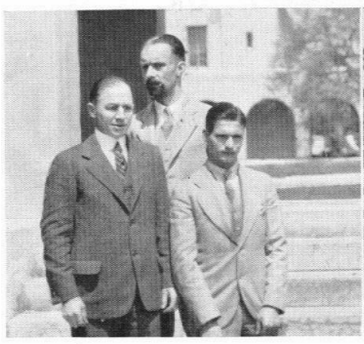
The students of Civil Engineering are exceedingly fortunate in having a faculty which not only is well versed in the subjects which it is teaching, but which is also very active in work outside the regular curriculum of the campus. Thus, the instructors are men who have widespread views and interests in the engineering field.

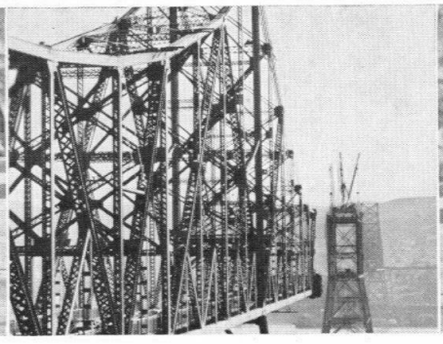
Professor Franklin Thomas, head of the Civil Engineering Department, is Vice-President of the Board of Directors of the Metropolitan Water District of Southern California. The board will control and direct the design and construction of the aqueduct from the Colorado River to Los Angeles upon being assured that a dam will be built.

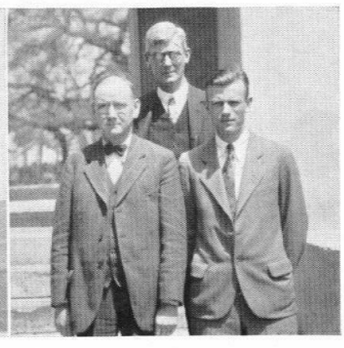
Professor R. R. Martel is now acting as a consultant on the erection of various buildings with respect to safety precautions against possible earthquake damage.

Professor W. W. Michael has recently arranged to co-operate with the State Highway Bureau in connection with research problems which frequently arise in this part of the State.

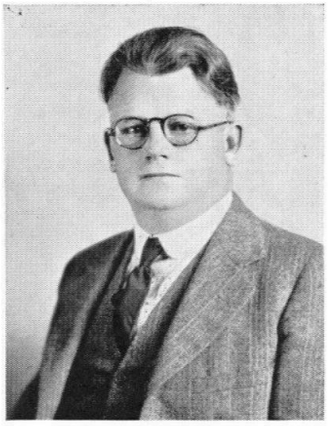
Although, as in many of the other departments of the Institute, there is often dissension among the students regarding the load of studies imposed upon those taking the course, the Civil Engineering staff has shown its wisdom by setting such a high standard, that it continually receives gratifying reports from all parts of the country wherever Tech Civil Engineers are working. Graduates of Tech in this department now occupy responsible positions in bridge and structural engineering, irrigation, power development, highway engineering, dam construction, and oil refining with many private concerns, and with City, County, State or National Governments.







ELECTRICAL ENGINEERING



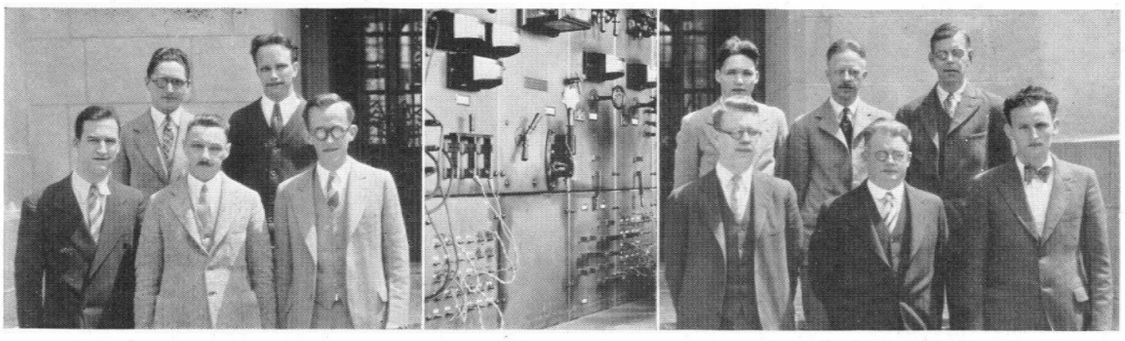
SORENSEN

Research in Electrical Engineering involving a knowledge of mathematics, physics, and electrical engineering in excess of that offered by a four-year undergraduate course, is now being offered by the Institute. The fifth-year course this year was not only very fruitful, but proved that at least this one extra year is necessary for those men who wish to specialize in some technical field of electrical engineering. The research work, however, is carried into the sixth and seventh years, after which the degree of Doctor of Philosophy may be obtained. There are usually fine facilities offered in this graduate work for electrical machine design, electric transients, high voltage engineering problems, power distribution, and vacuum tubes. Professors R. W. Sorensen, S. S. Mackeown, and Mr. F. W. Maxstadt direct this work.

Three men obtained the Doctor's Degree in Electrical Engineering this year. Claude Hayward's thesis dealt with the Mechanism of Electric Arcs between Separating Metallic Contacts in High Vacuum; William Lewis designed the Control System of the Wind Tunnel in the Aeronautics Laboratory; Nicholas Obouk-hoff had as his subject the "Method of Designing Medium and High Frequency Alternators."

Other research men were working on the induction motor design, Neon sign tubes and a study of lightning. Of particular interest in this department is the lightning generator being constructed. A series of huge condensers will work in conjunction with the transformers in the million-volt laboratory to produce great electrical discharges. Another unique piece of apparatus constructed was the cathode ray oscillograph which is capable of recording certain electrical phenomena of only one ten-millionth of a second duration. This extremely sensitive instrument is a very valuable addition to electrical equipment, and was used by Professor Sorensen in his work on vacuum switches, and also by Hayward in his related work which was outlined by this thesis.

The vacuum switches just mentioned were developed by Dr. R. A. Millikan and Professor Sorensen in the last few years, and have been patented in the important countries of the world. The General Electric Company is very much interested in these switches.



BUWALDA

GEOLOGY

In establishing a course for the study of earth science, the Institute, during the past few years, has created the Division of Geology, and Paleontology, whose purpose it is to carry on research investigations of the earth's crust and of the evolution of life upon it.

The aim of a general course which comes in the third year is to give the student a better concept of the environment in which the human race lives. The aim of the professional course is to train men for geological research, for teaching, and for the exploitation of economic deposits.

At present the staff of the department covers all of the various branches of geology, work is being done in physical geology, in invertebrate and vertebrate paleontology, and in economic geology, minerology, and petrology. Research in the several fields is being conducted throughout the length of the Pacific Coast from Oregon to Mexico. It includes investigations of the physical geology of several mountain areas, problems in the vertebrate paleontology of the Channel Islands, and of the John Day Region of Oregon, studies of the invertebrate paleontology of the Gulf of California Region, and other problems related to the geology of the coast. Examinations of dam sites have also been made with a view to determining their adequacy to support structures planned for them. Ore deposits of Mexico and of other parts of the Southwest are being investigated.

Southern California is probably one of the greatest natural field laboratories in the United States, and the division has profited materially by being located at this vantage point. Climatic conditions permit field work to be carried on throughout the entire year with little interruption because of inclement weather. Several nearby mountain ranges are in active process of formation; an abundance of both vertebrate and invertebrate fossils exist in the region; and oil fields and mineral deposits are close at hand.

The staff is headed by Dr. J. P. Buwalda, formerly of the University of California, and he is assisted by Drs. Woodring, Stock and Ransome, as heads respectively, of the Departments of Invertebrate and Vertebrate Paleontology, and of Economic Geology.

MECHANICAL ENGINEERING

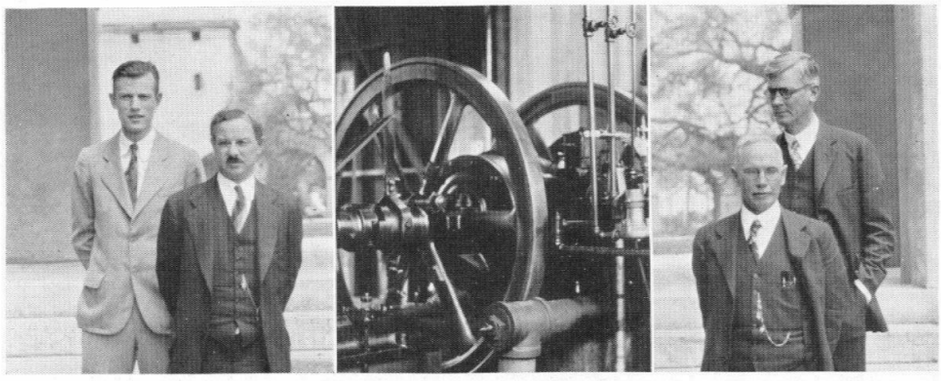
DAUGHERTY

The highly industrialized world of today finds itself dependent on the services of the mechanical engineer for the maintenance and progress of the small as well as the large plant. It is the purpose of the Mechanical Engineering Department to train and develop men so that they will be competent to perform the services demanded of them and be able to fully realize the opportunities of their special field.

In view of these facts, the mechanical engineering student, graduate and undergraduate pursues a number of textbook and laboratory courses, the former to acquaint him with the more common principles and facts applicable to his work, and the latter to acquaint him with the actualities, engines, and other mechanical equipment, produced by application of these principles and facts. Moreover, the fifth-year student engages in some special research problem in order to obtain material for a thesis. The research this year was concerned with seismographs, metallurgical problems and internal combustion engines.

From year to year the laboratory arrangement and equipment are improved. Recently the Institute purchased a Wasson Motor Check, an automobile testing apparatus, from the Testing Department of the City of Los Angeles, and received the loan of a universal joint testing machine.

Besides the regular prescribed courses, the undergraduates receive instruction by way of inspection trips to the plants of large industrial concerns. One of the most important trips of the past year was to the Union Tool Company, and the Columbia Iron Works in Torrence. Also, certain companies from time to time allow the Senior "mechanicals" to perform tests on the plant equipment during its operation. The Standard Gasoline Company has on several occasions given such an opportunity. The present graduating group conducted a very complete typical acceptance test on heat consumption to verify the manufacturer's guaranty of the boiler and turbine of the Municipal Power Plant of the City of Pasadena. Tests of this kind are of great value in familiarizing the student with a commercial set-up.



HUMANITIES

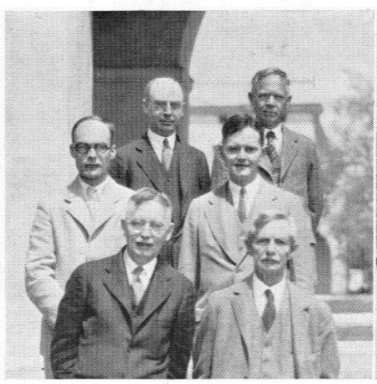
JUDY

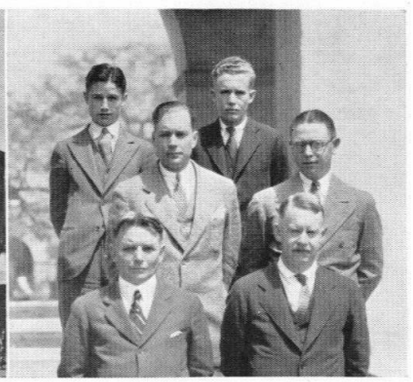
The value of the study of the humanities has always been recognized at the Institute, and the policy of making a place in the curriculum for these important subjects has been followed consistently. With the growth of the school it has become more and more important to build up a strong Humanities Department. During the past years the department has labored under the difficulty of having inadequate space for its needs. Classes had to be held in various buildings on the campus, where the close proximity of a physics or chemistry laboratory too often proved a distraction to those endeavoring to detach themselves from scientific thoughts.

The past year has been a year of triumph for the Division of Humanities. With the erection of Dabney Hall, the gift of Mr. and Mrs. Joseph B. Dabney, costing in the neighborhood of a quarter of a million dollars and devoted entirely to the Humanities, this department has attained the importance on the campus which it deserves. Through the interest of Mr. H. M. Robinson an endowment fund of $400,000 has been subscribed by friends of the Institute for the Humanities Division. An artistic library, a spacious lecture room, an attractive and comfortable lounge, and a walled garden, now being landscaped, are points of special interest in and about the building.

With this material expansion came a corresponding expansion of the Humanities Department staff. New men who have been associated with the staff this year are: Professor Bernard Fay of Paris, specializing in Eighteenth Century European History; Professor Frederick J. Turner of Harvard, now an associate at the Huntington Library; Dr. Max Farrand of Yale, now Director of the Huntington Library; and Dr. Harvey Eagleson, now assistant professor of English. Again, this year, courses were conducted by Dr. Theodore Soares, and by Dr. William B. Munroe. The Institute is exceptionally fortunate in having men of such prominence connected with this department.

We can take pride in the fact that perhaps no other technical school in the country has a finer unit devoted to the teaching of cultural subjects.





CHEMISTRY

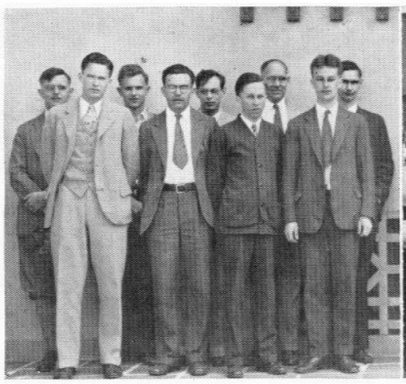
NOYES

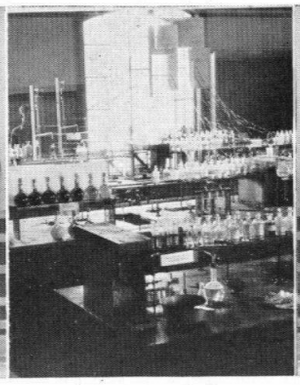
The Department of Chemistry is one of the most advanced in this country. Under the leadership of Arthur A. Noyes it has set the pace for other institutions. Problems of research are being attacked here which will some day provide the work with many new laws of chemistry.

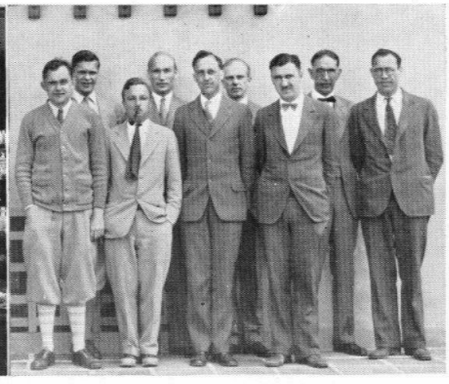
The structure of crystals is being subjected to intensive research in the Gates Laboratory for this subject is proving to be one of vast importance for the better understanding of chemical reactions, and of the solubilities of substances. Many hitherto unexplained reactions may be determined from the proper knowledge of crystal structure. In order that greater proof may be given to the theory of chemical valence, the subject is being investigated by means of the X-ray. It is hoped by this means to give added substantiation to the present day theory of valence and electron bonds. A few other research problems that are absorbing the interest of the men engaged in research in the Gates Laboratory are: The Raman Spectra, the Photo-Chemical Decomposition of Ultra-Violet Light, the Thermal Decomposition of Nitrogen Pentoxide, Velocities of Gas Reactions, Photo-Chemistry of Solutions, High Temperature Equilibrium, Activity Coefficients of Hydrogen Chloride and Potassium Perchlorate, and the Chemical Nature of Poison Oak.

The Physical Chemistry Laboratory under the direction of Dr. J. S. Bates is equipped with modern apparatus to test many of the laws of physical chemistry. Ion velocity rates, activity coefficients, heats of reaction and dilution, molecular weights and volumes, specific heats may all be tested in the laboratory. Much valuable apparatus has been gathered in order that this field of chemistry may be well covered.

Organic Chemistry is receiving much attention for it is proving to be a field of great importance. Howard J. Lucas, professor of Organic Chemistry, is providing the men working under him with many research problems of importance which are proving to be of value to the scientific and commercial world. Dr. N. W. Lacey is well known in the industrial world and it is of value that he should have charge of the Industrial Chemistry Laboratory.







MILITARY

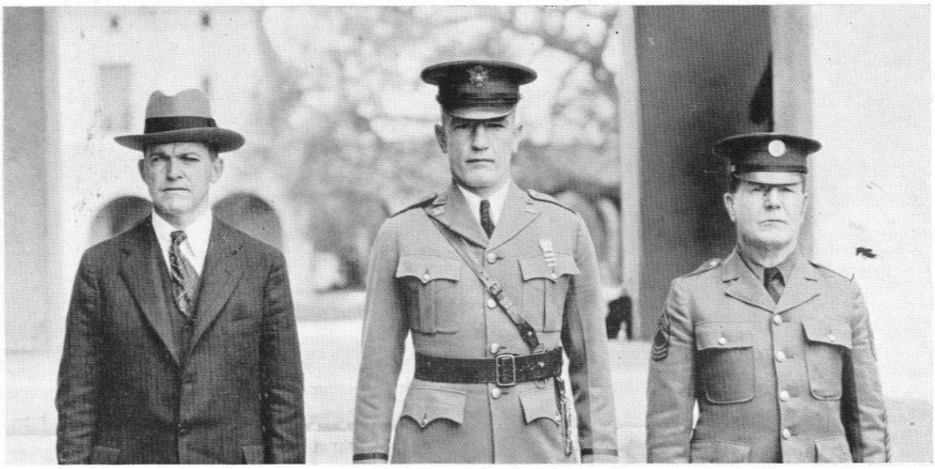
ADAMS

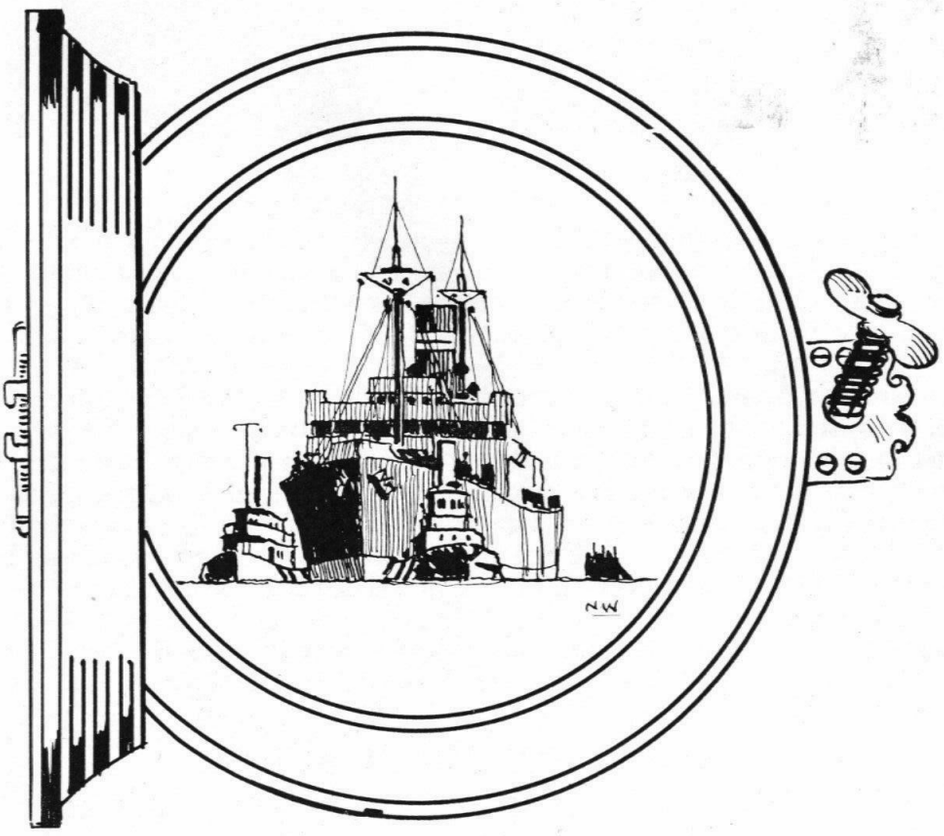
Senior Division Reserve Officers' Training Corps units are established under the War Department supervision in one hundred and sixteen universities and colleges throughout the United States. Among them are eighty-three infantry units, thirty-eight artillery units, ten calvary units, many miscellaneous units of air corps, signal corps, medical corps, etcetera, and twenty-three engineer units, one of which is the C.I.T. Engineer Battalion. The primary object of the R.O.T.C. is to create a large body of potential military leaders which may be called into service in the event of a major emergency. Under this plan, graduates of the optional advanced course are commissioned in the Engineer Reserve Officers' Corps.

The highest of standards have been maintained in the Military Department at Tech, as may be testified by the "honor rating" which the battalion received last year, and by the equivalent "distinguished college" rating which it received during the previous three years. This success has been achieved largely through the efforts of Lt.-Col. L. M. Adams, whose broad experience in active service has contributed greatly toward the progress of our unit. The entire college regrets that he is to be retired this July.

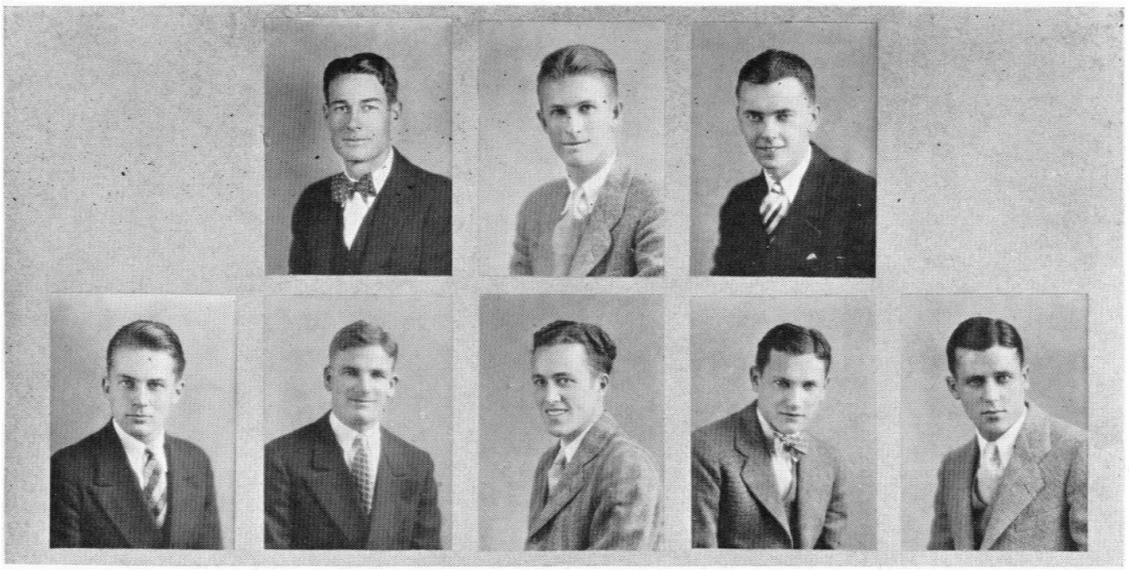
The policy of the Military Department is to offer training which will be of practical value in civil life as well as in military service. The six weeks of summer training camp following the Junior year, which are a part of the advanced course, are invariably a source of enjoyment as well as profitable experience. A group of Tech men was sent to the first of these camps at Fort Humphries, Virginia, in 1920, terminating the war era. The Student Army Training Corps at the Institute was so pleased with the whole trip that it petitioned for the maintenance of the Military Department as a Senior R.O.T.C. unit to provide the same opportunity for future Tech men.

Subsequent summer camps have been held at Camp Lewis, Washington, and at the Calvary Base at Monterey, where the one this year will be held under the direction of Lt. Claterbos. Camp training consists of horsemanship training, rifle, pistol and machine gun practice, demonstrations, field problems, and inspection trips.





STUDENT ADMINISTRATION



STURGESS | M. SHIELDS, C. SHIELDS | EVANS, WEISMANN | BAKER, LANGSNER | MUFF

I hope you men have enjoyed this year as much as I have. When I took over the office of President one year ago I knew just how much work it entailed, and now I regret to leave it. I say I enjoyed the work because I believe I gained as much from it as I put into it, and student bodies give a fellow no small amount of worry.

I was actually proud of the support given to the teams during football season this year. It pulled many a game out of the fire. Lately I have become reconciled to the fact that the apparent second and third-term slump is inevitable no matter how hard a President may try to overcome it. The slump is only apparent, because when really called upon for a display of the old fight it is always there. We must needs work too hard here at Tech to give all our time to outside activities, and when we do give we put everything into it. Tech has never been a weak sister of the Conference.

It's been a wonderful year, men, and I hope you will make the next one even better by always remembering the Tech tradition of fight and pulling together.

Sincerely, TOM EVANS.

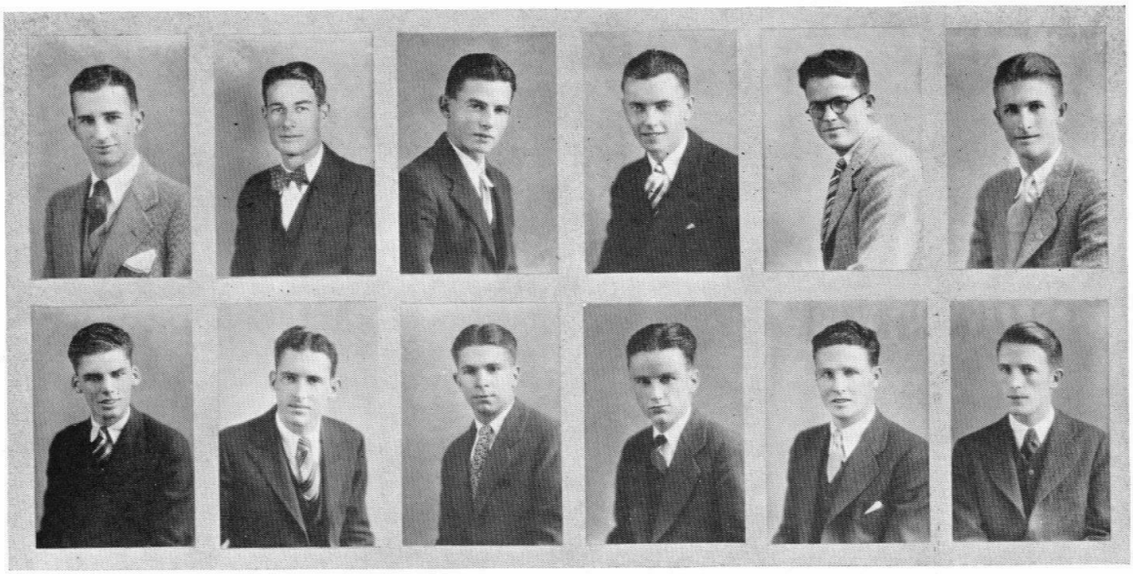
EXECUTIVE COMMITTEE

The machinery of the Student Body Organization is controlled by an elective group known as the Executive Committee. It is composed of the Student Body President, Vice-President, Secretary, Treasurer, Publicity Manager, Athletic Manager, and two Representatives-at-Large.

At the regular weekly meetings the routine student body business is handled. The "Ex" Committee has sole charge of all expenditures, athletic awards, managerial appointments, and such matters pertaining to student body government.

Members of the Executive Committee meet once a month with members of the faculty group on student relations to settle questions that may concern the two organizations represented.

The Athletic Council is composed of faculty members and representatives from the "Ex" Committee. This group authorizes expenditures and makes up the yearly athletic budget, which is different from that of the Associated Student Body.



O'Haver Chambers | M. Shields Downs | Kingman Towler | Baker Crawford | D'Arcy McGarry | Evans Ingham

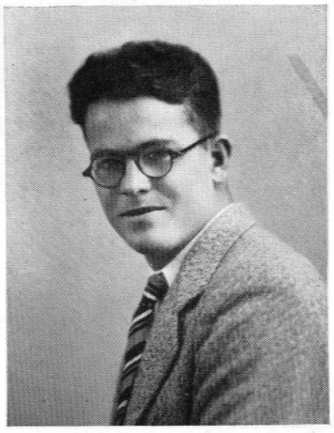
BOARD OF CONTROL

The Honor System is the most cherished and revered tradition of Tech men. The fact that we are not watched over as though we were a group of potential criminals is an incentive in itself toward playing the game squarely. At Tech, when a man leaves his books on the grounds for an hour or so, he is sure that they will be there when he returns. There are always a few who are not absolutely fair in their work, but at Tech this number is practically negligible. The reason for this state of conditions lies partly in the characteristics of the group of men who come to Tech, but largely in the work of the Board of Control, the student group which fosters and supervises the enforcement of the Honor System. The smallest part of the Board's duties lies in punishing offenders of our code of honor; a larger obligation is the creation of a spirit which will permeate Tech life and will prevent the occurrence of "conduct unbecoming an engineer and a gentleman."

The personnel of the Board of Control includes three officers of the Associated Student Body. The Vice-President is chairman of the Board; the Secretary acts as secretary, and the President acts as a member ex-officio. The chairman and secretary have no vote. Nine other men complete the membership Board; three men are elected from each of the two upper classes, two from the Sophomore class, and one from the Freshman. The Freshman chairman is his class's representative until one is duly elected.

The Board of Control, in investigating the case of a breach of the Honor System, collects all the evidence available and hears both sides of the question. Its power to act is limited to making a recommendation to the faculty, but it is a significant fact that the faculty invariably accepts and enforces this recommendation.

The Court of Traditions is a committee of the board which deals with Freshman-Sophomore cases during the period when the Frosh are being "subdued," and this group is adequate for the usual cases. A case of extreme seriousness, however, is brought before the entire board for a hearing, just as any other serious offense.



D'Arcy

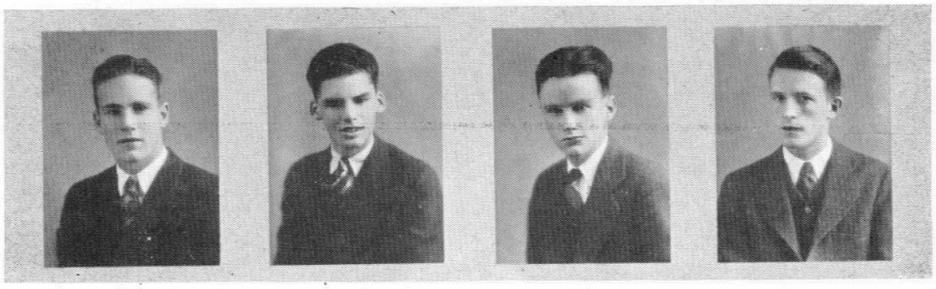
COURT OF TRADITIONS

The Court of Traditions is a subordinate committee to the Board of Control. As its name implies, its work is the enforcement of the college traditions, particularly those pertaining to Freshmen and Sophomores in their rivalry. The Court is made up of a Senior Judge, who presides over the court; a Junior Judge, who is also clerk of the court; a Sophomore Prosecutor, and a Freshman Representative, making five members. All are chosen from the Board of Control except the Sophomore Prosecutor, who is appointed by the President of the Sophomore Class. With the four classes represented, the maximum amount of justice prevails, and no partiality is shown to the Sophomores or Freshmen who are unfortunate enough to be asked to appear before the Court.

In years gone by the custom was to maintain the Court until well into the third term. The last two years, however, have seen a revision of this custom, necessitated by the fact that the Freshmen have been emancipated sooner than before. This year the emancipation occurred after the Oxy football game, so the life of the Court did not last through the first term. During this time, however, the sentences meted out to erring underclassmen were many and varied. Apollo was scrubbed (through the medium of a toothbrush), shoes were shined, stickers were stuck, doorknobs were polished, songs and shaves were conducted in assemblies, and other sentences meant to serve or amuse the student body were performed. This new plan of decreasing the period of rivalry between the two lower classes was especially successful this year, and the plan for next year is a still more radical step in the same direction.

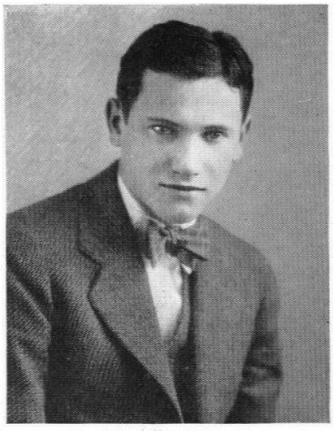
When a Freshman is called before the Court, the procedure is as follows: The Sophomore Prosecutor informs the Court of the nature of the defendant's offense. The Sophomore Deputy who apprehended the offender appears as a witness for the prosecution. The defendant is allowed to speak in his own defense. If, after this hearing, the defendant is found guilty, he receives his sentence, the severity of which depends upon the seriousness of the offense. In case the culprit is innocent, the case is dismissed.

The decrees of the Court of Traditions are not to be taken lightly. Contempt of court is a serious offense, and if repeated, the case may be passed to the Board of Control. The Court is not as rigid a body as the Board, but it will stand no trifling.



Newby Chambers Crawford Ingham

PUBLICITY COMMITTEE



LANGSNER

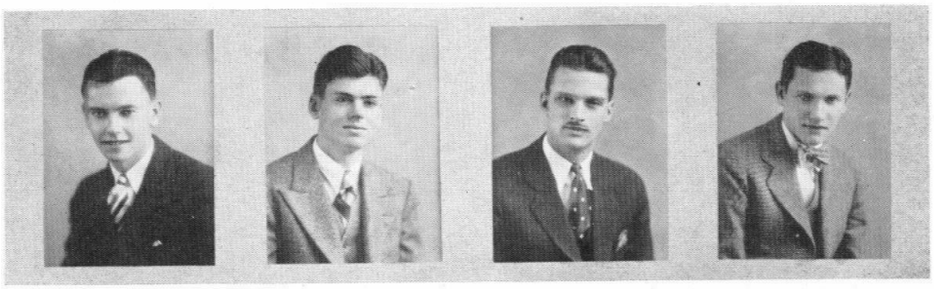
Perhaps we owe more to the members of the Publicity staff of the student body than to any other group of men on the campus for the fine spirit that has been displayed on the campus throughout the year. They have placed at the disposal of newspapers and periodicals throughout the country the important news which has emanated from this college. These men have called to the attention of even the men on the campus itself the great development which has taken place.

George Langsner was Publicity Manager this year and by his untiring efforts made the year a very successful one. During the third term, Austin Strong assumed the position and carried it through in very fine style. Other official or semi-official members of the staff were Richard Westphal, Howard Baker, George Taylor, Douglas Perry and Robert Stirton.

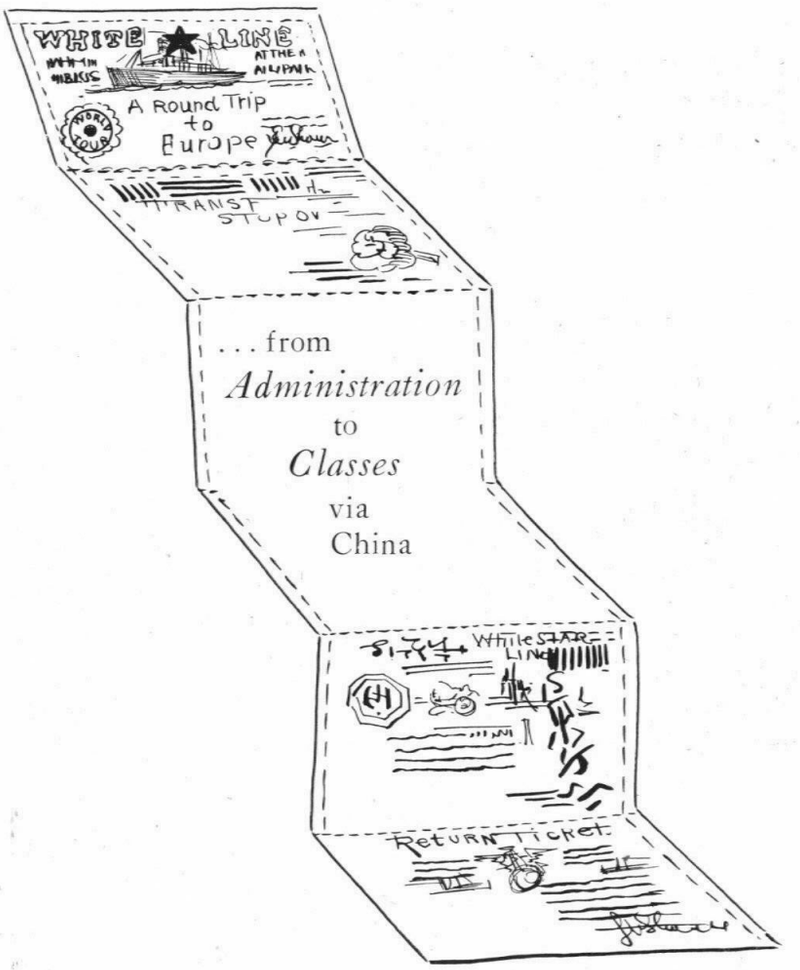
Thanks to the efforts of this committee the crowds which came on Exhibit Day surpassed even the great number of people who have appeared in previous years. Months before, publicity was noted in newspapers and magazines, and, thanks to the untiring efforts of these men, the publicity was carried on to a very successful conclusion. Letters were sent to the proper authorities in the high schools of Southern California inviting the students enrolled there to come on Exhibit Day, and it is safe to say that nearly every such institution sent at least a small number of visitors to witness the program which had been so carefully arranged.

Much publicity was also given to the Oxy rally which preceded the Oxy football game in the first term. At the Oxy game a program of the game was sold by members of the committee and the arrangement and work entailed in its construction was very much appreciated by those who purchased the little pamphlet.

The developments of a purely technical nature have been fully reported to the daily newspapers as well as to the newspapers of other colleges, and through this means the Institute has become justly famous for the important results which have been accomplished during the year. Lectures, debates and the like have also been fully covered and, thanks to the friendly attitude of the publications throughout the country, these events have been accorded the space which they justly deserve.



BAKER STRONG WESTPHAL LANGSNER


WHITE STAR LINE
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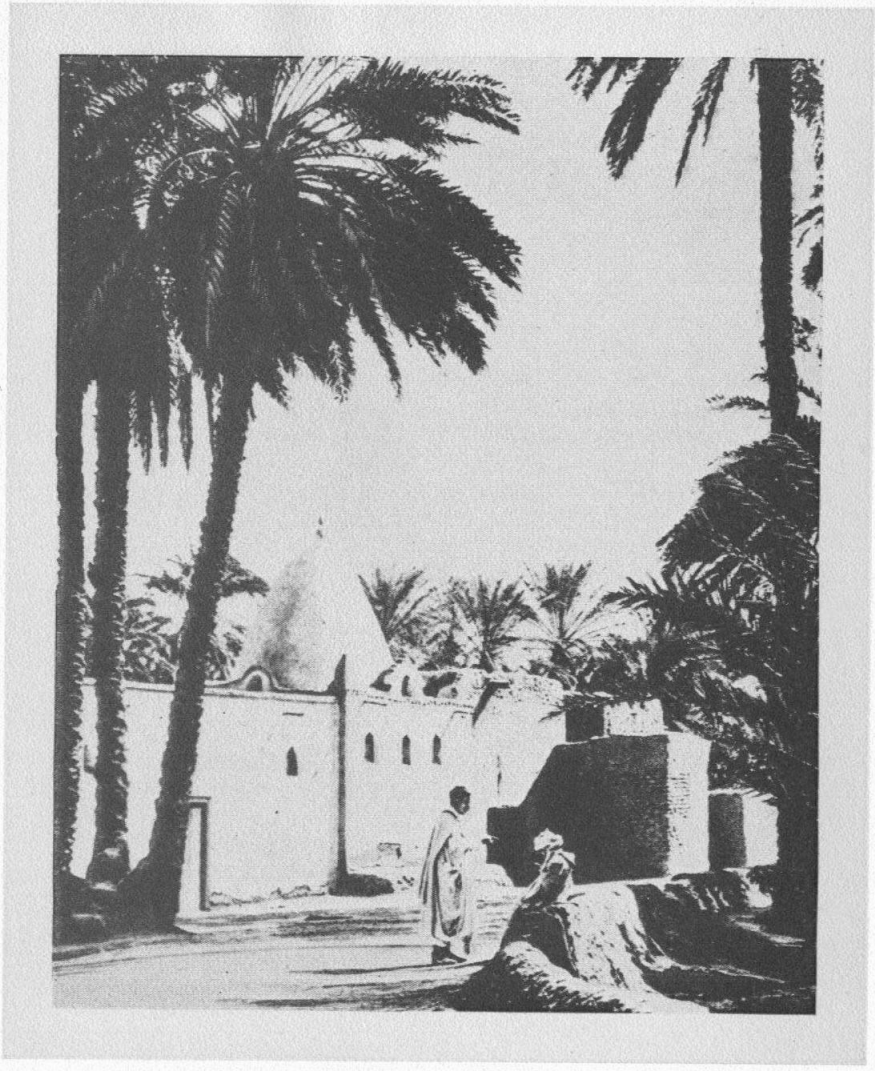
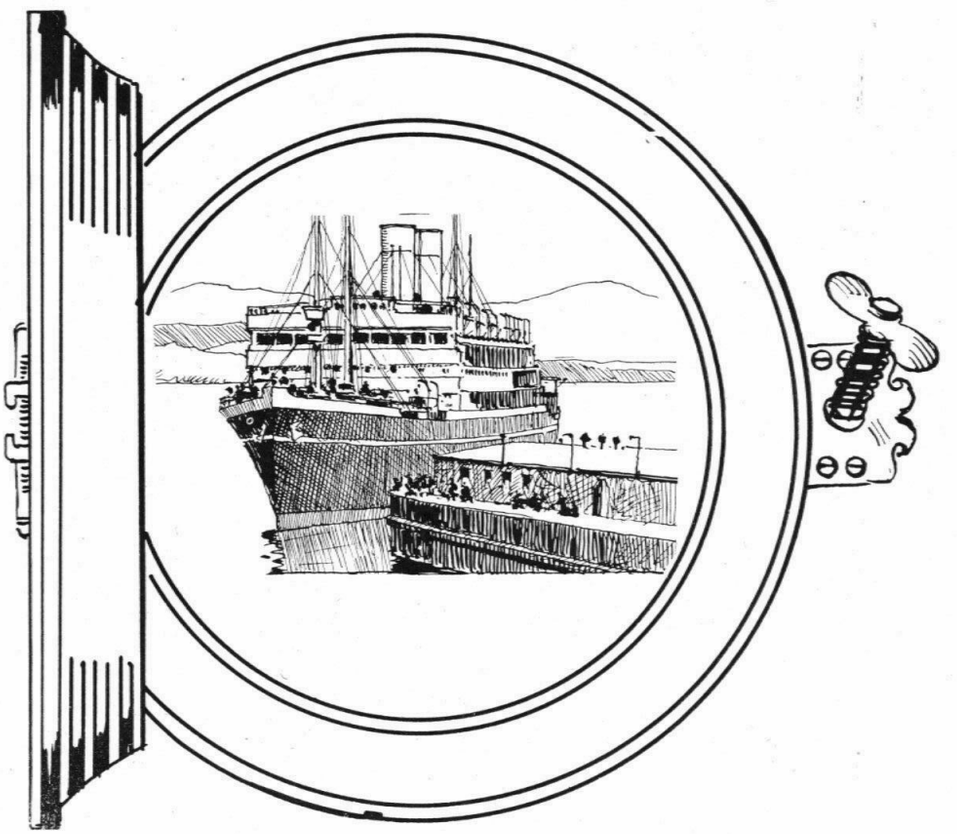


ARABIA

Classes



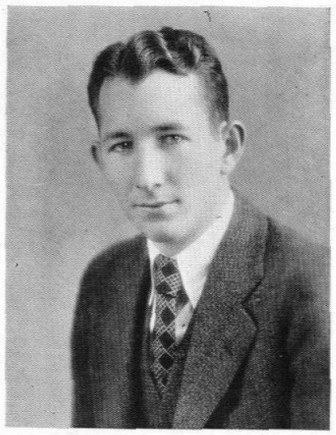
SENIORS

REED

SENIOR CLASS

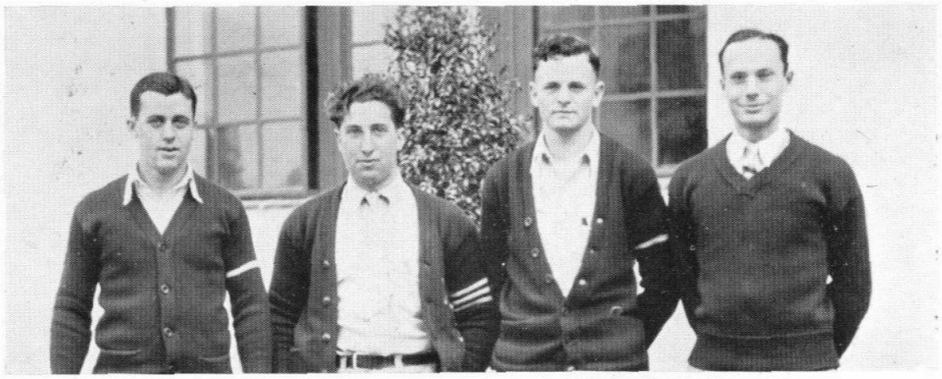
Looking back over the past four years, we trace the activities, changes and developments of the members of the Class of '29, individually and collectively. Some have been outstanding in their accomplishments, but all have been diligent.

As Freshmen, the members of the Class of '29 came to the Institute with an all-possessing enthusiasm that has carried them with undiminished vigor through four years of enjoyable work and pleasure. The outbursts of class rivalry during the first year will long be remembered, not for its destructiveness, because there was little if any of that, but because of the humanness and life harmlessly exhibited in the spontaneous and exuberant overflow of energy. The rodeo pushball contest, though won by the then Sophomore Class, was by no means one-sided, the score being 1 to 0, a tie being just barely avoided. But what is of greater moment, the Class of '29 was champion of intramural football during its Frosh year, and did well in the other intramural sports. Moreover, its teams showed up exceedingly well in conference competition, which fact presaged the subsequent success of its members on Varsity squads. The guidance of the class during its successful first year was in the hands of Thomas Evans, President; George Watson, Vice-Pesident; Elmer Muff, Athletic Manager; Frank Higgins, Secretary-Treasurer, and Charles Dickerman, Board of Control member.



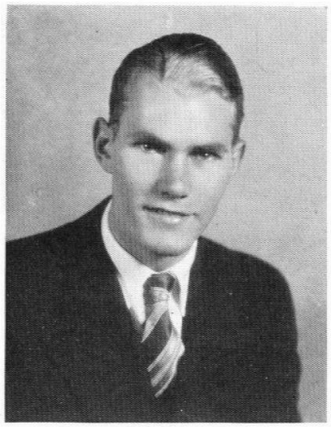
SCOTT

The Class continued the successful application of its energies during the Sophomore year. It had lettermen on all the Conference teams, and especially did its members monopolize and determine the success of the basketball team. Also its members admirably displayed their talents as speakers, actors, musicians and journalists; and to top it off, Frederick Bewley earned himself an Honor Key. Incidentally, they smothered the Frosh in the rodeo pushball contest by a score of 7-0. The official class work was carried on during the second year by Frederick Bewley, President; John Daly, Vice-Presi-



SENIOR GIFT COMMITTEE

dent; Kenneth Kingman, Secretary-Treasurer; Jack Sturgess, Athletic Manager, and Roscoe Downs and Fred Wheeler, members of the Board of Control.



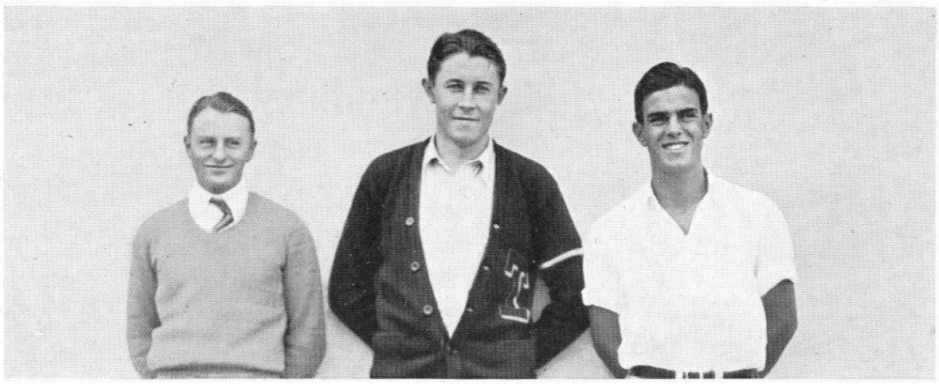
FREDENDALL

Ever continuing its well-started career, the Class of '29 filled its third year with many worthy triumphs and accomplishments. Elmer Muff, the outstanding athlete of the Class, captain of the baseball team in his third year, and captain-elect for the football team, was awarded both the Wheaton and Rawlings trophies for his fine work, sportsmanship and moral influence. A large part of the letters awarded for successful competition in the various branches of athletics, were won by members of the Class of '29. No laxity was shown in the pursuit of other activities, in that eight members were Honor Key winners. Also it is of importance that Bolivar Roberts and Albert Myers won Travel prizes; the former went on his trip in 1928, and the latter postponed his trip 'til after graduation. The official direction of the Class was carried out by John Daly, President; Clyde Shields, Vice-President; George Wiseman, Secretary-Treasurer; Francis Bode and Oswald Zahn, Athletic Managers; and Homer Reed and Morton Shields, members of the Board of Control.

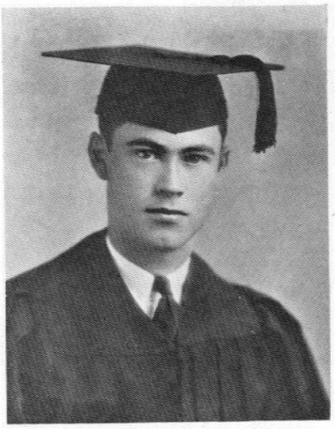
PERRY

Finally, the graduating Seniors enjoyed a crowning glory to their accomplishments in their last year at the Institute. They did well in all fields of athletics, especially in football, in which eleven Seniors received letters. Moreover, Elmer Muff, twice winner of the Wheaton trophy, shared his second award with Kenneth Kingman. With the Class go seven captains of major sports: Elmer Muff and William Mohr, football; Al Cramer, basketball; Douglas Perry and Laurence Lynn, track; and Elmer Muff and Homer Reed, baseball.

Also, a goodly percentage of the Class takes Honor Keys with it. One of the closing triumphs of the Class is the successful publication of the Big T in spite of unexpected difficulties.



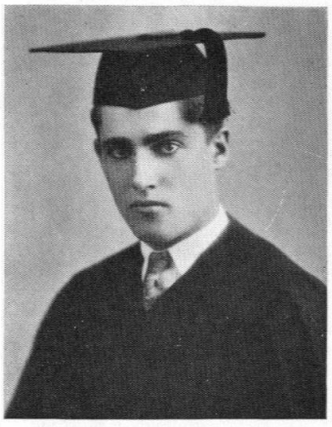
SENIOR ANNOUNCEMENT COMMITTEE



HARLAN ROBERT ASQUITH

Pi Alpha Tau

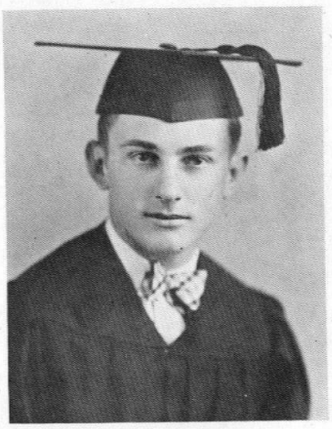
Civil Engineering; of Los Angeles; prepared at Hollywood High School; Basketball (1, 2); "Tech," Circulation Department (3, 4); "Big T," Photo Department (3, 4); Business Staff (4); Band (1, 2, 3, 4); Drum Major (3, 4); Orchestra (2, 3, 4); President (4); A.S.C.E. (3, 4).



EUGENE ATWATER ("GENE")

Gamma Sigma

Of Los Angeles; prepared at Los Angeles Polytechnic High School; Electrical Engineering; Football (1, 2); A.I.E.E. (3, 4).



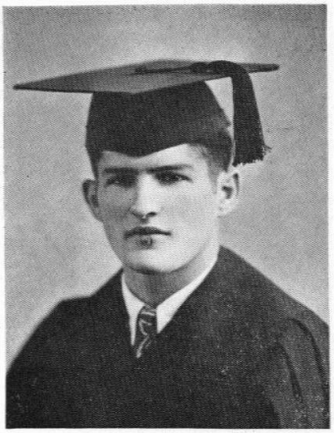
BILL BAKER

Of Piru, Calif.; prepared at Fillmore Union High School; Aeronautical Engineering; Baseball (1); Football (4); Rifle Team (2, 3); "Big T," Business Staff (4); Y.M.C.A. (4); Aero Club (1, 2, 3, 4).

WILBERT WEISE BAUSTIAN ("BILL")

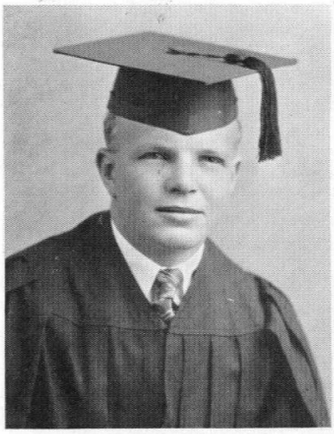
Gamma Sigma

Of Pasadena; prepared at San Bernardino High School; Mechanical Engineering; Track (1, 2, 3, 4); Letter (4); Cross-Country (1, 2, 3, 4); Letter (2); Varsity Club (4, 5); A.S.M.E. (4, 5); Vice-Chairman (5); Aero Club (3, 4).



ISADORE BERMAN ("IZZY")

Of Los Angeles; prepared at Jefferson High School; Chemical Engineering; Football (2, 3); Second Team (4); "Big T," Photo Department (1); Assistant Instructor in Wrestling (4).



WILLIAM LITTEL BERRY ("BILL")

Pharos

Of Huntington Beach; prepared at Huntington Beach High School; Civil Engineering; Swimming, Numeral (1); Letter (4); Football (2, 3, 4); "Plutus" (2); Throopers (3, 4); A.S.C.E. (4, 5).

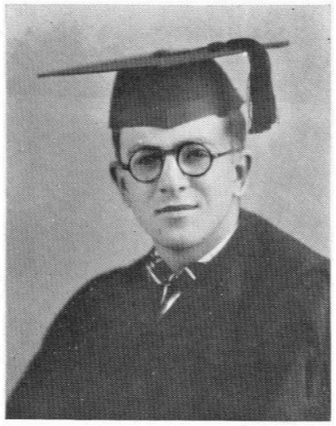
KNOWLTON ROOT BIRGE

Of Pasadena; prepared at Pasadena High School; Electrical Engineering; A.I.E.E. (2, 3, 4); Y.M.C.A. (2, 3, 4).

FRANCIS DASHWOOD BODE ("DASHY")

Pharos, Pi Kappa Sigma

Of South Pasadena; prepared at Anaheim High School; Geology; Football, Numeral (1), Second Team (2); Track, Numeral (1); Swimming, Numeral (1), Letters (2, 3, 4); Captain (3, 4); Class Athletic Manager (3); "Tech" (1, 2, 3); Geology Club (3, 4); Dorm Club (1).



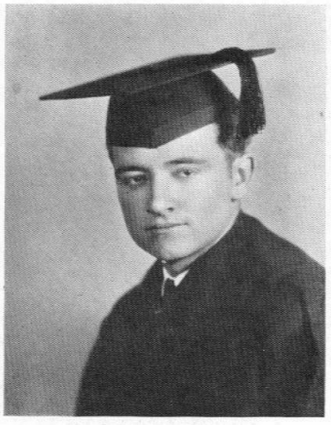
WILLIAM WALTER BOOTH ("BILLY")

Pi Alpha Tau

Of Zelzah, Calif.; prepared at San Fernando High School; Mathematics; Swimming Manager (2); Fencing (4); Glee Club (3, 4); Throopers (3, 4); Y.M.C.A. (3, 4); Dorm Club (1).

CHARLES ASHTON BOSSERMAN ("CHUCK")

Of Glendale; prepared at Glendale Union High School; Mechanical Engineering; "Tech" (4, 5); Exchange Editor (5); "Big T," Business Staff (4); Editorial Staff (5); Cosmopolitan Club, Vice-President (5); Aero Club (4, 5); Vice-President and President (5); A.S.M.E. (4); Y.M.C.A. (1, 2, 3, 4, 5).



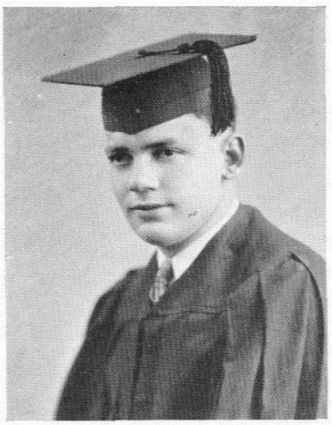
HORACE ALLEN CAMPBELL ("AL")

Gamma Sigma

Of Riverside, Calif.; prepared at Riverside High School; Aeronautical Engineering; Riverside Junior College (1, 2); Orchestra (3, 4); Aero Club (3, 4, 5).

DONALD SHERMAN CLARK ("DON")

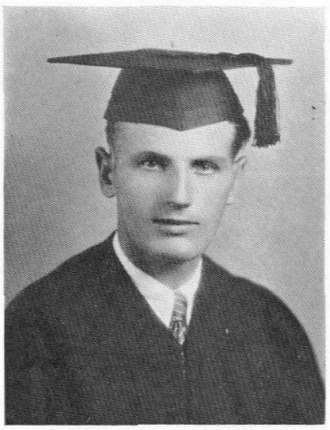
Of Bakersfield, Calif.; prepared at Burlington High School, Burlington, Vermont; Mechanical Engineering; "The Captives" (2); A.S.M.E. (4).



FREDERICK CLINE ("FRED")

Pi Alpha Tau, Tau Beta Pi

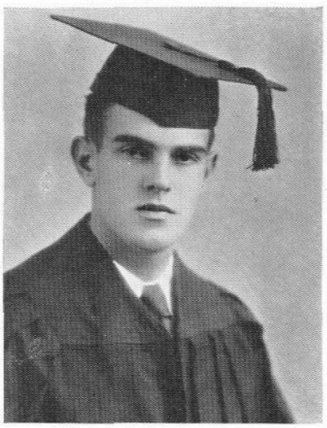
Of Covina, Calif.; prepared at Covina Union High School; Civil Engineering; Swimming (1, 2, 3); Letter (2, 3); Football (1, 2, 3, 4); "Big T" (2, 3, 4); Photo Editor (3); Editor and Business Manager (4); "Tech" (2, 3, 4); Circulation Manager (3, 4); Basketball Manager (1, 2, 3, 4); Varsity Club (4); Press Club (3, 4); Election Committee (3); A.S.C.E. (2, 3, 4); Honor Key (3, 4); Dorm Club (1).



DALLAS ERVIE COLE ("DAL")

Pi Alpha Tau

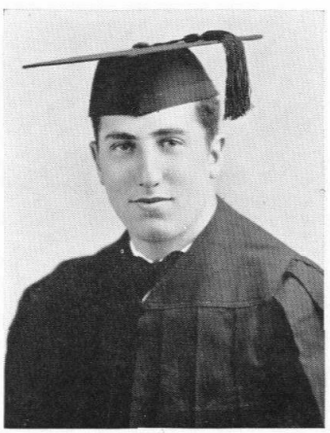
Of Pasadena; prepared at Pasadena High School; Civil Engineering; U.C.L.A. (1, 2); A.S.C.E. (4).



ALPHONSE CRAMER ("AL")

Gnome Club

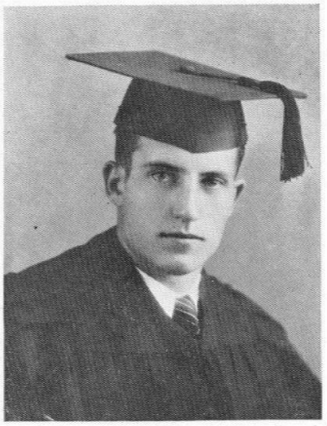
Of Los Angeles; prepared at Los Angeles High School; Mechanical Engineering; Basketball, Freshman Captain, Letterman (2, 3, 4); Baseball (1, 2, 3, 4), Letterman (2, 3, 4); "Tech," Assistant Business Manager (4); Varsity Club (2, 3, 4); Throopers (4); A.S.M.E. (4); Dorm Club (1, 2).



PHILIP CRAVITZ ("PORKY")

Tau Beta Pi

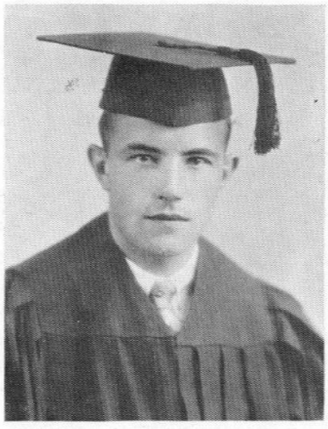
Of Los Angeles; prepared at Los Angeles Polytechnic High School; Civil Engineering; Football, Letterman (2, 3, 4); Boxing (4); Wrestling (1, 2, 3); Varsity Club (2, 3, 4); A.S.C.E. (2, 3, 4).



JOHN WARLAUMONT DALY ("BIG JOHN")

Sigma Alpha Pi, Tau Beta Pi

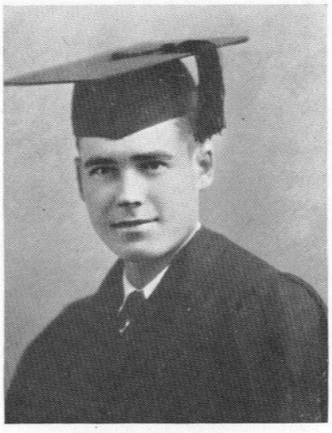
Of Anaheim, Calif.; prepared at Anaheim Union High School; Geology; Football (1, 2, 3, 4), Numeral (1), Letterman (3, 4); Track, Second Team (2, 3); Swimming, Numeral (1); Class Vice-President (2), President (3); Varsity Club (3, 4); "Brothers" (2); Drama Club (1, 2, 3, 4); Exhibit Day Committee (4); Geology Club (3, 4).



HOWARD GRINDAL DODGE

Sigma Alpha Pi

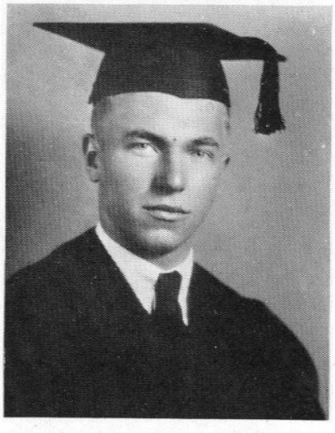
Of Pasadena; prepared at Pasadena High School; Civil Engineering; Football (1, 2, 3, 4), Second Team (2, 3, 4); Basketball (1, 2); Baseball (1); Tennis, Letter (4); A.S.C.E. (4).



JAMES WARING DUNHAM ("JIM")

Tau Beta Pi

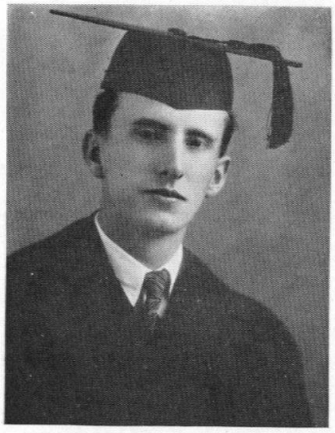
Of Pasadena; prepared at Pasadena High School; Civil Engineering; Swimming (1), Letterman (2, 3, 4); "Tech" (3, 4); Copy Editor (4); "Big T," Sports (3); Press Club (3, 4); A.S.C.E. (3, 4).



ALLEN WINFIELD DUNN

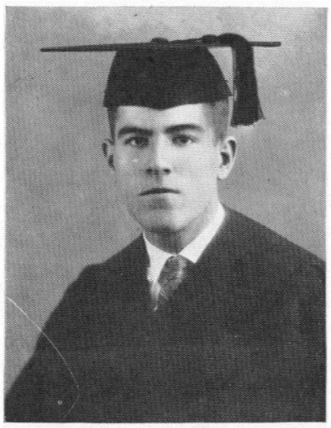
Pi Kappa Sigma

Of North Hollywood; prepared at Hillsdale High School, Hillsdale, Mich., and at Hollywood High School; Electrical Engineering; Baseball (1); Wrestling (2, 3); Rifle Team (2, 3, 4); Aero Club (1, 2, 3); A.I.E.E. (2, 3, 4); Secretary-Treasurer (4).



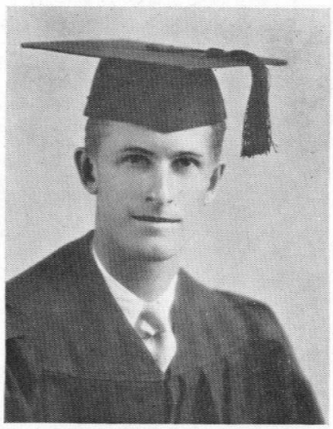
THOMAS FARRER EDSON ("TOMMY")

Of Los Angeles; prepared at Los Angeles High School; Electrical Engineering; Band (1, 2); A.I.E.E. (4).



JULIUS NELSON ESPINOSA

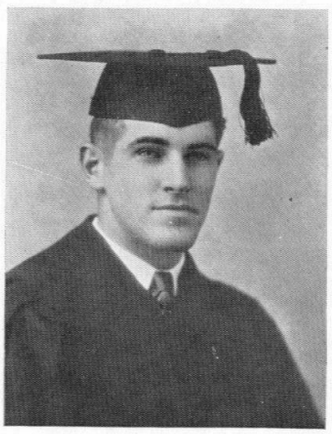
Of Los Angeles; prepared at Los Angeles High School; Electrical Engineering.



THOMAS HAYHURST EVANS ("TOM")

Gnome Club, Tau Beta Pi, Pi Kappa Delta

Of Los Angeles; prepared at Manual Arts High School; Civil Engineering; A.S.B. President (4); Track (1, 2, 3, 4), Letter (3); Class President (1); A.S.B. Representative-at-Large (2); Secretary (3); Board of Control (3, 4); Freshman Chairman, Alumni Scholarship (1); Blacker Scholarships (2, 3); Senior Scholarship (4); Conger Peace Prize (3); "Menaechmi" (3); Debating (1, 2, 3); Throopers (3, 4); Court of Traditions (1); A.S.C.E. (4); Honor Key (3, 4).



SIDNEY THOMAS EXLEY, JR. ("SID")

Gnome Club, Tau Beta Pi, Pi Kappa Sigma

Of Pasadena; prepared at Hollywood High School; Civil Engineering; Football (1), Letterman (3, 4); Track (1), Letterman (3, 4); Baseball (1); Varsity Club (3, 4); A.S.C.E. (4).

WILLARD ALEXANDER FINDLAY ("ALEX")

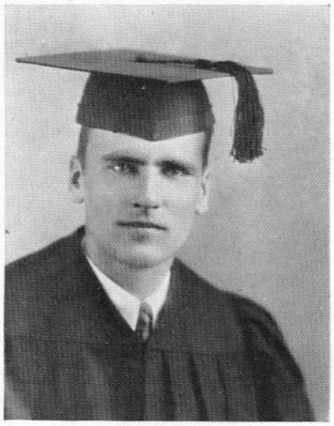
Pi Alpha Tau

Of Anaheim, Calif.; prepared at Anaheim Union High School; Geology; Geology Club (3, 4).

BEVERLY FRANK FREDENDALL ("BEV")

Pharos

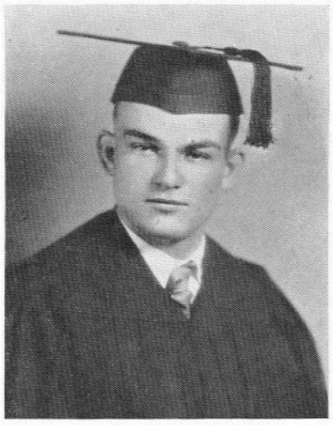
Of Ontario, Calif.; prepared at Chaffey Union High School; Electrical Engineering; Basketball (1, 2, 3, 4), Letter (4); Baseball (1, 3); Wrestling (2); Swimming (4); Varsity Club (4); Class Secretary-Treasurer (4); Radio Club (1, 2, 3, 4); Dorm Club (1); A.I.E.E. (4); Y.M.C.A. (1, 2, 3, 4); Membership Committee (3); Student Field Council Representative (3); Secretary (4).



KARL ALBERT GANNSLE

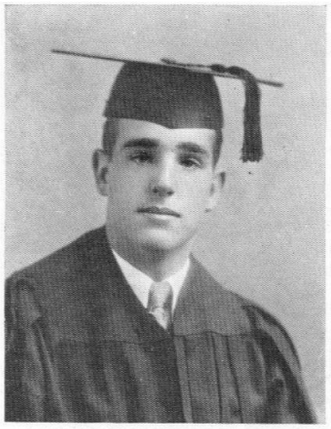
Gnome Club

Of Cavalier, North Dakota; prepared at Cavalier High School; Physics; Tennis, Numeral (1); Track Manager (2, 3, 4); "Tech," Advertising Manager (4); "Big T," Alumni Editor (2); Throopers (3, 4); Y. M. C.A., Chairman of Freshman Committee (3); Vice-President (4).



ALBERT MONROE GILMORE ("AL")

Of Los Angeles; prepared at Anaheim High School, Anaheim, Calif.; Electrical Engineering; Tennis, Letterman (3, 4); Tennis Manager (3); A.S.M.E. (1, 3, 4); Radio Club (1, 2); Aero Club (3, 4); Dorm Club (3, 4); Fullerton Junior College (1, 2).



WALTER BERT GRIMES ("DE DE")

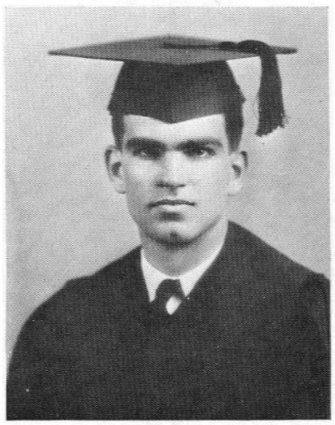
Pi Alpha Tau

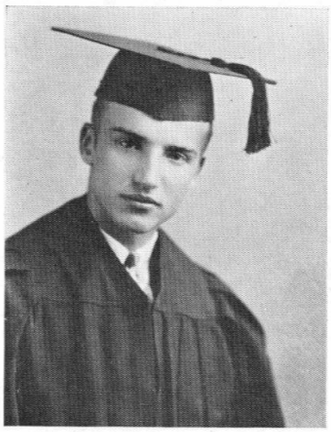
Of Pasadena; prepared at Pasadena High School; Civil Engineering; Swimming, Numeral (1), Letterman (3, 4); Swimming Manager (4); "Tech" (4); "Big T," Assistant Manager (4); A.S.C.E. (4).

LAWRENCE JACOB GRUNDER ("LARRY")

Pi Kappa Sigma

Of Los Angeles; prepared at Manual Arts High School; Mechanical Engineering; Track (1, 2); Football Manager (1); "Tech" (4); Glee Club (4); Aero Club (1, 2, 3); A.S.M.E. (1, 2, 3, 4); Chairman (3, 4); Exhibit Day Committee (4); Junior Member S.A.E.; Fellowship in Lubrication, Pennsylvania College, 1929-1930.





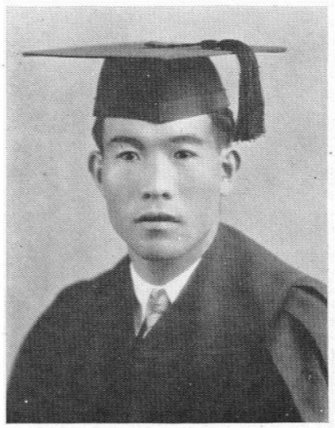
MAURICE FRED HASLER

Tau Beta Pi, Sigma Xi

Of Hollywood; prepared at Hollywood High School; Physics.

THOMAS TAMOTSU HIYAMA

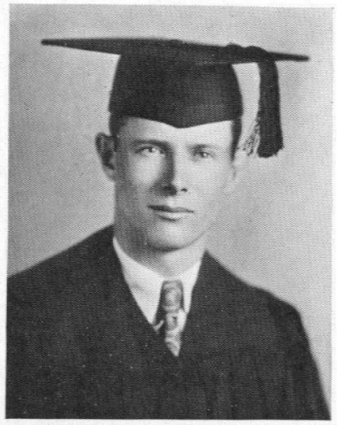
Of Hiroshima, Japan; prepared at Hiroshima Higher Normal School and at Hollywood High School; Electrical Engineering; Tennis (2, 3, 4), Letter (3); Wrestling (1); Cosmo Club (2, 3); Treasurer (3); Aero Club (3); Radio Club (3); Dorm Club (2).



ERNEST BRANCH HUGG ("ERNIE")

Tau Beta Pi

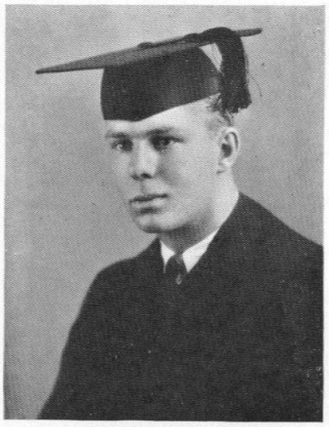
Of Huntington Park; prepared at Fresno High School, Fresno, Calif; Fresno State College (1, 2); Civil Engineering; Tennis, Letters (3, 4); Aero Club (4); A.S. C.E. (3, 4).



HAROLD MILTON HUSTON ("HASTY")

Pi Alpha Tau, Pi Kappa Sigma

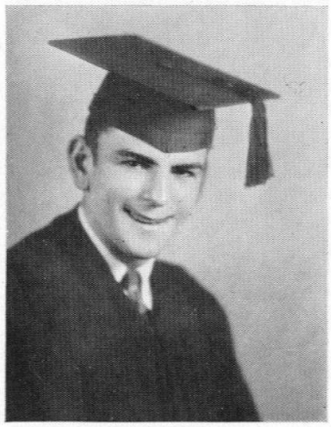
Of Los Angeles; prepared at San Fernando High School; Mechanical Engineering; Basketball Manager (1, 2, 3); "Tech" (3); Circulation Department (3); Band (1, 2, 3, 4); Librarian (2); Manager (3); Radio Club (1, 2); Interfraternity Council (3, 4).



DONALD HALL JOHNSON ("APRICOTS")

Sigma Alpha Pi, Tau Beta Pi

Of Olive View, Calif.; prepared at Pasadena High School; Chemical Engineering; Football (1); Basketball (1); Baseball (1); Exhibit Day Chairman (4); Freshman Chairman (1); "Tech" (1, 2, 3, 4); Assistant Advertising Manager (1); Theater Editor (4); "Big T" (3, 4); Glee Club (2, 3); Chem Club (2, 3, 4); Cosmopolitan Club (2, 3, 4); Y.M.C.A. (2, 3, 4); Secretary (3); Chairman of Social Activities (4).



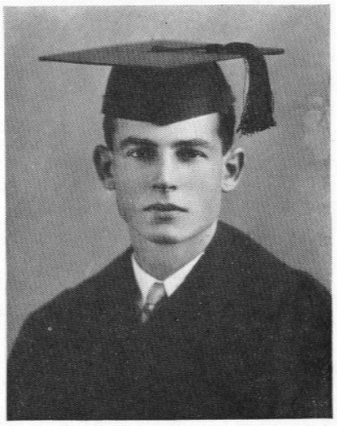
HARRY JAMES KEELING
("HUNGRY HARRY")

Pi Alpha Tau

Of Los Angeles; prepared at Jefferson High School; Mechanical Engineering; Swimming (1), Letterman (2, 3, 4); Boxing (1); "Big T," Snapshot Editor, Business Staff (4); "Oedipus Rex" (4), "The Shewing Up of Blanco Posnet" (4); Glee Club (3,4); Chem Club (1, 2); Y.M.C.A. (3, 4).

LEON KIBORT

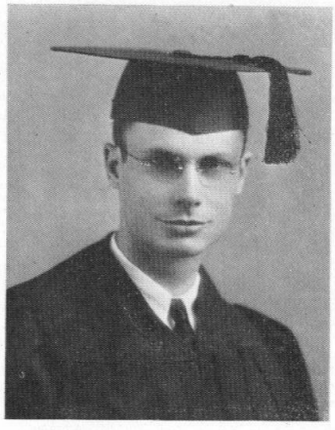
Of Leningrad, Russia; prepared at St. Catherine's High School, Leningrad; graduate of the Russian Imperial Naval Academy; Lieutenant in the Russian Navy 1914-1917; Economics and Engineering.



KENNETH EDWARD KINGMAN

Pharos, Pi Kappa Sigma

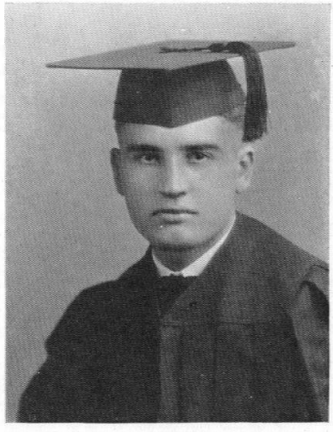
Of Alhambra; prepared at Alhambra High School; Chemical Engineering; Football (1, 2, 3, 4), Letterman (3, 4); Wheaton Trophy (4); Basketball (1, 2); Track (2, 3, 4), Letterman (3, 4); Rifle Team, Letterman (2, 3); Manager (3); "Tech" (2, 3, 4); Business Manager (4); "Big T" (2, 3); Board of Control (4); Class Treasurer (2); Exhibit Day Committee (3); Varsity Club (3, 4); Chem Club (3, 4); Honor Key (3, 4).



REYMOND JOHN KIRCHER ("REY")

Tau Beta Pi

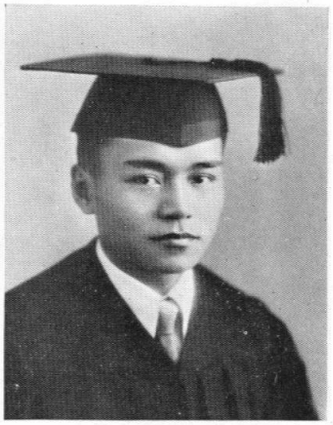
Of El Paso, Texas; prepared at El Paso High School; Electrical Engineering; Track (1, 2, 3, 4), Letterman (3, 4); Rifle Team (1, 2), Letterman (2); "Tech" (2, 3); Editor (3); Orchestra (2); Varsity Club (3, 4); Press Club (4); A.I.E.E. (4).



ANTHONY JAMES LARRECQ ("TONY")

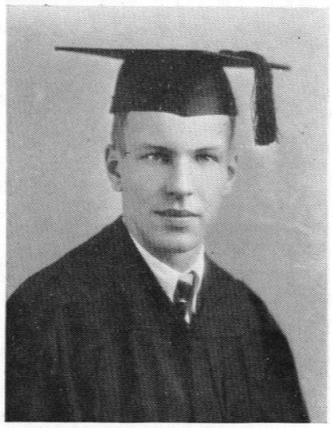
Tau Beta Pi

Of Los Angeles; prepared at Jefferson High School; Mechanical Engineering; Cross Country (2); Boxing (3); A.S.M.E. (3).



KAM HU LAU

Of Honolulu, T. H.; prepared at Punahou High School; Chemical Engineering; Cosmopolitan Club (1, 2, 3, 4); Y.M.C.A. (3).



EDSON CHURCHILL LEE

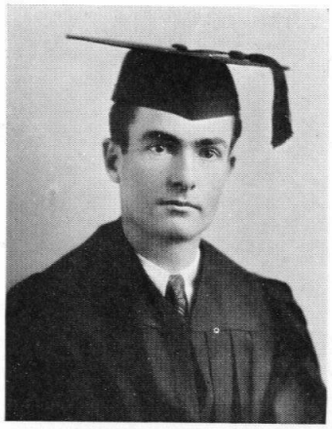
Of Petoskey, Michigan; prepared at Petoskey High School; Electrical Engineering; Football, Second Varsity (3); U.C.L.A. (1); Exhibit Day Committee (2, 4); A.I.E.E. (4).

LEONID VLADIMIR LEONARD ("LEN")

Of Blagoveschensk, Russia; prepared at Blagoveschensk Gimnazia; School of Commerce, China, 1921; Cosmopolitan Club (1, 2, 3, 4); Aero Club (3, 4); A.S.M.E. (3, 4).

ROLLIN WILLIAM LINDHURST ("LINDY")

Of Hollywood; prepared at Hollywood High School; Electrical Engineering; A.I.E.E. (3, 4).



KENNETH ELMO LOHMAN

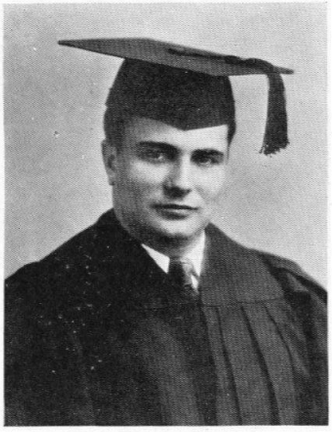
Sigma Xi

Of Pasadena; prepared at Hollywood High School; Geology; Fellow of the Royal Microscopical Society (London); Associate Member of the Society of Economic Paleontologists and Mineralogists; Chem Club (2, 3, 4); Geology Club (3, 4).

STANLEY WILLIAM LOHMAN ("STAN")

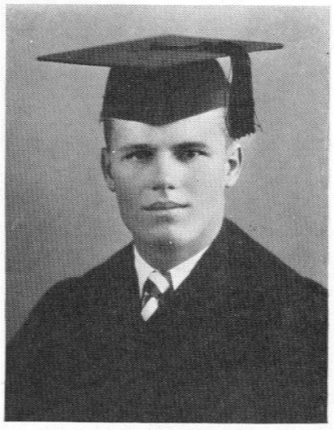
Tau Beta Pi, Sigma Xi

Of Pasadena, Calif.; prepared at Hollywood High School; Geology; Band (1, 2, 3, 4); Orchestra (2, 3, 4); Geology Club (3, 4).



GEORGE SCHILD LUFKIN
("MR. AMERICA")

Of Los Angeles; prepared at Los Angeles High School; Aeronautical Engineering; Track (1, 2, 3, 4), Letterman (3, 4); All-Conference Team (3, 4); "Tech," Photographer (2); "Big T," Photographer (2, 3, 4); Band (1, 2); Glee Club (4); Aero Club (2, 3, 4); Varsity Club (3, 4); Cosmopolitan Club (1); Radio Club (1); A.S.C.E. (1, 2); A.S.M.E. (3, 4).



LAURENCE EDWIN LYNN ("LARRY")

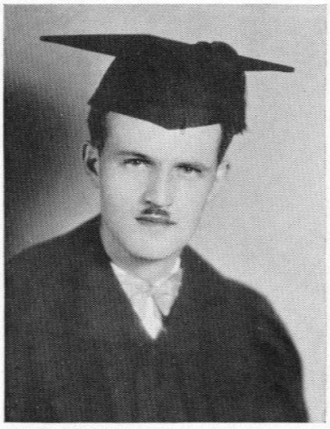
Gnome Club

Of Glendale; prepared at Glendale High School; Civil Engineering; Track (1), Letterman (2, 3, 4); Captain (4); Baseball (1); "Tech," Advertising Staff (2, 3, 4); "Menaechmi" (3); "Plutus" (2); Glee Club (4); Varsity Club (2, 3, 4); A.S.C.E. (4); Honor Key (3, 4).

WALLACE ANGUS McMILLAN ("WALLY")

Pi Kappa Delta

Of Alhambra; prepared at Alhambra High School; Chemical Engineering; Basketball (1); "Tech" (2, 3, 4); Advertising Copy Manager (4); "Big T," Advertising (2, 3); Editorial Staff (4); "Menaechmi" (3); "Oedipus Rex" (4); Debating (1, 2, 3, 4); Publicity Staff (1, 2); Press Club (4); Chem Club, Secretary (3).



HOMER GORE McWILLIAMS ("MAC")

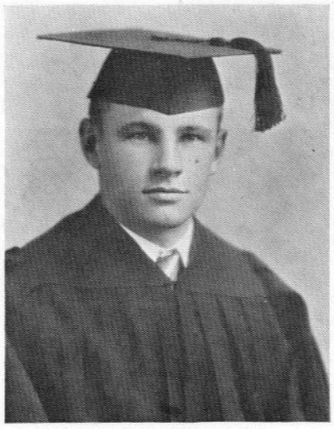
Pharos

Of Los Angeles; prepared at Medicine Hat High School, Medicine Hat, Alberta, Canada; Physics; Glee Club (1, 3, 4).

DONALD BOOTH MILLIKEN ("DON")

Pharos

Of Pasadena; prepared at Pasadena High School; Civil Engineering; "Big T," Photographer (3, 4); "Y" Handbook, Manager (2); Editor (3).



WILLIAM HENRY MOHR ("BILL")

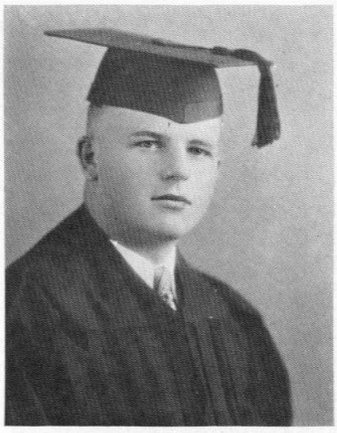
Gnome Club, Pi Kappa Sigma

Of Santa Monica; prepared at Santa Monica High School; Civil Engineering; Football (1, 2, 3, 4), Letterman (2, 3, 4); Captain (4); Track (1, 2, 3); "Tech," Sports (1); "Big T," Humor Section (3); Class Secretary-Treasurer (1); Class Athletic Manager (2); Varsity Club (2, 3, 4); Vice-President (4).

PHILIP GRIFFS MURDOCH ("PHIL")

Tau Beta Pi, Sigma Xi

Of Pasadena; prepared at Fresno High School; Chemical Engineering.



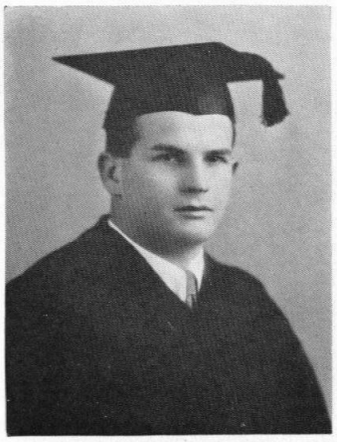
ALBERT EDWARD MYERS

Tau Beta Pi, Sigma Xi

Of Pasadena; prepared at Garfield Heights High School, Garfield Heights, Ohio, and at Chaffey Union High School, Ontario, Calif.; Chemical Engineering; Blacker Scholarship (2, 3); Junior Travel Prize (3); Chem Club (3, 4).

MASAHIRO HOWARD NAGASHI

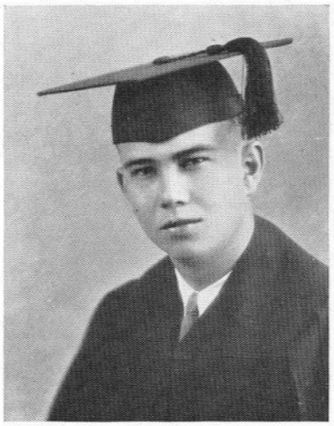
Of Beryl, Utah; prepared at Salt Lake Collegiate Institute; Aeronautical Engineering; "Big T" (2, 4); Snapshot Editor (2); Cosmopolitan Club (1, 2, 3, 4), President (4); Aero Club (3, 4); A.S.M.E. (4); A.I.E.E. (3); Y.M.C.A. (1, 2, 3, 4).



JOE ALLEN NILES

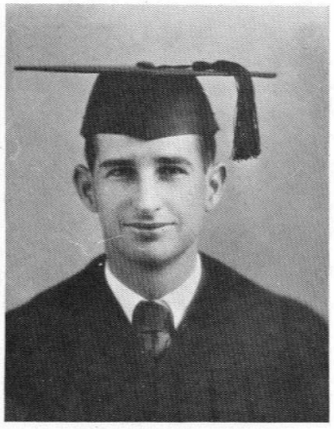
Sigma Alpha Pi

Of Tulsa, Okla.; prepared at Culver Military Academy; Aeronautical Engineering; A.S.M.E. (4).



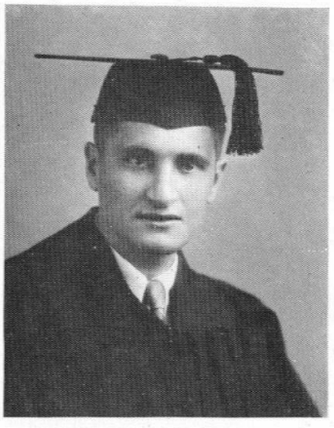
THOMAS JEFFERSON NOLAND, JR.
("TOM")

Of San Diego; prepared at El Paso High School, El Paso, Texas; Civil Engineering; Fullerton Junior College (1); San Diego State Teachers' College (2); Cosmopolitan Club (4); A.S.C.E. (4); Y.M.C.A. (4).



HUBERT MAURICE O'HAVER ("MICKEY")
Gnome Club, Pi Kappa Sigma

Of Los Angeles; prepared at Los Angeles High School; Mechanical Engineering; Football (1); Basketball (1, 2, 3, 4); Baseball (1); Letterman (2, 3, 4); Board of Control (4); Varsity Club (2, 3, 4), Secretary-Treasurer (4); A.S.M.E. (3, 4); Dorm Club (1, 2).

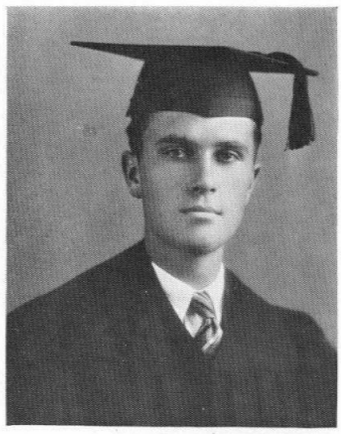


SAMUEL OLMAN

Of Los Angeles; prepared at Los Angeles High School; Civil Engineering; Wrestling (2, 3, 4); "Big T," Photographer (2); A.S.C.E. (3, 4).

FIRTH PIERCE
Tau Beta Pi

Of Pomona; prepared at Pomona High School; Aeronautical Engineering; "Tech," Proof (3), Feature Writer (4); Cosmo Club (4); Aero Club (3, 4); Chem Club (2); A.S.M.E. (4); Y.M.C.A. (1, 2, 3, 4); Dorm Club (1, 2).



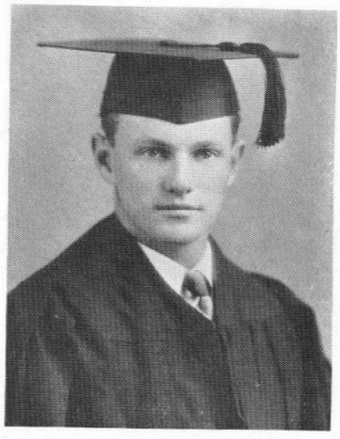
WADSWORTH EGMONT POHL ("WADDY")

Of Redlands; prepared at Redlands High School; Chemical Engineering; Rifle Team (1, 2, 3, 4); Letterman (3, 4); "Tech" (2, 4); Press Club (4); Chem Club (4).

RUSSELL WATSON RAITT ("RUSS")

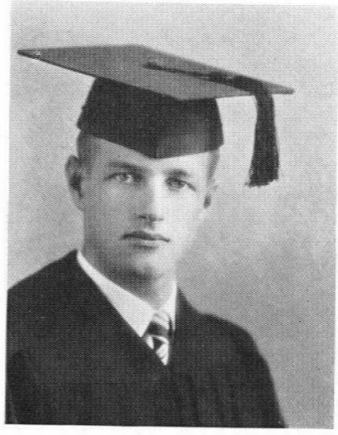
Tau Beta Pi

Of South Pasadena; prepared at South Pasadena High School; Physics.



JOHN CLAY RAPP

Of Wasco, Calif.; prepared at Wasco Union High School; Electrical Engineering; Wrestling (2, 3); Rifle Team (1, 2, 3); Radio Club (3, 4), Secretary-Treasurer (4); A.I.E.E. (4).



ALBERT CLARK REED ("AL")

Tau Beta Pi

Of Los Angeles; prepared at Hollywood High School and at Manual Arts High School, Los Angeles; U.C. L.A. (1); Junior Scholarship, Senior Scholarship; Aeronautical Engineering; Football, Second Team (4); "Tech" (4); "Big T" (4); A.S.M.E. (3, 4); Y.M.C.A. (2, 4).

HOMER CHARLES REED ("FOGGY")

Of Glendale; prepared at Glendale Union High School; Aeronautical Engineering; Football (1, 2, 3, 4), Letterman (3, 4); Baseball (1, 2, 3, 4), Letterman (2, 3, 4), Captain (4); Rawlings Trophy (3); Class President (4); Board of Control (3); Varsity Club (2, 3, 4), President (4).

BOLIVAR ROBERTS ("BOB")

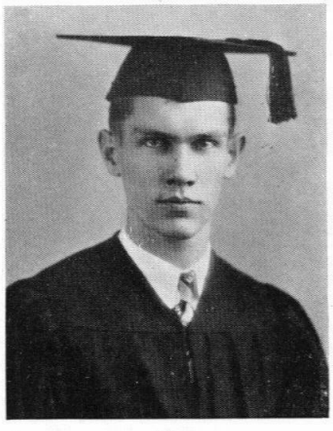
Tau Beta Pi

Of Pasadena; prepared at Los Angeles Polytechnic High School; Junior Travel Prize; Baseball (1).

TRUE WILLIAM ROBINSON ("ROBBY")

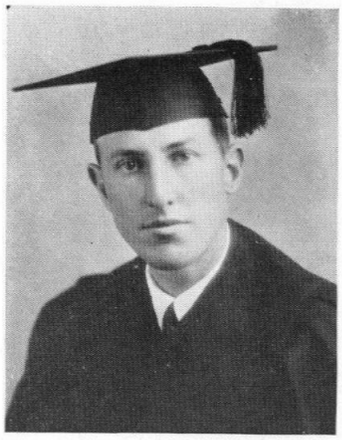
Pi Kappa Delta

Of Rapid City, South Dakota; prepared at San Diego High School; Physics; Football (1); Basketball (1); Baseball (1); Swimming (1); Track (2, 3, 4); Cross-Country (2, 3, 4); Rifle (3, 4); "Tech" (1, 2, 3, 4), Advertising (1), Feature Writer (4); "Big T" (1, 2), Photography (1); Debating (1, 2, 3, 4); "Plutus" (2), "Action" (2), "Menaechmi" (3); Minor Sports Manager (4); Glee Club (1, 2); Band (1, 2, 3); Drama Club (3, 4); Press Club (4); Cosmopolitan Club (3, 4); Y.M.C.A. (1, 2, 3, 4), Chairman of Foreign Students Committee (3, 4).



RICHARD GOEBEL ROFELTY ("DICK")

Of Pasadena; prepared at Pasadena High School; Mechanical Engineering; A.S.M.E. (4).

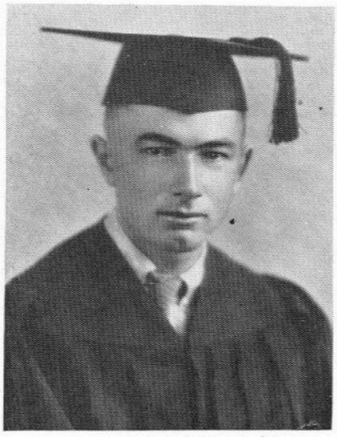


ALFRED LESTER RUMMLESBURG
("RUMMY")

Of Oxnard, Calif.; prepared at Oxnard Union High School; Chemistry; Baseball (1); Glee Club (1, 2); Chem Club (2, 3).

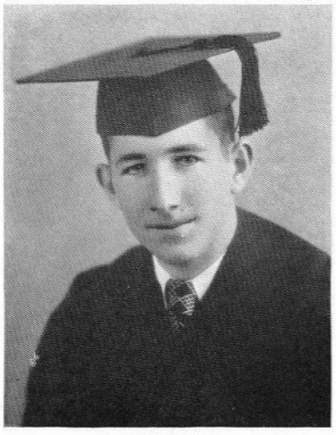
KENNETH FREELS RUSSELL

Of Los Angeles; prepared at Los Angeles Polytechnic High School; Mechanical Engineering; U.C.L.A. (1, 2); A.S.M.E. (3, 4).



KARL FRITZ SCHUMACKER

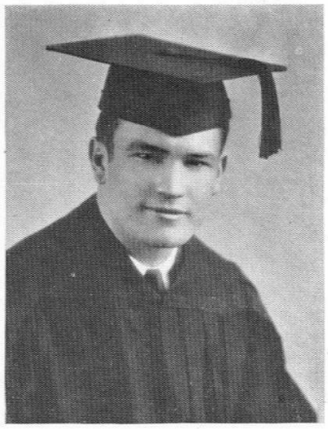
Of San Diego; prepared at San Diego High School; Civil Engineering; Cross-Country (1, 2, 3, 4); "Tech" (3); A.S.C.E. (3, 4); Dorm Club (1, 2, 3); House Committee (3).



LESLIE OWEN SCOTT ("LES")

Gnome Club, Pi Kappa Delta

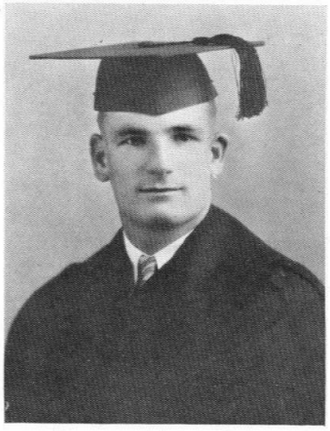
Of Los Angeles; prepared at Los Angeles Polytechnic High School; Mechanical Engineering; Track (2, 3, 4); Class Vice-President (4); Debating (1, 2, 3, 4); Conger Peace Prize; Intercollegiate Orator (3); Pi Kappa Delta Representative at Tiffin, Ohio, Convention; "Œdipus Rex" (4); Court of Traditions, Prosecuting Attorney (2); A.S.M.E. (4).



J. CONRAD SCULLIN ("CONNIE")

Sigma Alpha Pi, Pi Kappa Delta, Pi Kappa Sigma

Of Alhambra; prepared at Alhambra High School; Mechanical Engineering; A.S.B. President (4); Football (1, 2, 3); Track (1); Swimming (1); Baseball (1, 2, 3, 4); "Tech," Fraternity News (2, 3); "Big T," Advertising Staff (2, 3); Conger Peace Prize (1); Debating (2); Oratory (1, 2); Board of Control (3); Throopers (3, 4, 5); Exhibit Day Committee (3); Glee Club (3); A.S.M.E. (4); Representative at Student Movement Convention at Detroit (4).



CLYDE EMERSON SHIELDS

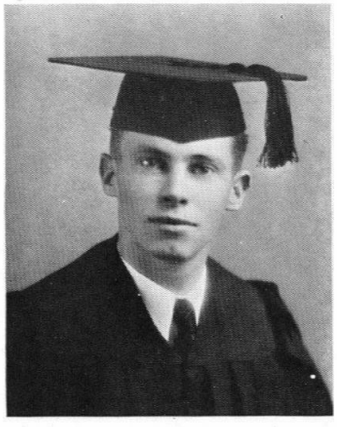
Pharos

Of San Diego; prepared at San Diego High School; Civil Engineering; Football (1), Letterman (2, 3, 4); Track (1), Letterman (2, 3, 4); Rifle Team, Letterman (2); Class Vice-President (3); Representative-at-Large (3); Athletic Manager (4); Honor Point Committee (3); Varsity Club (2, 3, 4); Band (1, 2, 3); A.S.C.E. (3, 4); Y.M.C.A., Treasurer (3), President (4); Honor Key (3, 4).

MORTON KINGMAN SHIELDS ("MORT")

Pharos, Pi Kappa Sigma

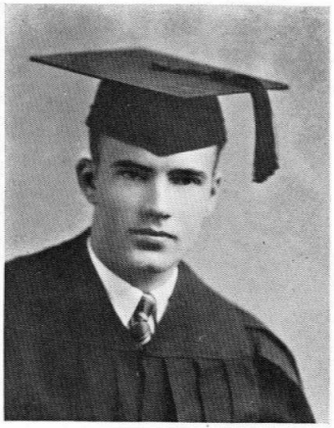
Of San Diego; prepared at San Diego High School; Mechanical Engineering; Track (1), Letterman (2, 3, 4); Cross-Country (1), Letterman (2, 3, 4); Board of Control (3); Throopers (3); Varsity Club (2, 3, 4); Cosmopolitan Club (2); A.S.C.E. (1, 2, 3); A.S.M.E. (4); A.S.B. Vice-President (4).



MAURICE HAROLD SINRAM ("BLONDIE")

Gnome Club, Tau Beta Pi

Of Hollywood; prepared at Hollywood High School; Electrical Engineering; Basketball (2, 3, 4), Letterman (3, 4); Tennis (1); Baseball (3, 4), Letterman (4); Court of Traditions (2); Varsity Club (3, 4); Radio Club (1); Dorm Club (1, 2).



MILTON SPERLING

Sigma Alpha Pi

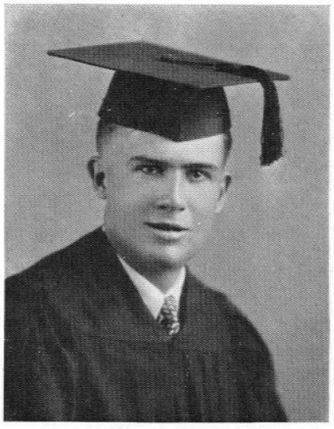
Of South Pasadena; prepared at South Pasadena High School; Geology; Football Manager (2, 3, 4); Geology Club (3, 4, 5).

WILLARD PALMER STEWARD

Of Santa Ana, Calif.; prepared at Santa Ana High School; Physics.

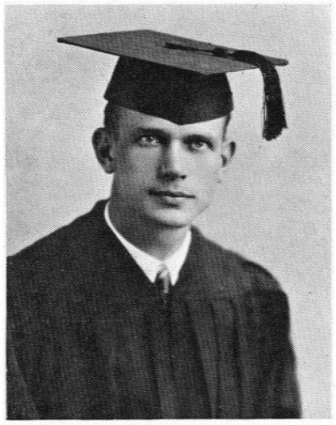
JOHN CLARK SUTHERLAND ("COE")

Of Pasadena; prepared at Washington High School, Cedar Rapids, Iowa; Coe College, Cedar Rapids, Iowa (1); Geology; Glee Club (2, 3); Geology Club (2, 3, 4).



GEORGE FREDERIC TAYLOR

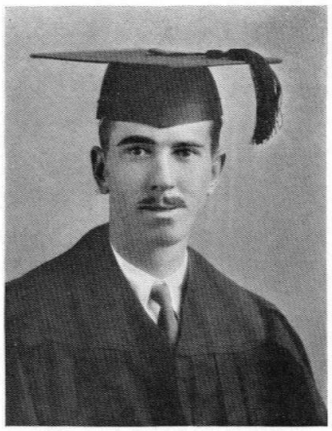
Of Los Angeles; prepared at Los Angeles High School; Geology; "Tech" (2, 3), Sport Editor (3); "Big T" (2, 3), Associate Editor (3); Band (2, 3, 4), Director (3, 4); Orchestra (2, 3), Manager (3); Rifle Team (2, 3, 4); Radio Club (3, 4); Geology Club (3, 4); Honor Key (3, 4).



PAUL MITCHELL TERRY

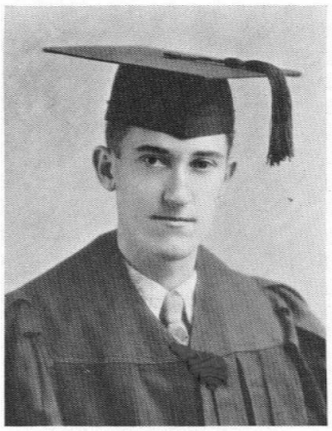
Pharos

Of Logan, Iowa; prepared at Logan High School; Civil Engineering; Fencing (4); "Tech" (2); A.S.C.E. (2, 3, 4).



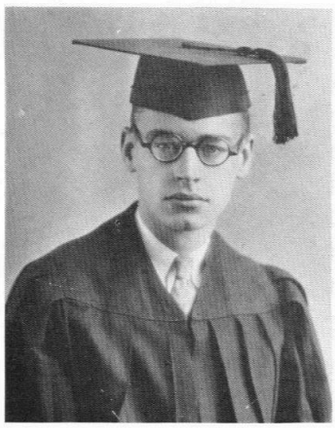
FRANK WALDEN THOMPSON ("TOMMY")

Of Glendale; prepared at Glendale High School; Mechanical Engineering; Tennis (1); "Œdipus" (4); Debating (1); Throopers (4); Aero Club (2); Radio Club (2); A.S.M.E. (3, 4).



ALFRED EDWARD TOWNE

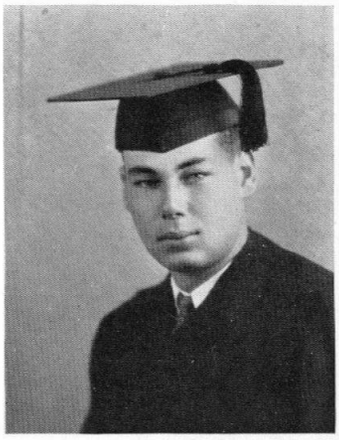
Of Van Nuys; prepared at Santa Monica High School; Electrical Engineering; Radio Club (1, 2, 3, 4), President (4); A.I.E.E. (4).



LINTON PAUL EUGENE VON BEROLDINGEN ("COUNT")

Pharos

Of Los Angeles; prepared at Los Angeles High School; Chemistry; "Tech" (1, 2, 3, 4), Copy Editor (3), Editor (4); Fencing (5); Drama Club (1, 2, 3, 4, 5); Press Club (2, 3, 4, 5).



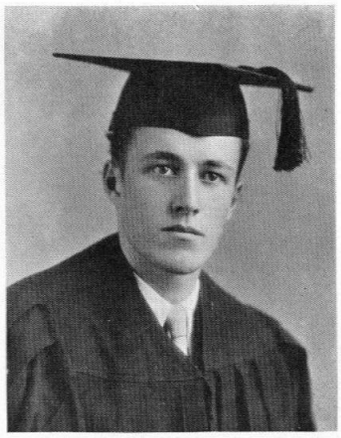
HOWARD WINFRED WAITE ("HEAVY")

Of Burbank, Calif.; prepared at Jefferson High School, Los Angeles; Aeronautical Engineering; Football (1, 2); Boxing (3); Swimming (4); A.S.M.E. (3, 4); Y.M.C.A. (3, 4).

GEORGE FRANCIS WEISMANN

Pi Alpha Tau, Tau Beta Pi

Of San Marino, Calif.; prepared at Alhambra High School; Mechanical Engineering; Basketball (1); A.S.B. Treasurer (4); "Tech," Advertising Staff (2, 3); "Big T" (2, 3, 4), Advertising Manager (3); Class Secretary-Treasurer (3); Junior-Senior Dance Committee (3); Exhibit Day Committee (3, 4); Chairman of Election Committee (3); Throopers (3, 4); Football Manager (2, 3, 4); A.S.M. E. (4); Honor Key (3, 4).



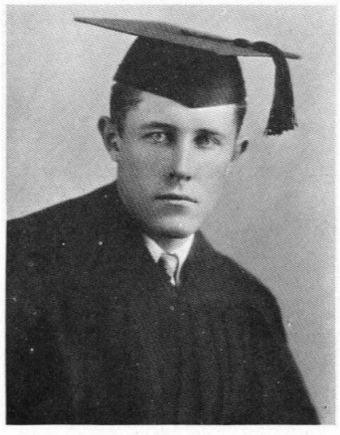
LLOYD E. WEST

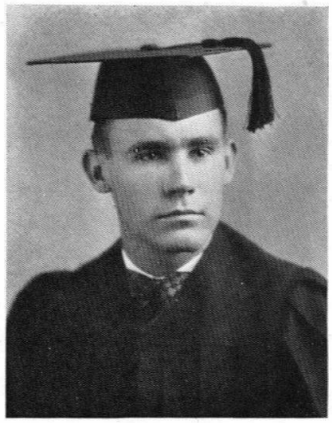
Pi Alpha Tau

Of Riverside; prepared at Riverside Polytechnic High School; Electrical Engineering; Baseball (1); Drama Club (1, 2, 3, 4), President (4); A.I.E.E.; Glee Club (1, 2, 3, 4); "Menaechmi" (3); "Œdipus" (4).

KARL WILSON WESTLUND

Of Yuba City, Calif.; prepared at San Fernando High School; Mechanical Engineering; Football (1, 2, 4), Letterman (4); Band (1, 2); Varsity Club (4); Aero Club (4); A.S.M.E. (1).

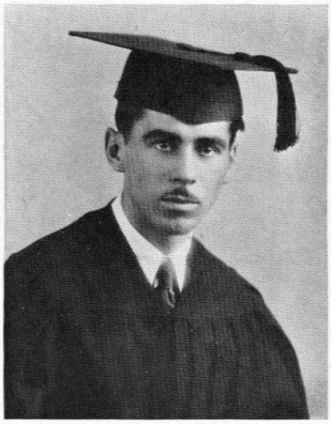




FRED ASTON WHEELER ("FREDDY")

Gnome Club, Pi Kappa Sigma

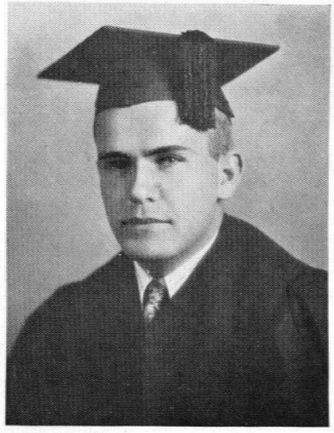
Of Hollywood; prepared at Hollywood High School; Mechanical Engineering; Football (1, 4); Track (1, 2, 3, 4), Letterman (4); "Tech" (1, 2, 3), News Editor (2), Feature Writer (3); "Big T" (2, 3); Assistant Yell Leader (2); Yell Leader (3); Press Club (2, 3, 4), President (4); Board of Control (2); Throopers (3); Y.M.C.A. (2, 3, 4).



ROBERT JAMES WHITE ("BOB")

Pharos, Tau Beta Pi

Of Hollywood; prepared at Huntington Beach High School; Chemistry; Football [redacted]; Fencing, Captain (4); "Tech" (1, 2, 3, 4), Copy Editor (4); "Big T" (3, 4); Throopers, President (4); Election Committee (2, 3, 4); Chem Club (1, 2, 3, 4), Secretary (2), Vice-President (3), President (4); Aero Club (1); Press Club (4); Cosmopolitan Club (1, 2); Dorm Club (1); Freshman Debating.

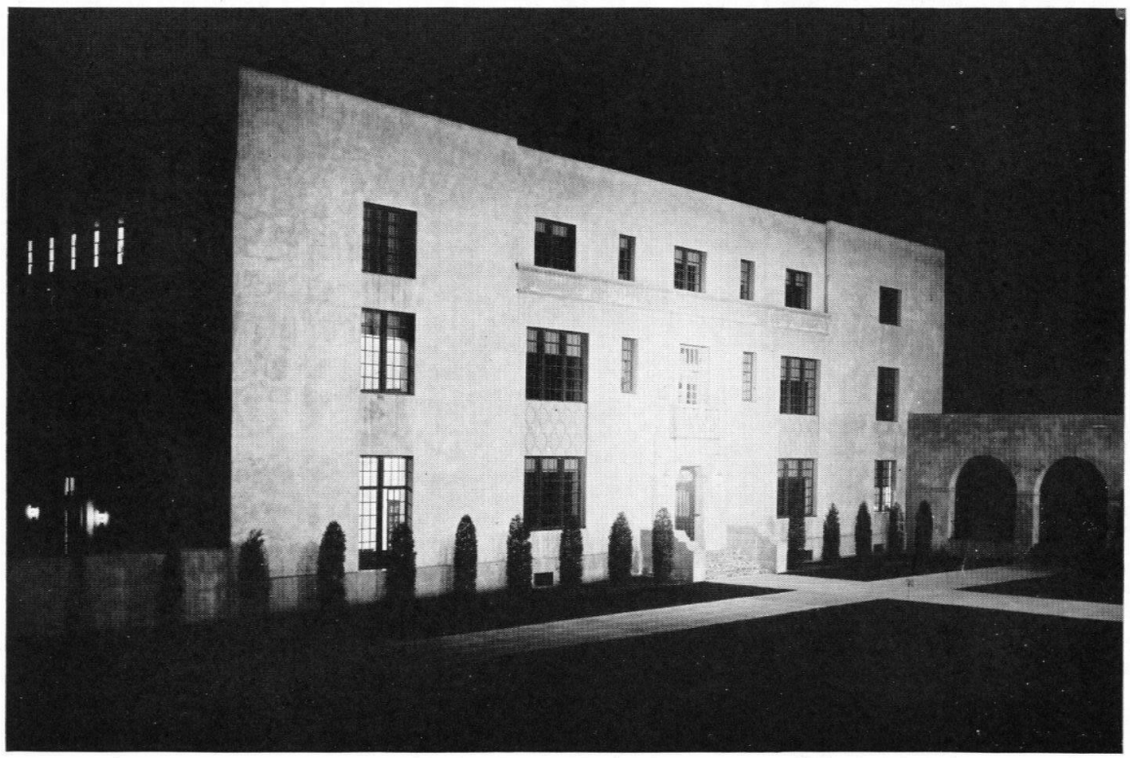


FREDERICK RUSSELL WILSON ("FRED")

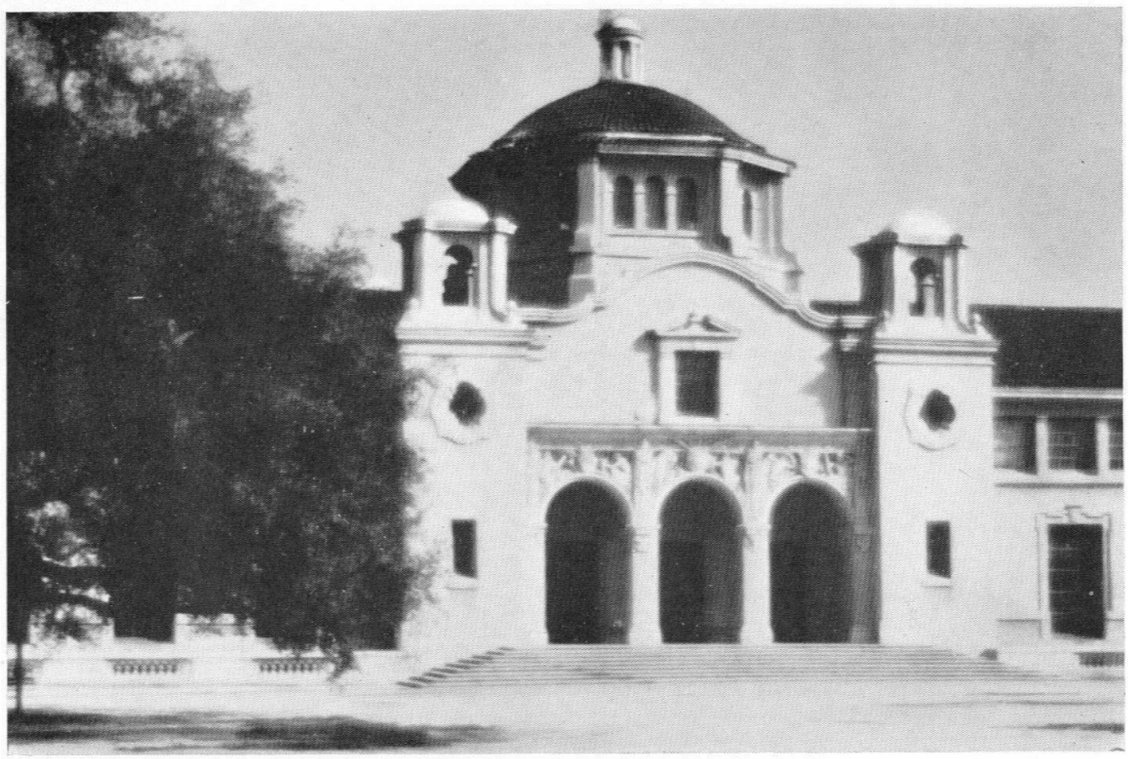
Of Pasadena; prepared at Long Beach High School; Electrical Engineering; Band (1, 2); A.I.E.E. (2, 3, 4).

LOST EN ROUTE

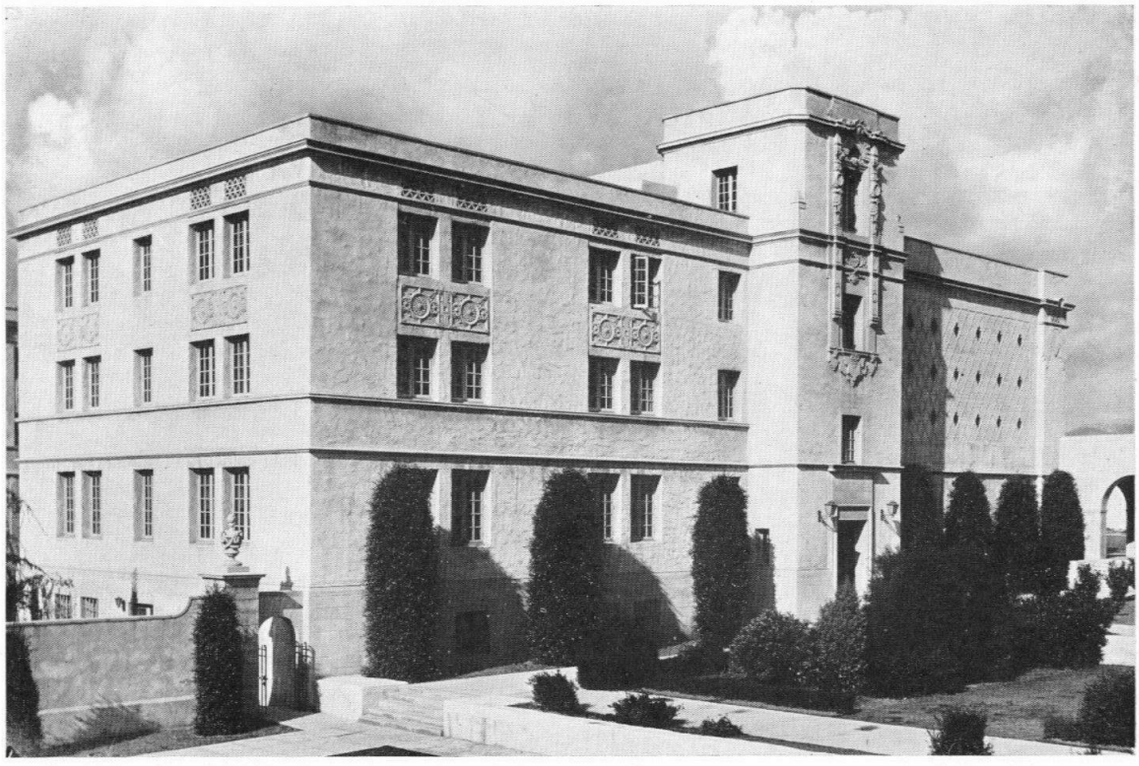
Albee, William H. Dropped out in '26. Now married and living in Carmel.
Allen, Wayne C. Dropped out in '27. Working for Haas-Baruch & Co., in Los Angeles.
Allison, Donald K. Transferred in '28 to class of '29 at U.C.L.A.
Arnold, William A. Dropped out in '28.
Babcock, William C. Dropped out in '25. Now member of class of '31 at Tech.
Baker, Howard E. Is remaining as a member of the class of '30 at Tech.
Barre, Benjamin A. Transferred to class of '29 at Stanford in '27.
Berman, Jacob Y. Graduated in '28. Now manager of a movie show near Compton.
Bewley, Fred W. Dropped out in '28. In L. A. County Surveyor's Office.
Bradfield, Stephen A. Dropped out in '25. Went to Colorado School of Mines.
Brieglieb, Harold A. Dropped out in '26.
Burnham, Howard B. Dropped out in '27. Now pharmacist in Indio, Calif.
Burton, Howard B. Dropped out in '26. Went to Colorado School of Mines.
Cary, Howard H. Transferred to class of '30 at Tech in '27.
Compton, Thomas H. Dropped out in '29. Now inspector with Arctic Mining Company.
Corbin, Harold A. Transferred in '28 to U.C.L.A. as member of class of '29.
Coupland, Bert R. Is remaining as member of class of '30 at Tech.
Cruzan, Walter. Dropped out in '28. Working for L. A. City Engineering Dept.
D'Arcy, Nicholas A. Left to join the Consolidated Steel Corporation.
Davis, Austin L. Left in '28 to work for Security Trust and Savings Bank in L. A.
deCamp, L. Sprague. Is remaining as member of class of '30 at Tech.
Dickerman, Chas. E. Dropped out in '23. With Richfield Oil Co. at Long Beach.



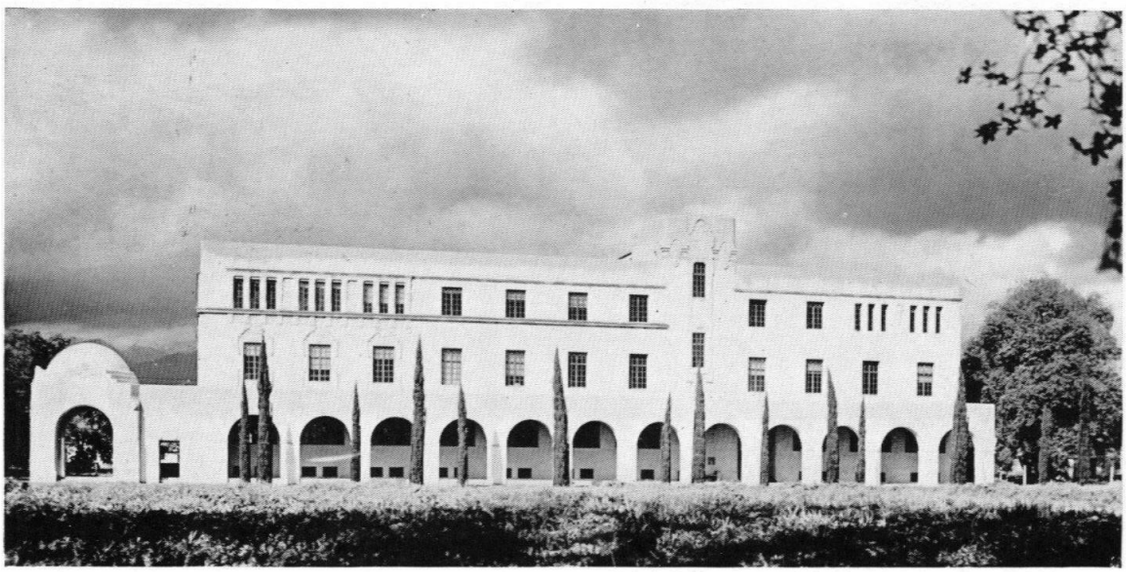
Dickenson, Henry B. Dropped out in '26.
Dickenson, John L. Left in '27 to do research on extraction of fats and oils.
Donner, Ludwig. Dropped out in '27. Attending Pasadena Junior College.
Douglass, James U. Transferred to U.C.L.A. in '25.
Downs, Roscoe P. Dropped out in '27. Now member of class of '30 at Tech.
Drake, Herbert B. Dropped out in '26. Now member of class of '31 at Tech.
Ellis, Emory L. Left in '28 to do research with Portland Cement Co. at Colton.
Everett, Monroe M. Dropped out in '29. Working in Moore Park, Calif.
Fish, Stanley B. Dropped out in '26. Now attending U.C.L.A.
Fracker, Henry E. Left in '28 to do sound research with Paramount Pictures, Inc.
Gilbert, John G. Dropped out in '29. Surveying for Chandler Estate in Mexico.
Goldman, Sol. Dropped out in '25.
Goodwin, John S. Dropped out in '28. Now P. E. conductor.
Graham, Gordon D. Transferred to University of Washington in '27.
Grant, Edmond G. Dropped out in '27. Now member of class of '30 at Tech.
Hall, John L. Dropped out in '27. Now member of class of '30 here.
Harris, Bertram S. Transferred to U.S.C. Law School in '28.
Hatch, William B., Jr. Is remaining with class of '30 at Tech.
Higgins, Frank T. Dropped out in '26. Working in Long Beach.
Hoch, Winton C. Dropped out in '28. Now member of class of '30 at Tech.
Hodder, Roland F. Dropped out in '26. Now member of class of '30 at Tech.
Houda, Milton. Taking part-time course.
Huston, Paul W. Dropped out in '26. Now with L. A. County Road Dept.
Imus, Henry O. Dropped out in '27. Now member of class of '30 at Tech.
Johnson, Josef. Left in '29 to go on astronomical expedition to East Indies.

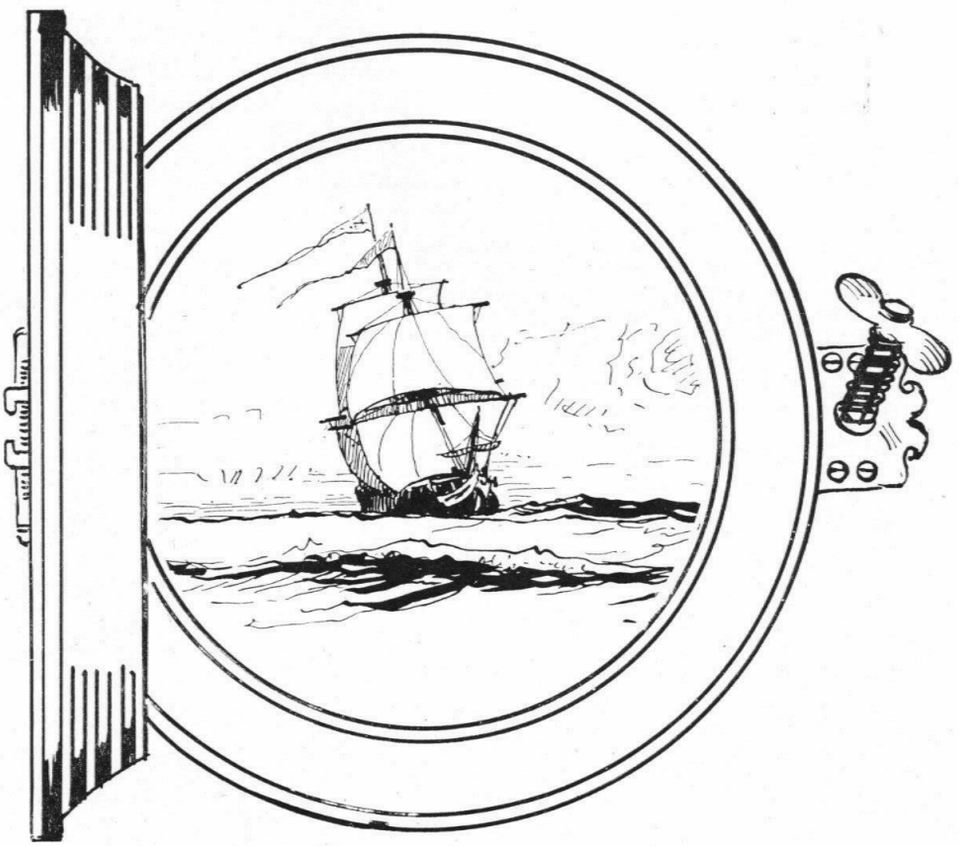


Jones, Harlen E. R. Left in '29. With oil company in Kettleman Hills, Calif.
Keeley, James H. Dropped out in '29. Testing gasoline for Union Oil Co.
Keliher, Arnold. Died during 1928.
Kemp, Walter K. Dropped out in '27.
Kuert, William F. Dropped out in '26. With Claude Neon Co. in Mississippi.
Langsner, George. Dropped out in '29. Living in Ontario, Calif.
Lawrence, William T. Dropped out in '27.
Lewis, Fred W. Dropped out in '25.
Livingston, Stanley D. Dropped out in '26 because of nervous breakdown.
Lockhart, Ross M. Dropped out in '27. Now member of class of '30 at Tech.
Lyter, Albert D. Dropped out in '28. Draftsman with L. A. County Road Dept.
Macdonald, Edwin. Dropped out in '27. Now member of class of '30 at Tech.
Malloch, Robert S. Dropped out in '27. Living in Riverside, Calif.
Mason, Harry S. Dropped out in '27. Now member of class of '30 at Tech.
Maxey, James W. Dropped out in '26.
Mitchell, Gordon S. Dropped out in '27. Now member of class of '30 at Tech.
Muff, Elmer M. Is remaining as a member of the class of '30.
Myers, Fred A. Dropped out in '26.
Myers, James H. Dropped out in '27.
Newcomb, Daniel. Dropped out in '26. At home in Corona, Calif.
Nye, Lawrence. Dropped out in '26. Now member of class of '30 at Tech.
Olney, William J. Dropped out in '25. Now working in Los Angeles.
Olson, Donald K. Leave of absence, '29. Convalescing from illness at home.
Ovington, James R. Dropped out in '26.
Owen, Winthrope H. Dropped out in '25. Now P. E. conductor.
Parker, William. Dropped out in '26. Now working in El Centro Bank.



Perry, Douglas B. Dropped out in '28. Now member of class of '30 at Tech.
Peterman, Harry A. Dropped out in '27. With Southern Calif. Edison Co. in Los Angeles.
Phillips, Julien. Dropped out in '28. Now at Mass. Inst. of Tech., class of '30.
Potter, Roy. Dropped out in '25.
Reilly, James. Leave of absence, '28. To return as member of class of '30 at Tech.
Ross, George A. Dropped out in '26. Now member of class of '30 at Tech.
Ross, Richard G. Dropped out in '26.
Scott, Lester R. Died during 1927.
Shadel, Clarence. Dropped out in '25. Now at U.S.C.
Shields, John. Leave of absence, '27. Now member of class of '30 at Tech.
Slater, Donald C. Dropped out in '25.
Slick, Wilfred L. Dropped out in '28. At home in Long Beach.
Snyder, Robert. Dropped out in '27. Now at Pomona College.
Springsholz, Charles A. Is remaining with class of '30 at Tech.
Steele, Donald E. Dropped out in '26. With Standard Oil Co. in El Segundo, Calif.
Stickney, Clinton M. Dropped out in '27.
Stillwell, John E., Jr. Transferred to Stanford, '27. Died, 1929.
Stirton, Robert I. Became a member of class of '30 at Tech in '28.
Sturgess, Jack B. Became a member of class of '30 at Tech in '28.
Suzuki, Katsunoshin. Dropped out in '28. Now member of class of '30 at Tech.
Tutschulte, Alvin C. Dropped out in '27. Now member of class of '31 at Tech.
Ulmar, Boris. Dropped out in '26.
Vose, Edward R. Dropped out in '27. Now at Mass. Inst. of Tech.
Walton, Arthur F. Dropped out in '27. Working on Boulder Canyon Dam.
Watson, George G. Dropped out in '27. With Union Tool Co., at Torrance, Calif.
Weise, Carl A. Dropped out in '29. Taking part-time course with class of '30.
Wheeler, Edward G. Dropped out in '26.
Whitington, Richard B. Dropped out in '27. Working in Huntington Beach.
Wiley, Chas. A. Dropped out in '27. With So. Calif. Edison Co. at Colton, Calif.





OTHER CLASSES

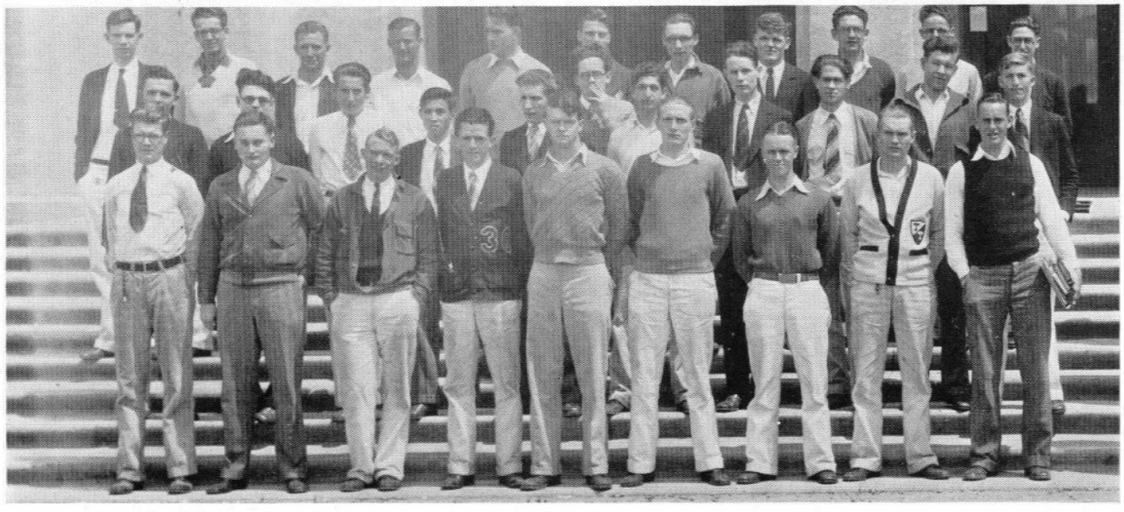
ZIPSER

THE JUNIOR CLASS

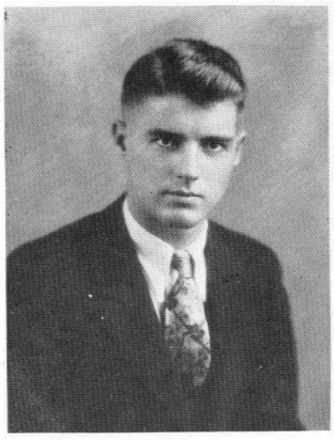
The Class of 1930, as Freshmen, under the able leadership of Robert Oaks, president, and supported by Charles Herd, William Towler, Franklin Crawford, William Hacker, and Horace Allen as the other officers, the present Junior Class made a noteworthy start of its career. The Frosh performed admirably in the push-ball contest, considering the fact that they were unacquainted and lacked the necessary team-work to win. They took their defeat like "good sports," and proceeded to give one of the best Rodeo Dances on record. During this first year, a year of orientation in a new environment, the Frosh entered whole-heartedly into the Tech traditions, even to the extent of holding the annual "T." party from 1:00 A.M. until dawn, following the Junior-Senior Prom, to insure its success. The annual Freshman Student Body dance was declared by all of the old grads and Seniors as the best in years, and it was indeed successful, with the Vista del Arroyo Hotel as a setting.

HODDER

At the opening of the Sophomore year, the all-important problem before the members of the class was the education and disciplining of the incoming Freshmen. Although handicapped by the enforcement of the new rule that only those members of the class designated as deputies could enforce the Freshmen regulations, the Sophomores did themselves proud, and as a result the Class of 1931 has turned out to be a very likable bunch of fellows, neither too crushed nor too "cocky" in spirit. The Sophomores won the sack race, which took the place of the push-ball contest, by an overwhelming margin, and had their turn to enjoy a

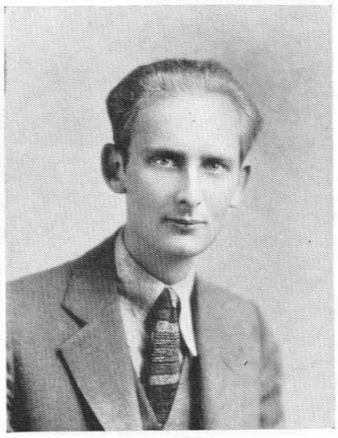


dance given in their honor by the Frosh. In this year William Trowler was elected president, and those supporting him on the executive committee were Horace Allen, Franklin Crawford, Sidney Zipser, William Morton, Austin Strong, and Robert Oaks. Members of the class were active in athletics and forensics, Sophomores being prominent on all the major sport squads, debating teams, plays, and other student body activities. The Sophomore Dance was one of the classic events of the year. Held at the Breakfast Club, it was the only student body dance of the year where everyone could dance at once and have room to spare.



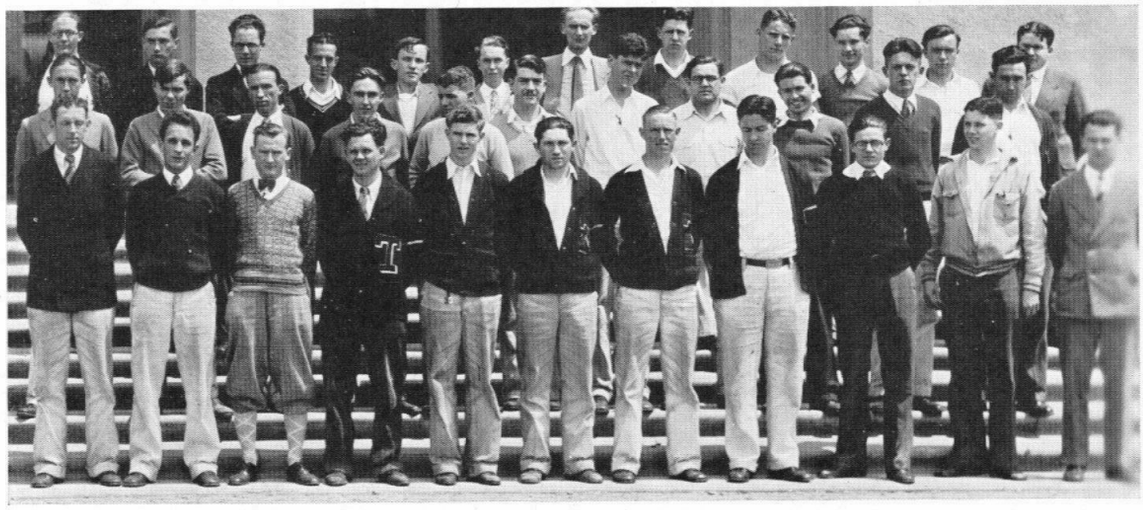
BUNGAY

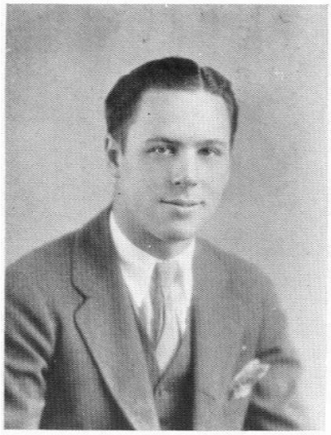
The Junior year is perhaps the most outstanding year for the furtherance of the activities of the student body. And the Juniors of this year have come through in admirable fashion. In athletics, Junior lettermen are numerous on every "varsity squad," including both major and minor sports. Junior debators are outstanding. In the orchestra, glee club, band, plays and other activities of similar nature, the Juniors are conspicuous for their activeness. Intramural sports are not finished as yet, but as this goes to press the Juniors have an excellent chance of winning. Four Juniors were sent to Europe as Travel Prize winners, and eight had the honor conferred on them of being elected and initiated into Tau Beta Pi.



SCOTT

On February 16th the Juniors and Sphomores cooperated in giving a dance for the two classes where everyone enjoyed himself to the fullest degree. The Junior-Senior Prom, the outstanding event of the year as far as social activities are concerned, is described elsewhere in this issue.



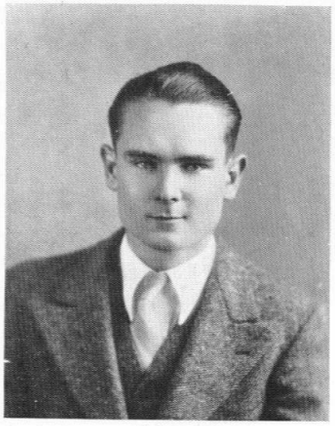


LEHMAN

SOPHOMORE CLASS

Under the leadership of Bob Lehman, the Sophomore Class has continued to carry on the high ideals inaugurated the previous year by Aubrey Horn, Jack McGarry, Jack Hatcher, Arthur Brooks, Lester Frick, and Don Prentice; president, vice-president, secretary, treasurer, athletic manager, and board of control member, respectively, of the Freshman Class. Bob had for assistants this year John Mehl, Howard Smits, Arthur Brooks, Les Frick, Lee Pratt, Oscar Newby, and Herbert Ingham and Jack McGarry, who were vice-president, secretary, treasurer, athletic managers, chief deputy, and board of control members, respectively.

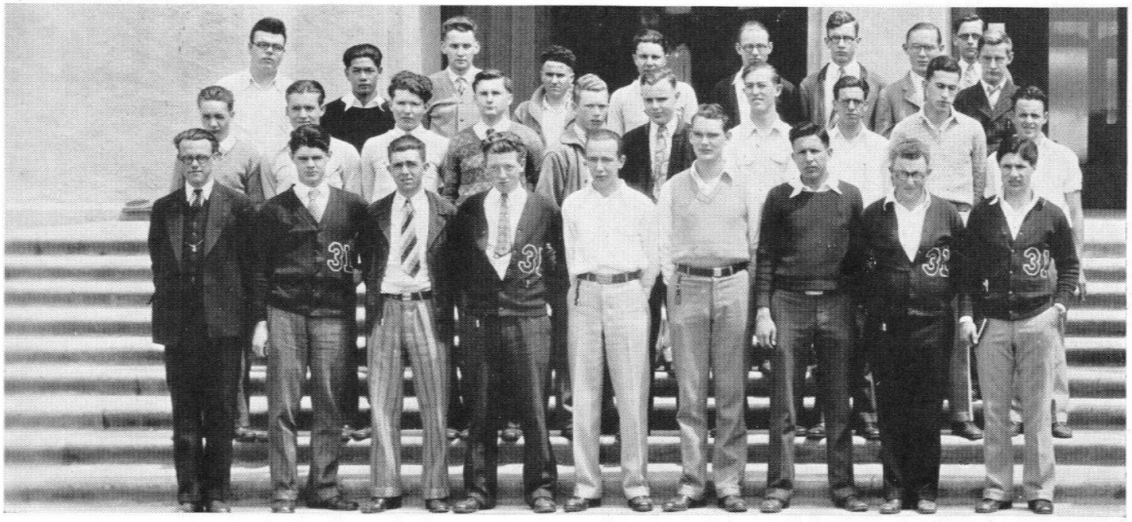
The Sophomores came back to school this year decked in red and the authority to rub some of the greenness off the Freshmen. A few baths in the campus pond cooled off the hot-headed members and all were reduced to the necessity of wearing the traditional beanie.



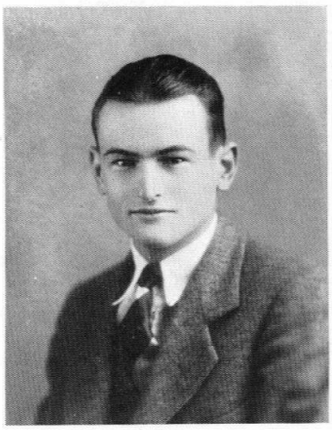
MEHL

After the warm welcome tended the Freshmen, class rivalry grew up which culminated in the annual brawl held in the Rose Bowl between halves of the U.C.L.A. football game. The two classes lined up at either end of the field, both sides determined to win at all costs — the Freshmen to avenge their wrongs received at the hands of the Sophomores, and the Sophomores remembering the defeat handed to them in the sack brawl the year before at the hands of the present Juniors.

The gun went off; the rush for the ball was on. Dickey was the first to the large ball by several yards and with the aid of a headlong dive succeeded in

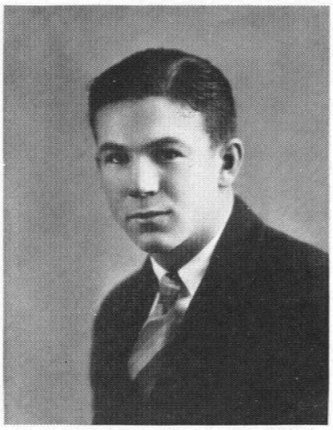


giving the sphere a forward momentum toward the Freshmen goal line. With Juniors acting as referees, the ball was slowly edged onward amid much grunting and panting. By dint of superior organization, experience, and determination, the Sophomores succeeded in pushing the ball over the struggling Freshmen to their goal. This was the end of the contest as far as the scoring went, but it was enough to ensure a dance to be given in honor of the Class of '31, after which the Freshmen were emancipated, thus ending the hostility and rivalry of the two classes.



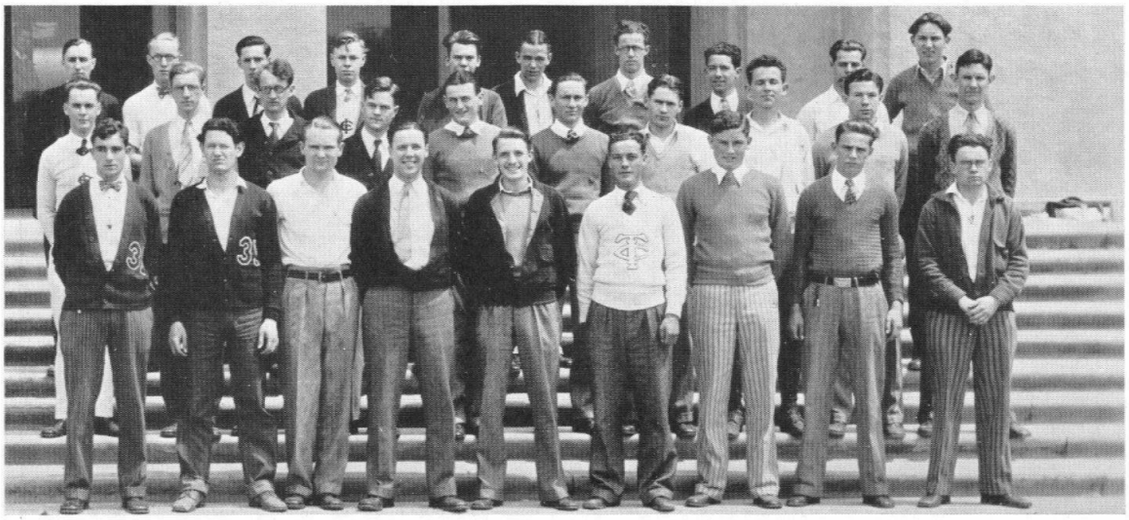
SMITS

In the field of intramural athletics the Sophomore Class showed much class spirit. In all of the activities, the Class of Thirty-one always managed to place high, and, although not coming out first in the total number of points, it stayed out of the cellar. But in spite of the scores, the spirit shown was excellent. There were always plenty of men out to support every sport and the Sophomores gave keen competition to every class they met.



BROOKS

The social season of the Sophomore Class was a great success. Every dance was quite above average. The class co-operated with the Freshman Class in the first dance of the year, the Rodeo dance. Following this, at the end of the second term, the Sophomore Class gave its big semi-formal at the Breakfast Club, open to the entire student body, which was without a doubt the most successful large dance of the year in point of numbers, and in excellence of music, floor, and other details. In the early part of the third term the Sophomore and Junior Classes got together and put on a joint dance in Culbertson Hall.



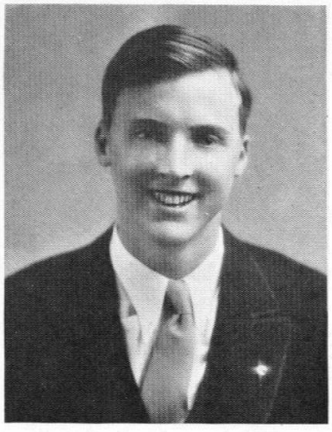
CHAMBERS

FRESHMAN CLASS

With the appointment of John Chambers to the position of Freshman Chairman, the history of the Class of '32 was begun. Much was to be done in the first term of its existence at the Institute. Under the care and instruction of Dr. Macarthur, the guiding hand on the helm of the Freshman organization, its members learned to avoid the first week fervor of hazing Sophomores by not posing for their pictures near buildings and refraining from similar rash actions.

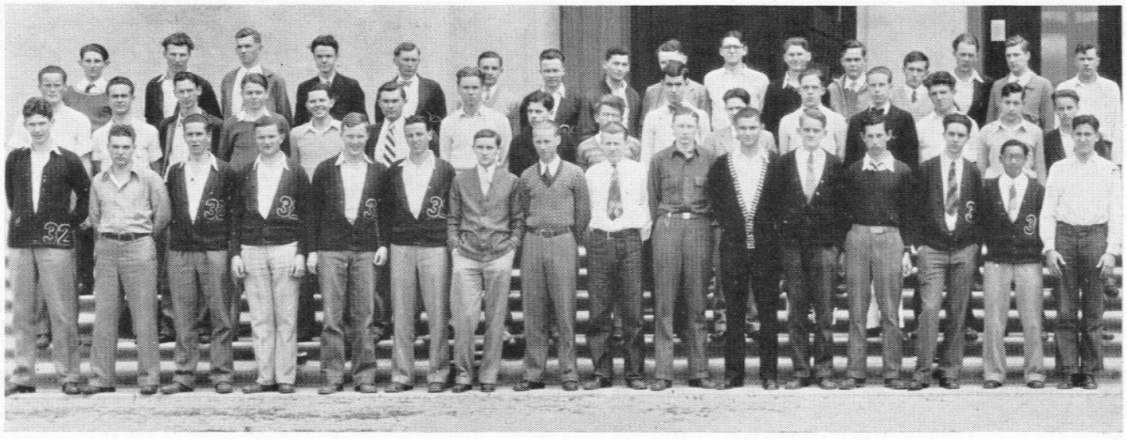
Its opportunity for retaliation came to the class in the annual official fracas, the Rodeo, which consisted in this case of a push-ball contest between Frosh and Sophs before the U.C.L.A. football game. Though a group of as valiant fighters as one could want engaged the Sophomores, the result was a defeat for the green. Consequently, the Rodeo Dance held in Culbertson Hall on October 13th, was given by the Freshmen.

Unexpected but welcome emancipation came to the class when Tech beat the championship Occidental football team to the tune of 13-7. Many a Frosh beanie was consigned to the traditional flames in the celebration which followed.



GOODMAN

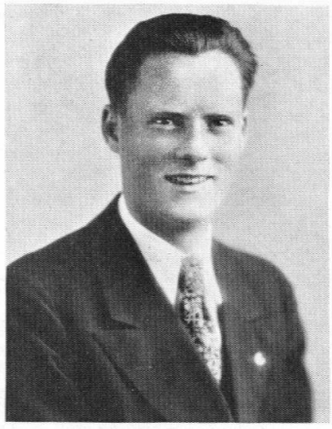
The next most important affair on which the class directed its attention and labors was the Frosh-Student Body Dance. After a great deal of work on the part of the committee chosen for that purpose and with the financial backing of all the members of the class the dance was held with great success in the Hotel Hunt-



ington Ballroom on Saturday evening, December 15th. It was an event to be remembered, and holds the position of the biggest and best effort of the Class of '32.

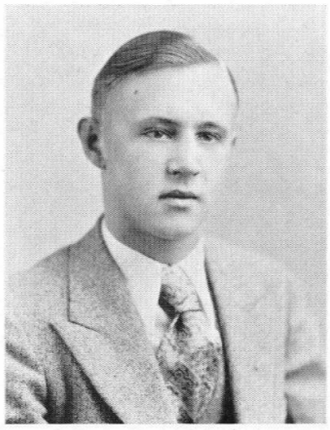
With the coming of the second term, regular election of class officers was held. The resulting balloting of the class put these men in office:

President - - - - - - - John V. Chambers
Vice-President - - - - - - Frank Wengren
Secretary - - - - - - - - Clark Goodman
Treasurer - - - - - - - - - Randel Maass
Athletic Manager - - - - - William Shuler
Member of the Board of Control, James McLaughlin

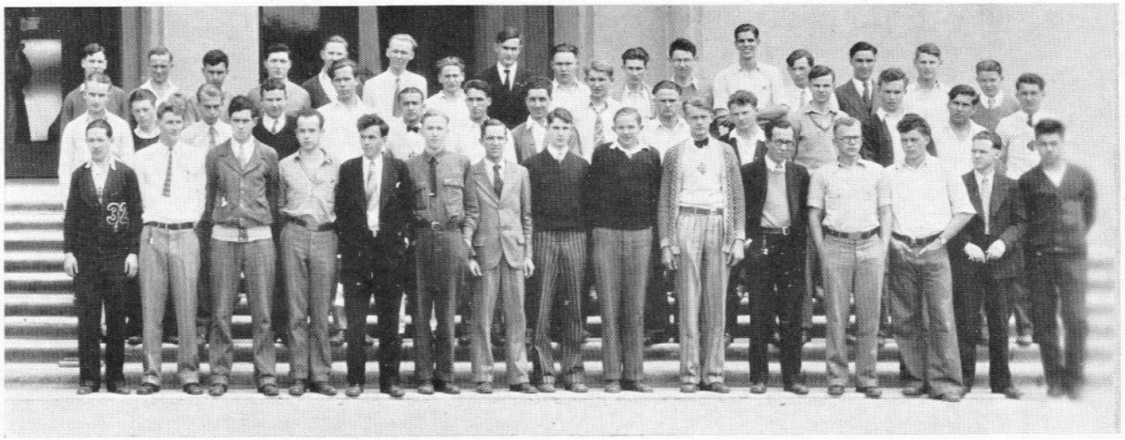


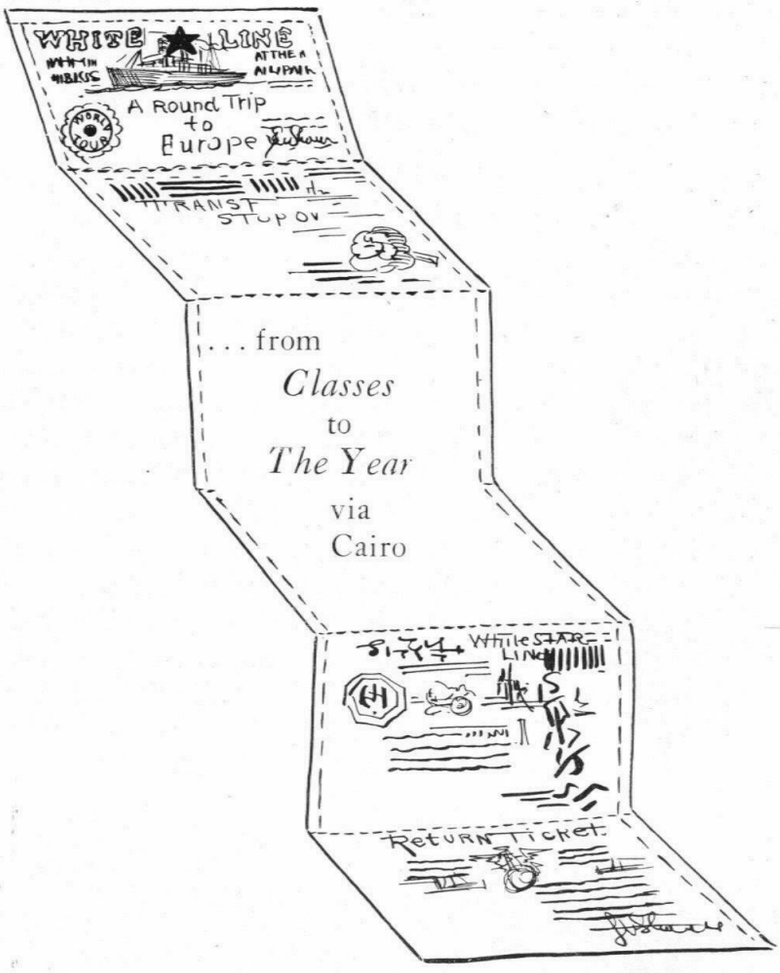
WENGREN

Judging from its performance in athletics during the past year, the Class of '32 will do its share in furnishing material for championship squads in the future. Though the scores of the games played by the football team did not indicate a great deal, several of the squad will be good material even in their second year. The track squad clearly demonstrated its wealth of material by nearly a clean season record and by winning the Freshman Conference Championship for the first time in the history of the Institute. The tennis squad had five fast players and many more in reserve; and it won all its matches, even beating the varsity when practice matches were played. The Frosh swimming team pulled an upset in the intramural contest by easily winning the contest. It is a potential conference championship group. In the final score of the interclass competition available the Freshmen were tied for first honors.



MAASS




WHITE STAR LINE
A Round Trip
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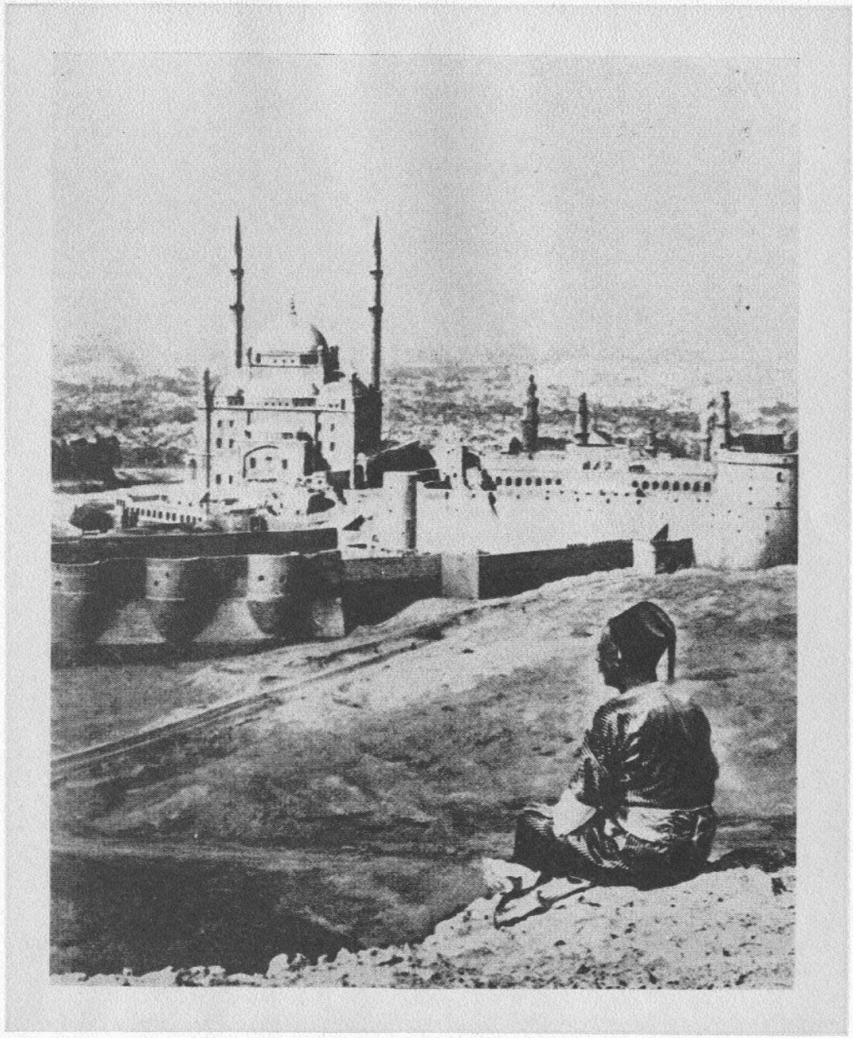
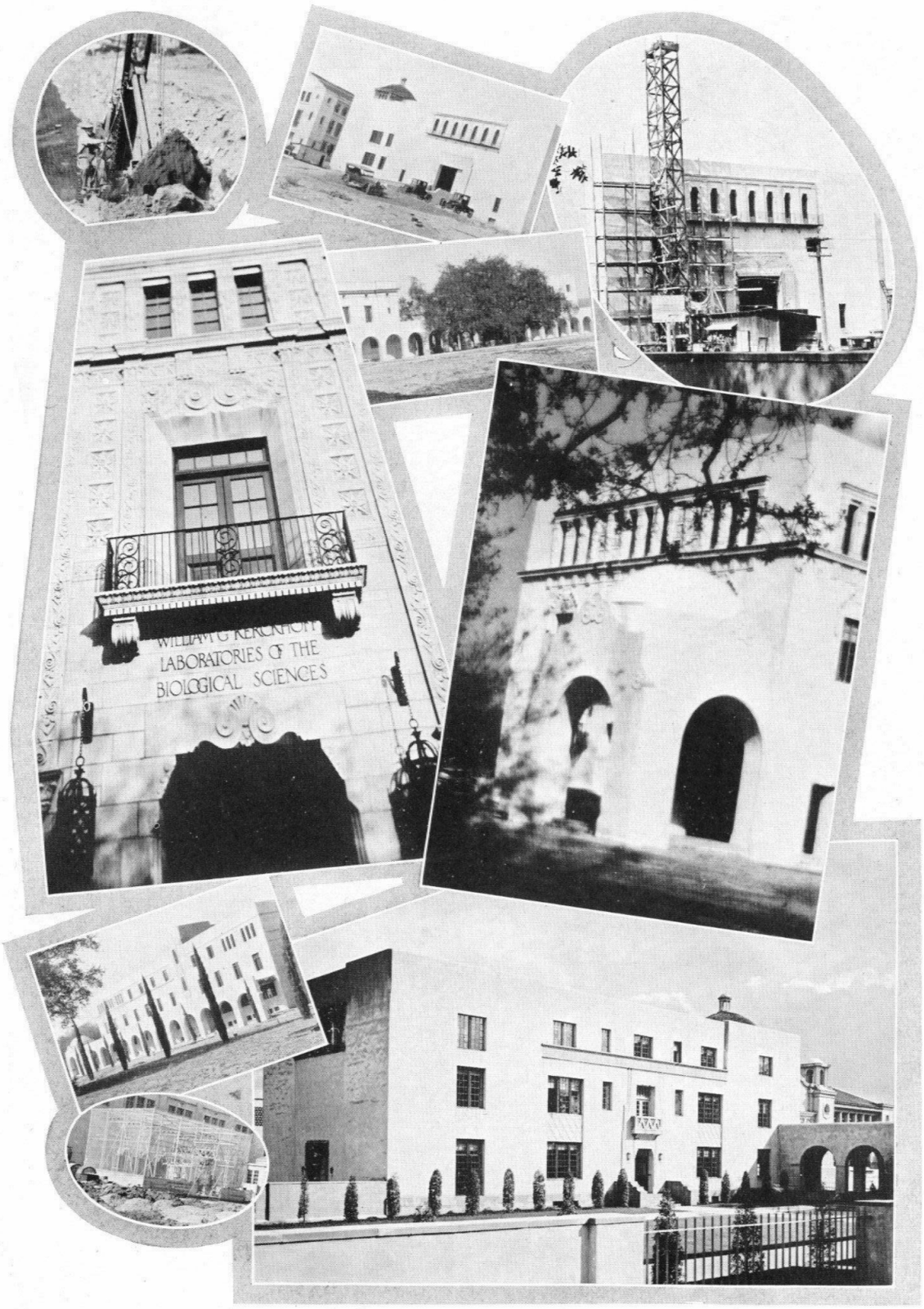
White STAR LINE
Return Ticket

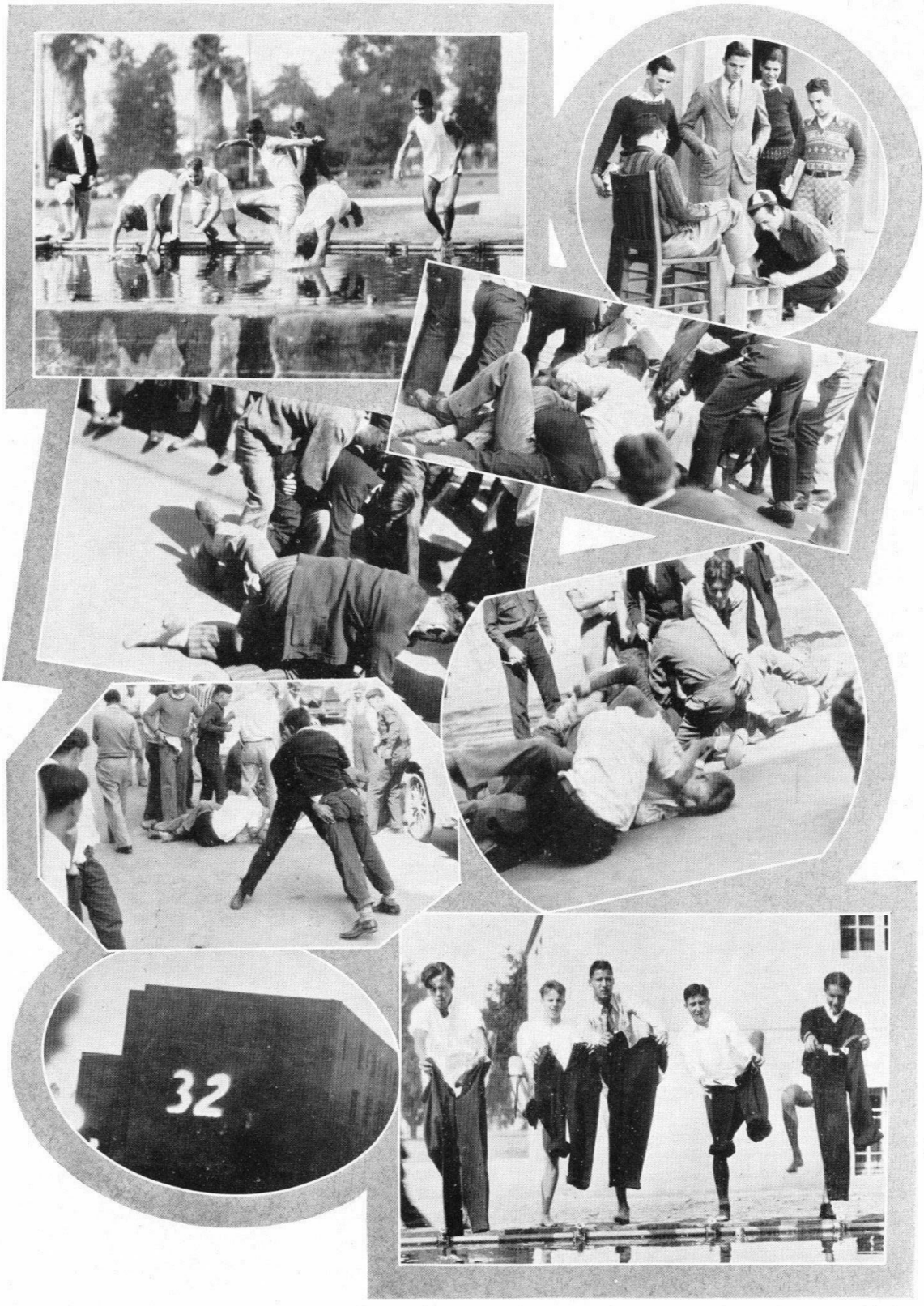


TUNIS

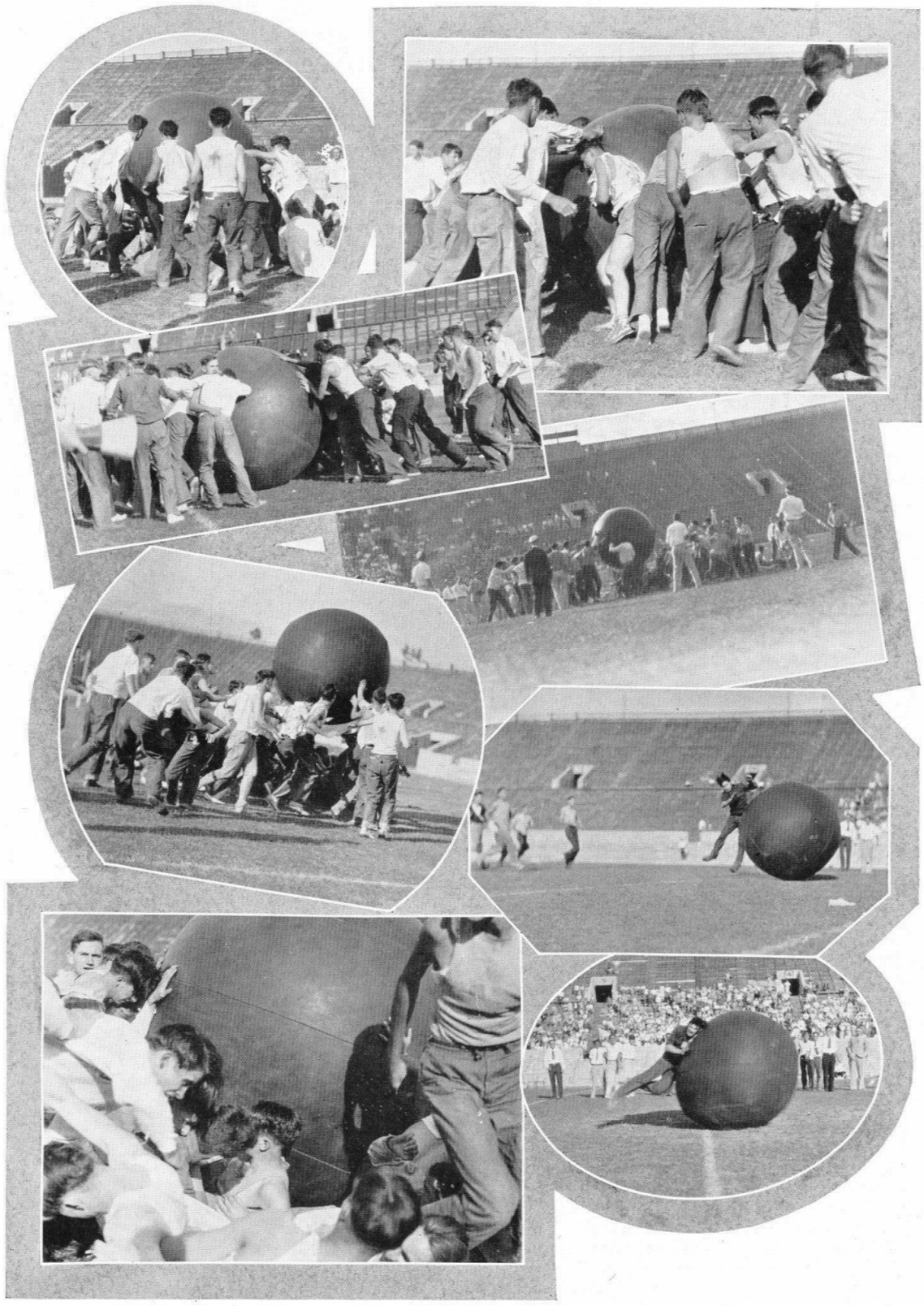
The Year



New Structures Greeted the Returning Student

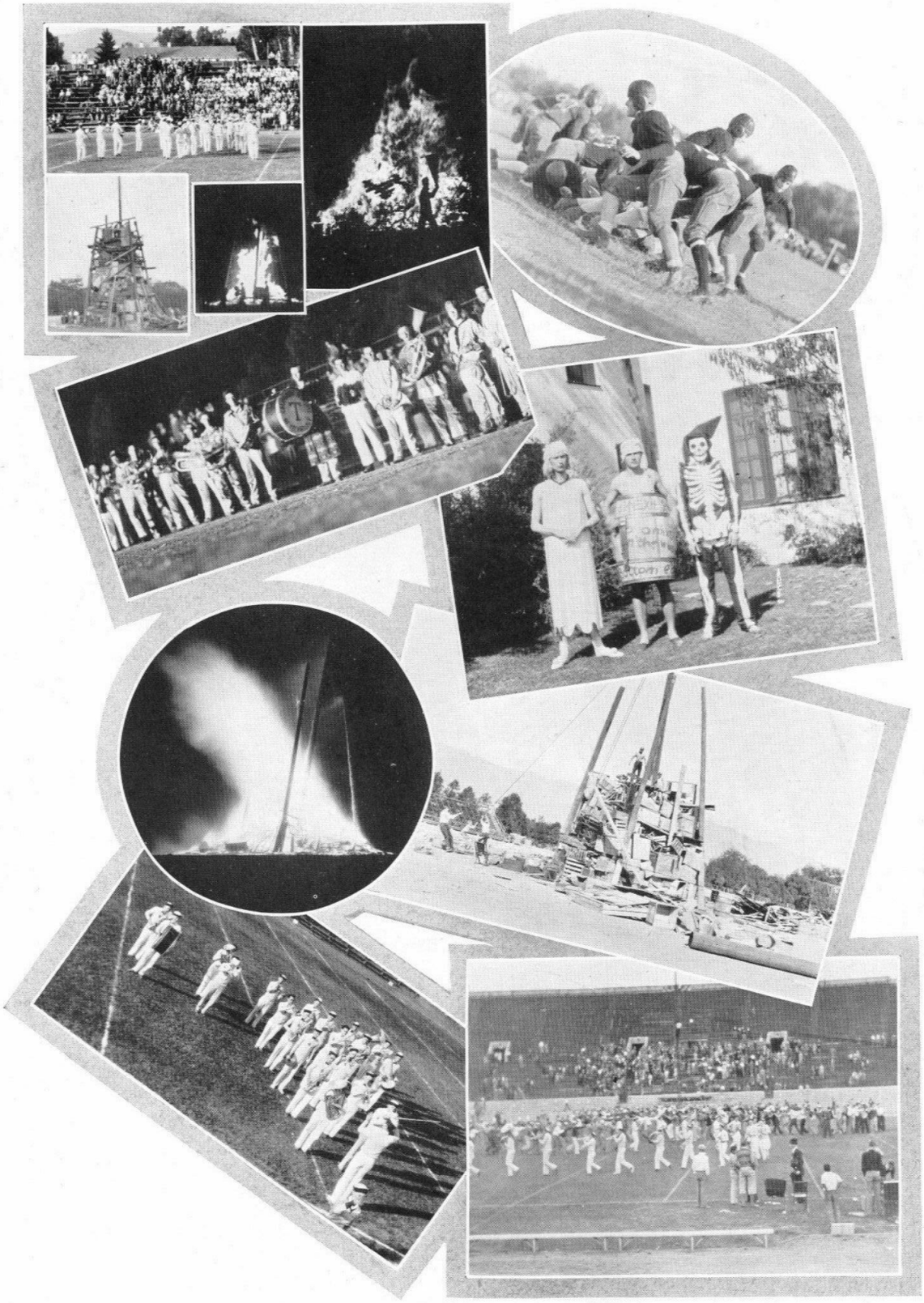


FROSH CHASTISED BY THEIR LORDS AND MASTERS

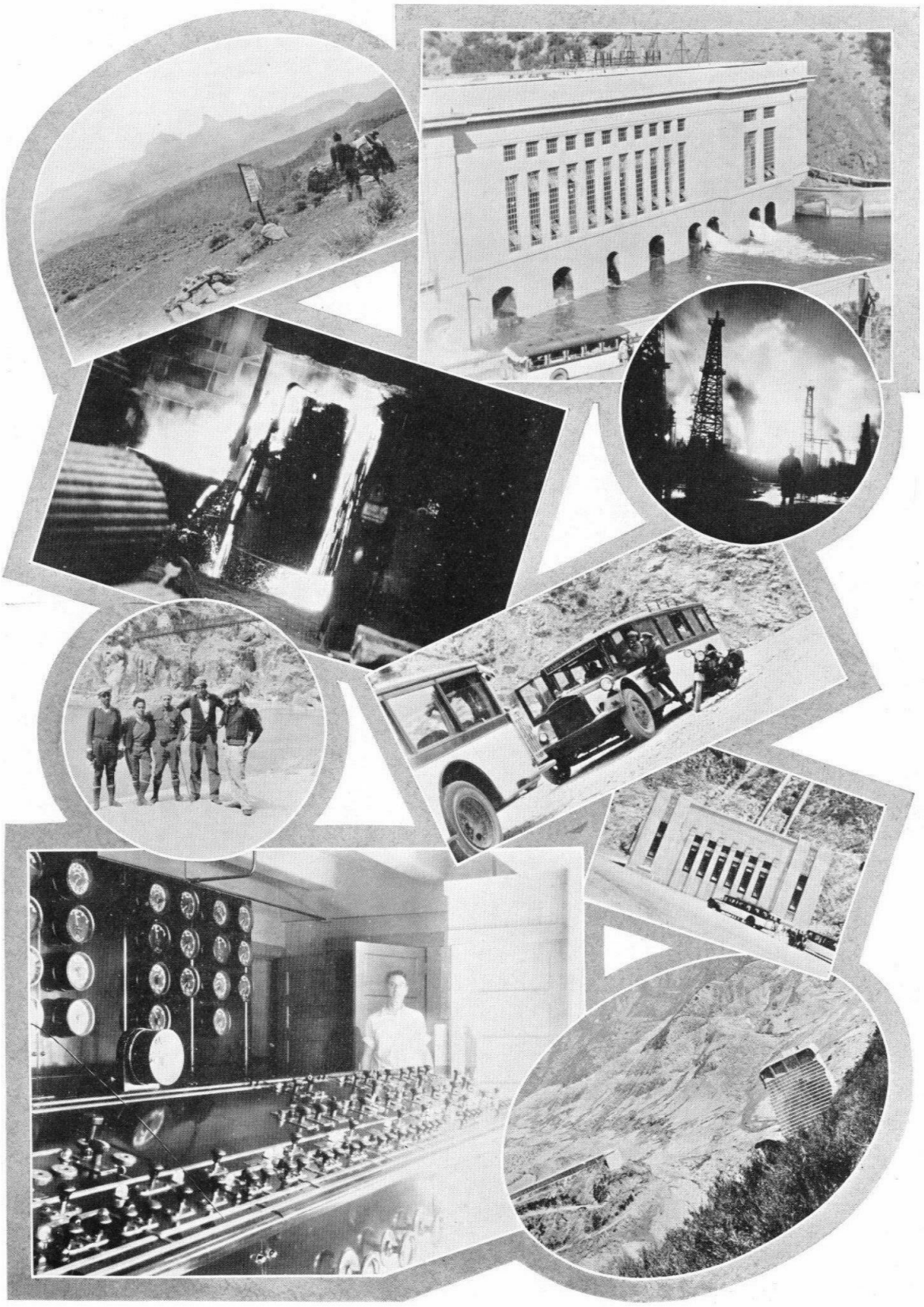


Sophs Win the Rodeo

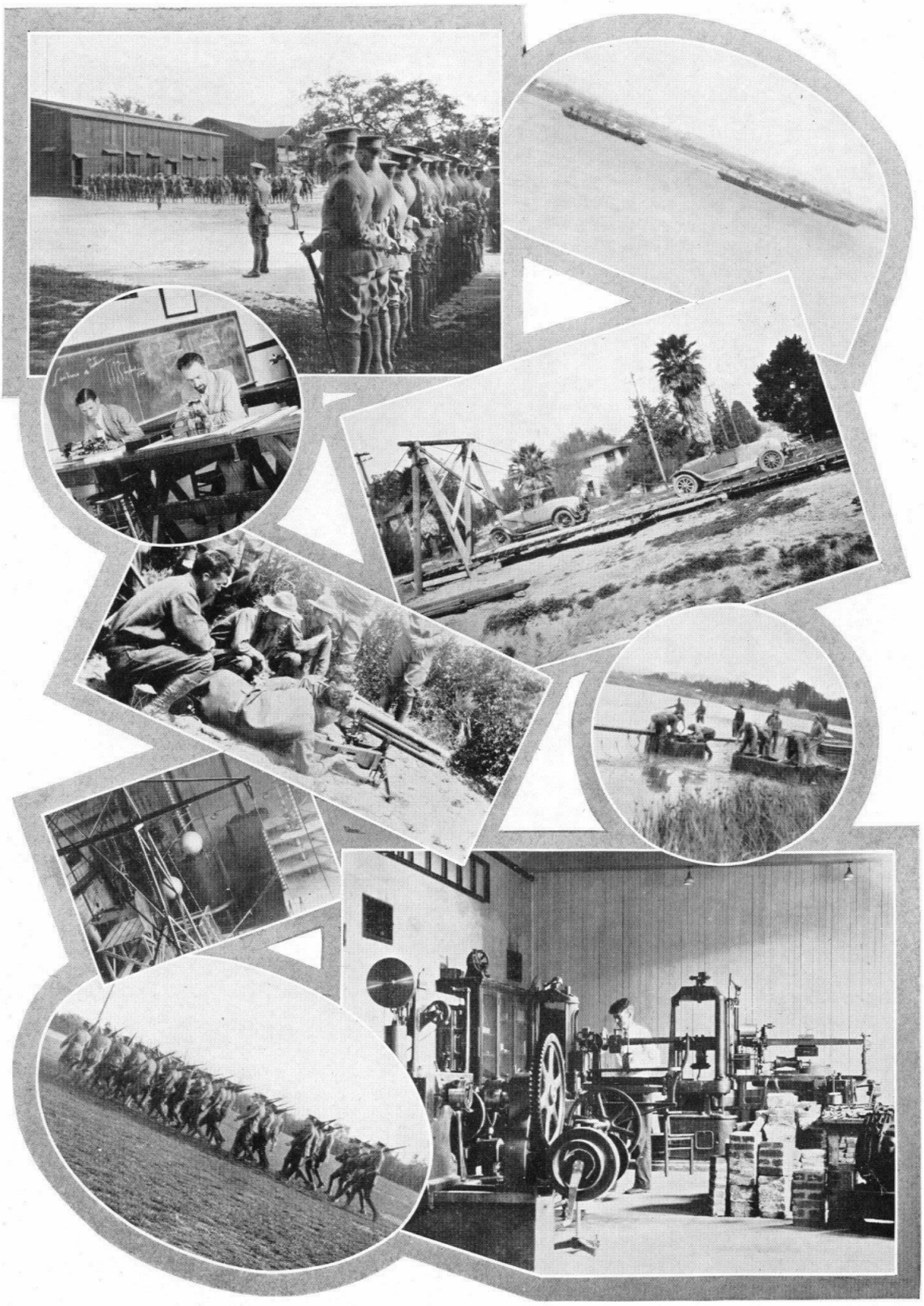
THE BAND AIDS IN PROMOTING THE OLD TECH SPIRIT



NET RESULTANT—TECH 13, OXY 7



Inspection Trips and Field Work



THE ARMY GETS TOGETHER—TECH HOLDS OPEN HOUSE

HIGHLIGHTS OF THE YEAR BEFORE

AFTER

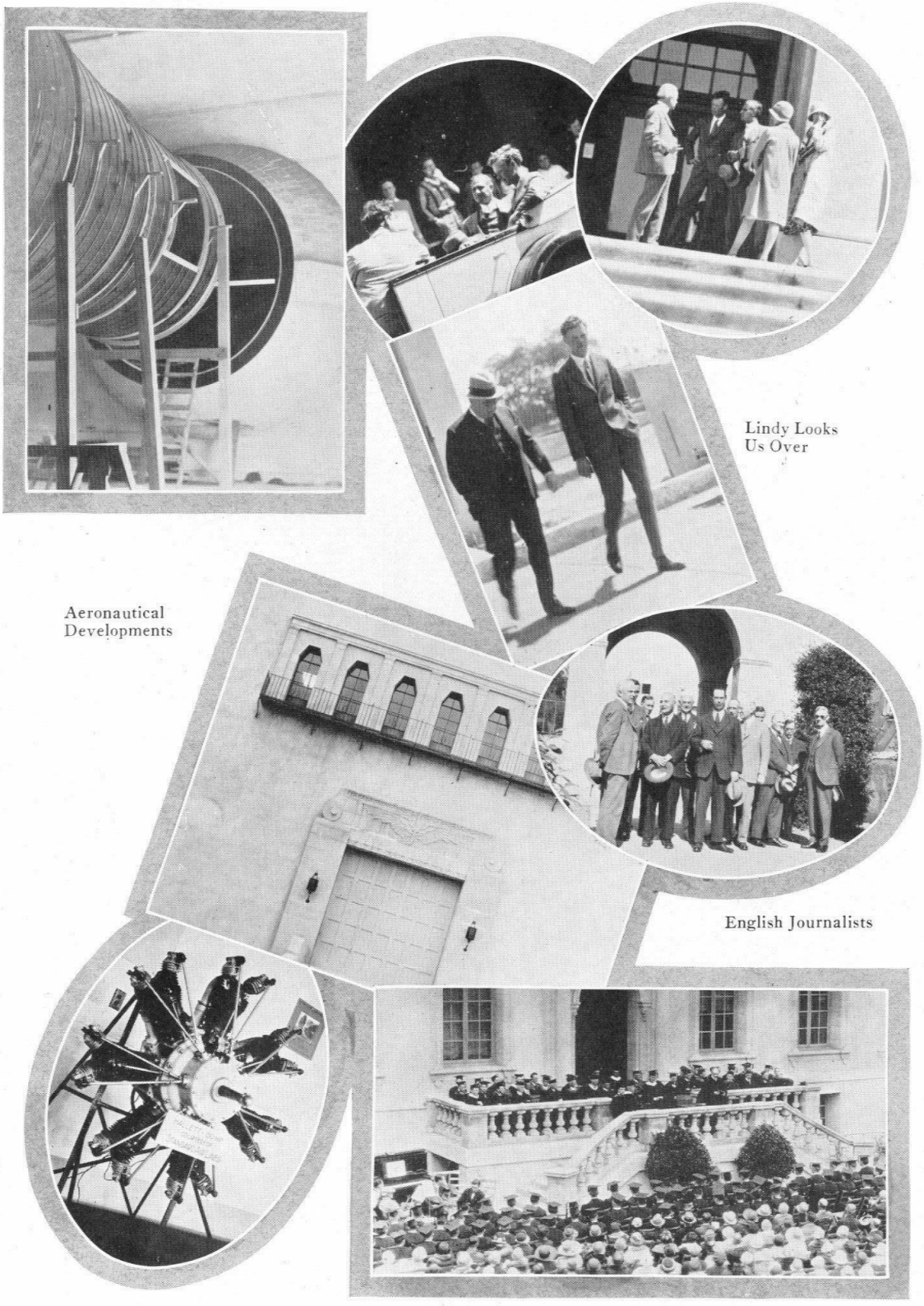
TECH AT WORK AND PLAY

MacMillan Interests His Audience

Co-Education?

Poor Whittier

ASSEMBLY ENTERTAINERS



Lindy Looks Us Over

Aeronautical Developments

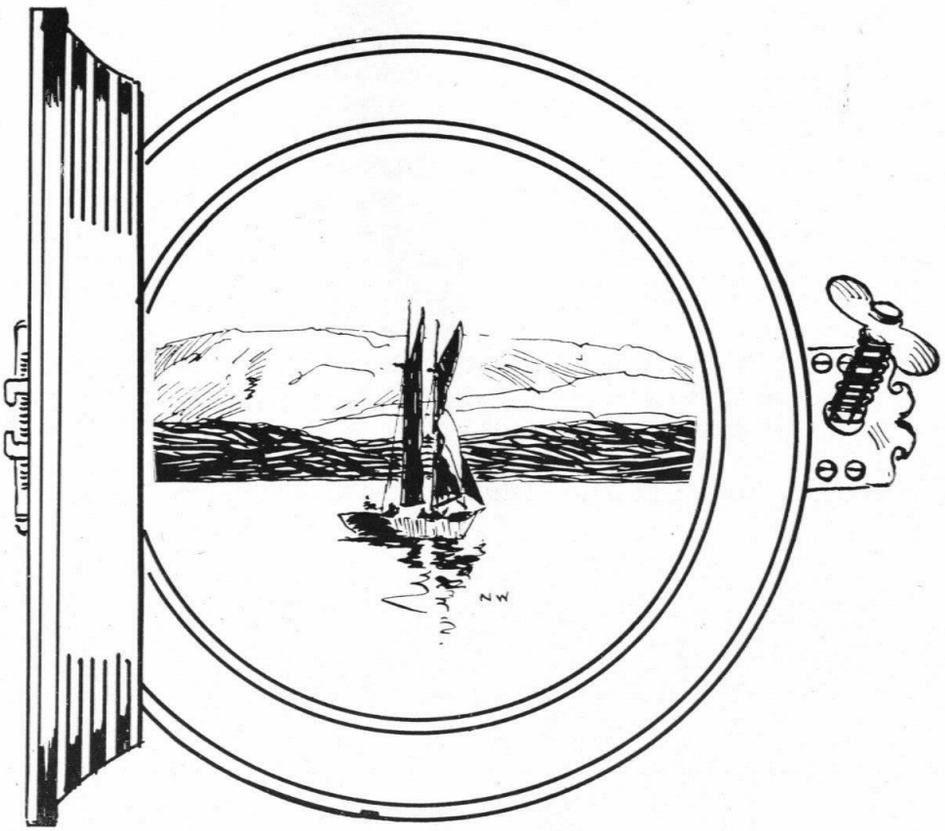
English Journalists

FINALE

WHITE STAR LINE
A Round Trip
to
Europe
TRANSIT
STOPOV
. . . from
The Year
to
Activities
via
Venice
WhiteSTAR
LINE
Return Ticket

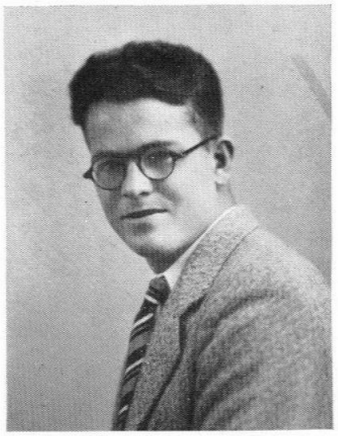
VENICE

Activities



PUBLICATIONS

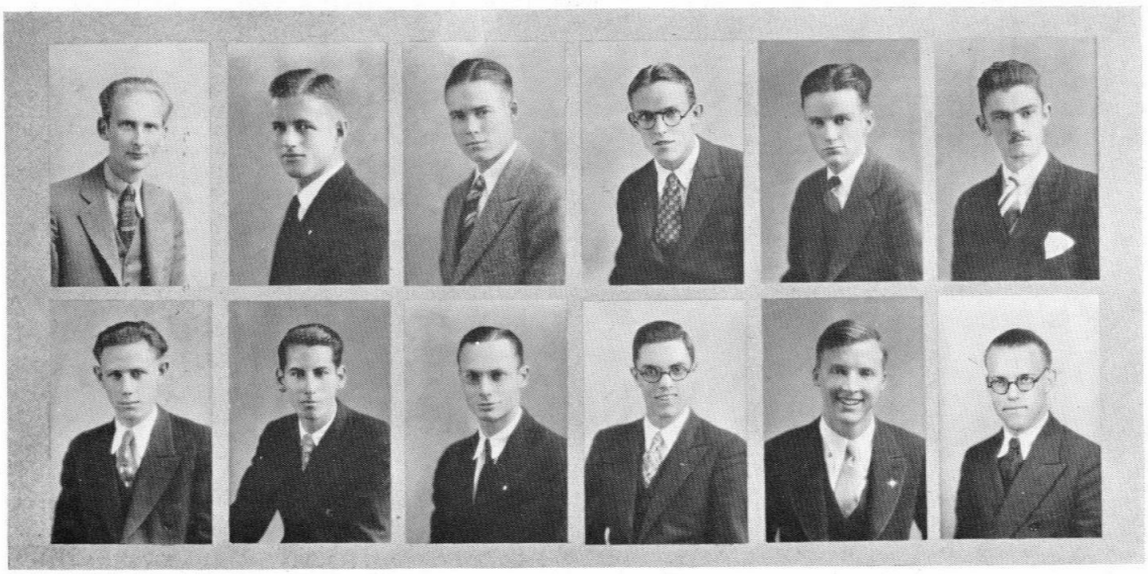
BIG T



D'Arcy

The creation of a distinctive year book is the dream of every Annual editor and of every Annual staff. The creation of a distinctive year book at Tech is a task which only those who have attempted to produce a book for a relatively small college may appreciate, and any task, which is no mean one under the best of circumstances, may, under particularly adverse conditions, assume colossal proportions. The aim of the editor and manager of the 1929 Big T has been, from the very first, to present to the Tech Student Body a year book which could be rightly called a distinctive year book. Unforeseen obstacles have arisen to baffle and harass the entire staff, but the publication of the book is in itself an indication that these obstacles have been surmounted in some degree. An increase in the size of the Big T, both in number of pages and in page size, is a radical departure from established precedent, and yet Editor-Manager Frederick Cline has felt that he and his staff could, by so changing the size of the book, give to the men of Tech a book which is more representative of the Institute. The Annual represents one of the few vivid, living reminders of days spent on the campus, and it is felt by the 1929 staff that theirs was the task of appropriately building the monument for this year.

Men who are willing to work diligently as members of the staff of the Big T are all too few, yet those who do willingly sacrifice their valuable hours for the sake of the book seldom regret the hours thus spent. The men on the staff of the 1929 Big T have faithfully performed their duty and are, therefore, deserving of the reward conferred upon them by the Student Body. May there be equally faithful ones in the future.



Scott Bechtold | Reed Cromley | Dunham Kircher | Gaylord Bosserman | Crawford Goodman | deCamp Jecker

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Bill Baker
R. F. Hodder
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B. F. Miller
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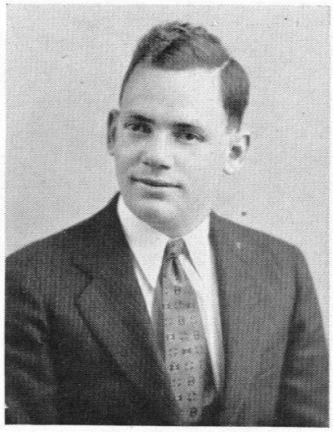

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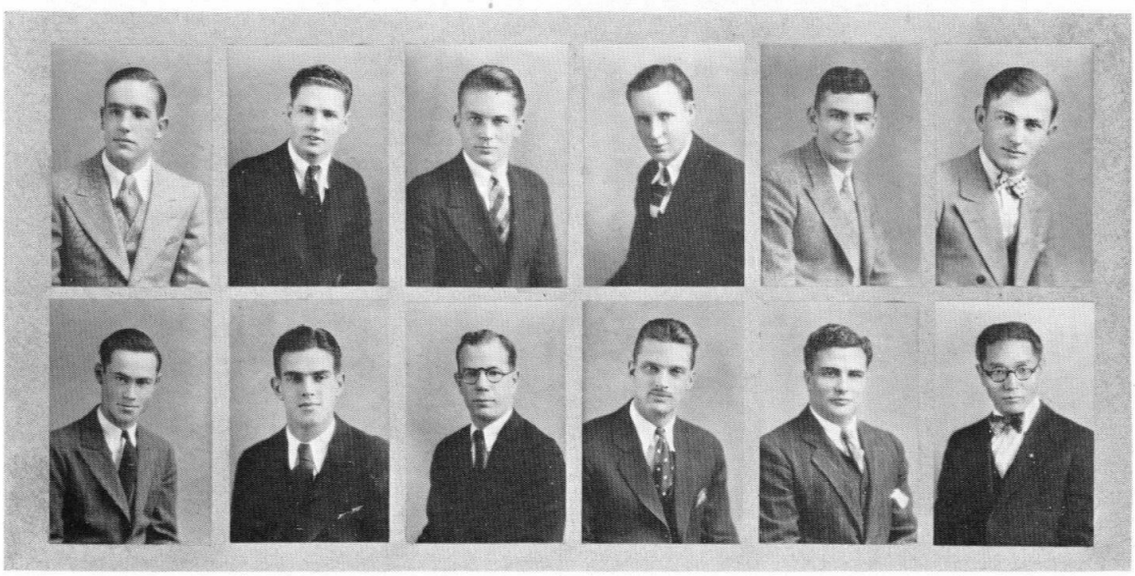

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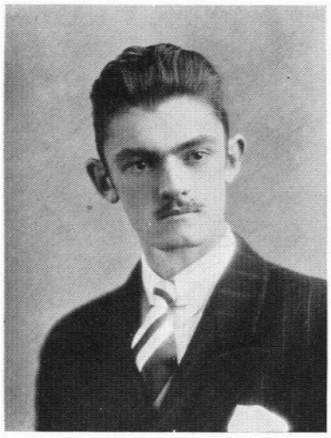

DECAMP

THE CALIFORNIA TECH

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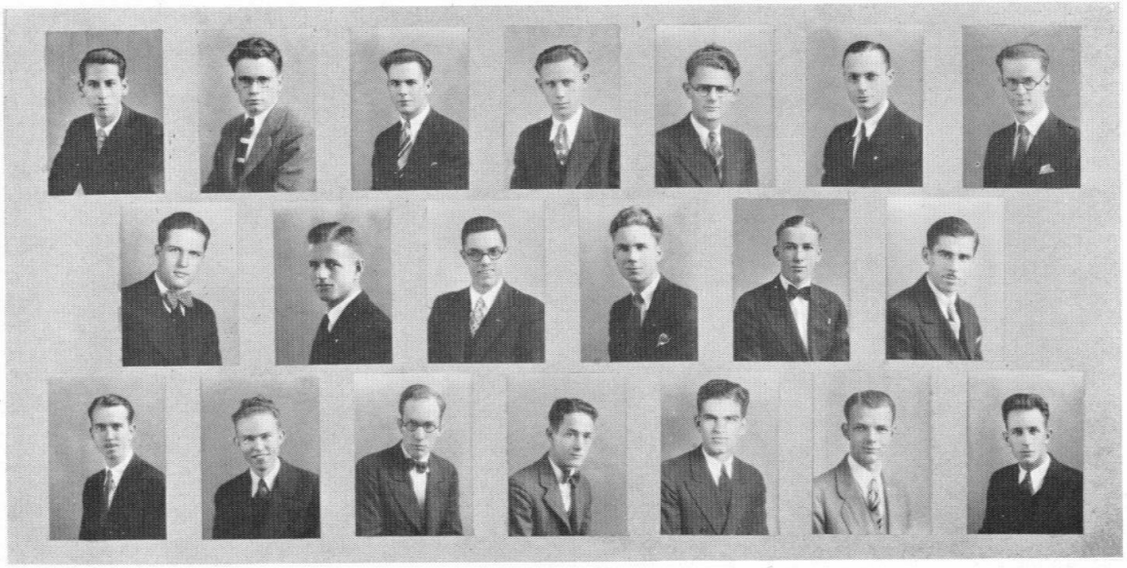

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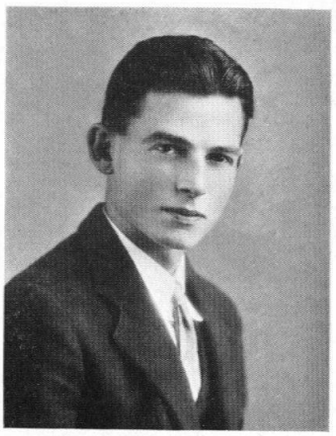

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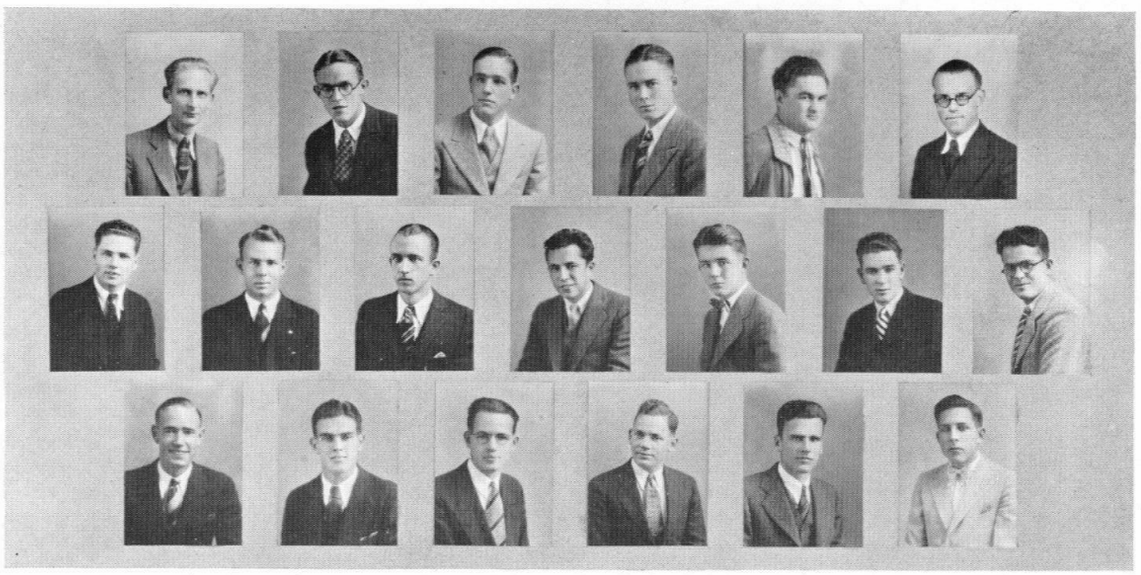
Joe Cline, *Circulation Assistant*
William Kent, *Circulation Assistant*



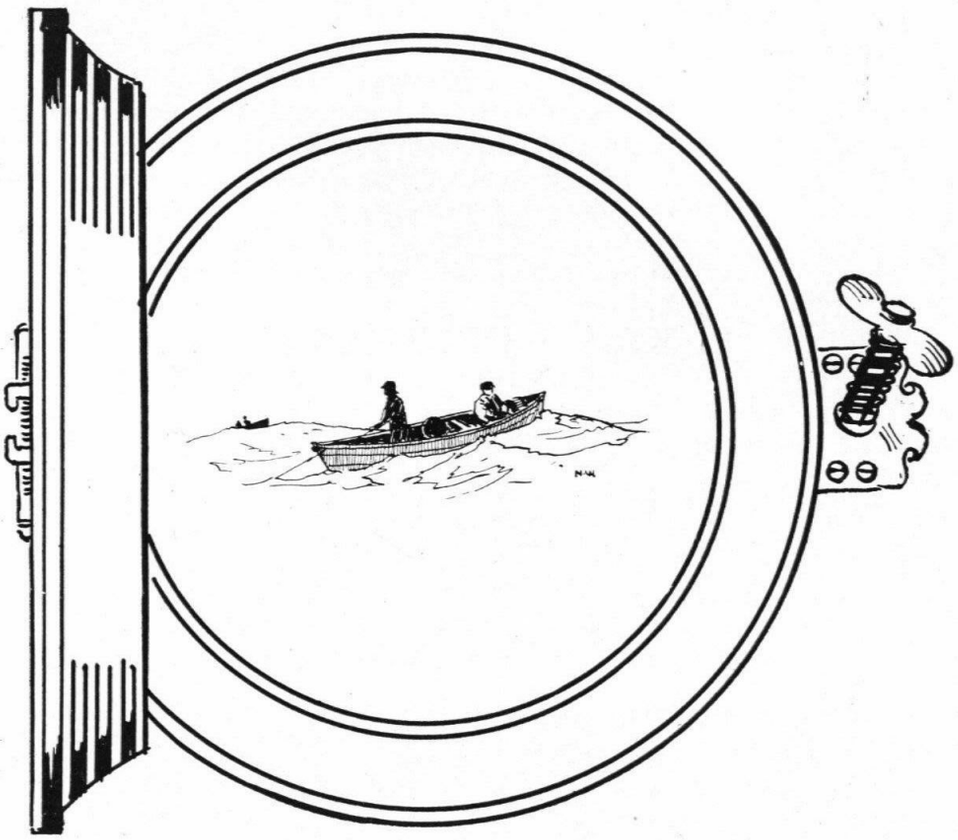
SCOTT GAYLORD GRIMES DUNHAM GRAFMAN JECKER
MILLER JOHNSON PERRY SILVERMAN TUTSCHULTE NEWCOMB D'ARCY
HILLMAN CRAMER MCMILLAN CLINE GANSSLE BELL

THE CALIFORNIA TECH

Under the capable leadership of L. Sprague de Camp, editor, the California Tech, the weekly newspaper of the Associated Student Body, successfully weathered a rather stormy year. Starting in September as a seven - column, four - page paper, its size was cut to six columns in the early part of the second term. Difficulty in obtaining advertising matter and the depleted state of the Student Body Treasury were causes of the decrease. Despite the cut, much interest by the student body and the valuable aid of Dr. G. R. MacMinn's Journalism Class enabled the staff to produce a very creditable paper throughout the year.

In addition to the customary weekly edition, two special issues were printed. The first of these, known as the Football Issue, containing eight pages, appeared as the last issue of the first term and was distributed at the football banquet. Football dominated the issue with complete reviews of the season and every individual game claiming most of the space which was not filled with eulogies of the fighting team and wily coach. The annual Exhibit Day, April 19, was the occasion of the second special edition of the year. This was also an eight-page copy, with two pages devoted to cuts depicting the Institute campus as it is today and as it will be when the present building plans are complete. Six thousand copies were printed and distributed to visitors.

Kenneth Kingman, as business manager, together with his able assistants, handled the business end of the publication. This involved getting in the advertising, making up the advertising space, and mailing copies to the off-campus subscribers. The Tech staff worked hard all year and has good reason to be proud of the product of its labors. While it is impossible to mention all the men who have shared the burden it must be said that the work of Jack Hatcher, assistant editor; Robert Stirton, assistant editor; George Butrovich, assistant editor; Fred Scott, sport editor, and Raymond A. Cromley, news editor, was consistent and valuable. At the student body elections in the second term Robert I. Stirton was elected editor and Ernest Hillman, manager, for next year.



FINE ARTS

GILMOR BROWN

DRAMATICS

Never in the history of Dramatics at the Institute has there been a more successful year nor a more diversified set of plays than offered during the 1928-1929 season.

With wonderful wizardry Mr. Gilmor Brown presented first "Œdipus Rex," the greatest work of Sophocles, and termed the most perfect tragedy of antiquity, and then two of Bernard Shaw's sparkling satires, "The Shewing Up of Blanco Posnet," and "The Bolshevik Empress." Each production showed the hand of a master.

It is particularly hard for amateur productions to receive recognition in Southern California, which is now rated the art center of the Pacific Coast, and especially be in competition with the Pasadena Community Playhouse, which is also directed by Mr. Brown. But the quality of production has been so high, especially in the annual classical plays, that capacity audiences have been drawn from miles around, and each year calls for more performances.

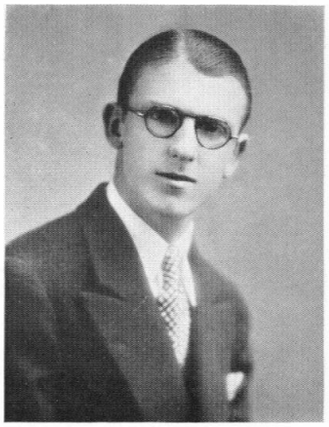
This is the fourth year of Mr. Brown's directorship at the Institute, and the remarkable interest in Tech productions, not only among the students, who have definitely adopted the dramatics as a part of student life, but also among the general public, who eagerly support the productions, is a tribute to his genius.

PI KAPPA DELTA PLAY

CAST OF CHARACTERS

Œdipus, King of Thebes	John Mehl
Jocasta, Queen of Thebes	Margaret Morrow
Creon, brother of Jocasta	Robert L. Sherman
Tiresias, an old blind seer	Harold Roach
Priest of Zeus	John Hall
A Stranger from Corinth	Merrill Tucker
A Shepherd from the Palace	Harry Keeling
Child of Œdipus	Mary Booth
Child of Œdipus	Shirley Nash
A Boy	William Sorrenson

Presenting "Œdipus Rex" on November 21-24 as their sixth annual classical play, Pi Kappa Delta gave the Institute the most successful play presented at Tech for many years. Regarded as the most perfect tragedy of antiquity, "Œdipus Rex" lost none of its force in presentation, for, under the direction of Cyril Armbrister and the supervision of Gilmor Brown, the actors came to live their parts. Containing that spark of the ideal, that thought of the inner self, which will cause it to be long remembered, the play was a masterpiece. Everyone seeing "Œdipus Rex" left with a feeling of the tragedy of Œdipus — a something intangible yet real. Truly nothing more could have been desired.

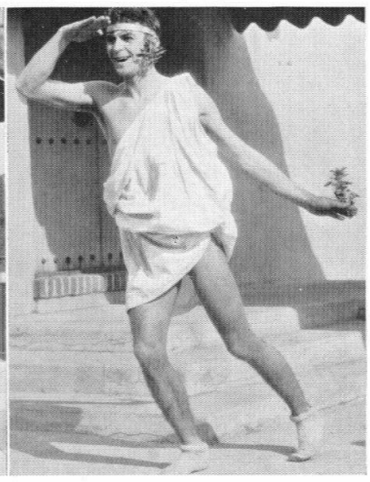


West

"Œdipus Rex" is the story of the struggle of a man versus the gods. The hero, Œdipus, in an attempt to defeat the cruel fate which the gods have ordained, wanders over the face of the earth, a man without a home. Through aiding a foreign people he gains great power, and thinking that he has overcome his fate seeks to forget the words of the oracle. But he cannot escape the wrath of the gods. He is foredoomed. His very acts of mercy and justice strike back, and when he tries to save his people from disaster, his very goodness serves to hasten his fate. It is the fight of the strong character against the inevitable.

John Mehl as Œdipus carried all before him; he was indeed the proud king who defied the mighty gods. But that touch of gentleness and mercy deeply torn by sorrow was added by Margaret Morrow as Jocasta, Queen of Thebes. As Tiresias, the stern and unhappy prophet, a lover of his people, yet believing above all injustice, Harold Roach stirred the hearts of the citizens. Robert Sherman as Creon was surely that righteous friend of king and people. As the loyal Shepherd, Sid. Zipser proved faithfulness to his king, while Merrill Tucker and Harry Keeling as messengers served to add both joy and sorrow to the great Œdipus.

In fact, every character of the play was admirably suited to his part, and "Œdipus Rex" has become a play of remembrance.



SCENES FROM "THE SHEWING UF OF BLANCO POSNET"

DRAMA CLUB PLAYS

With a pair of excellent one-act plays by the incomparable George Bernard Shaw, and an unusually capable cast, the Dramatic Club presented its fifth annual production on May 3rd and 4th to the largest audiences in several years. The plays were chosen because of their humor and character studies, which are almost synonymous with the name Shaw. Under the direction of Gilmor Brown, assisted by Captain Armbrister, the plays stood out as two of the best ever put on at Tech.

The setting of "The Bolshevik Empress' was a revolution in Beotia, which had been ruled by the family of the Panjandrum for seven hundred years. William Cutts played the part of the blustering and child-like General Strammfest, whose faithfulness to the royal house was almost pathetic. The feminine lead of the Empress Anajanska was ably portrayed by Miss Jean Wood. Though the General was fighting for the revolutionists, and had lost thirteen battles for them, his devotion to the royal house made him almost commit suicide rather than obey the Empress when she attempted to win him over to the revolution in his mind as well as in his actions. The play was punctuated by some very fiery action on the part of the Empress, and many a laugh was drawn by the ferocity with which she conquered all the males in the play.

The plot of the second play, "The Shewing Up of Blanco Posnet," centered around the horsethief, Blanco, who laughed at life and death alike, and finally turned "softy" in spite of himself. This extremely difficult part was admirably portrayed by Joe Foladare. Having stolen the sheriff's horse from his brother, "Boozy" Posnet, alias the devout Elder Daniels, who had borrowed it, Blanco gave it to the "Dream Woman," to save her child. He claimed she could "make you do things you never intended to do" — in fact, she turned Blanco, the sheriff, and Feemy all "soft." Feemy, the town's woman of questionable character, was Blanco's spiteful, rapier-tongued enemy, because as Blanco said "He wouldn't touch her with a ten-foot pole." This part was superbly acted by Miss Jo Campbell, as the feminine lead.

A large part of the credit for the success of these plays goes to the young ladies who were imported for the feminine roles. This policy of the Club brought in

seven girls, and the Club is greatly indebted to them for having given so much time to these productions. Most of them were from the Playhouse and were very talented.

The management of the plays was in the general charge of Sidney Zipser. The department managers were: Stage, Kenneth Miles, assisted by R. E. Hopper; property, Edward Keachie, assisted by Clyde Giebler; publicity, Robert L. Sherman.

A Revolutionary Romancelet

The Grand Duchess	Jean Wood
General Strammfest	William Cutts
Lieutenant Schneidkind	Elliott Fitch
First Soldier	Thomas Tarbet
Second Soldier	Reuben Widess

THE SHEWING UP OF BLANCO POSNET

A Western Melodrama

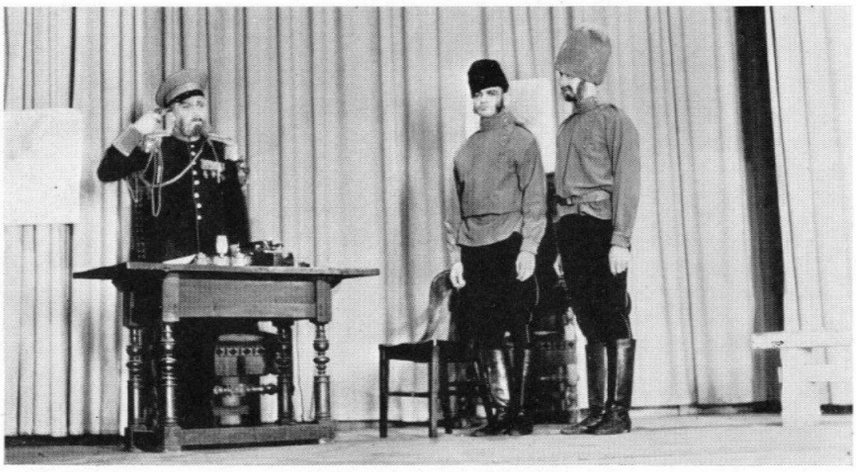
Blanco Posnet	Joe Foladare	*Lottie*	Frances Creedon
Elder Daniels	John Mehl	*Hannah*	Elizabeth Dunning
Feemy	Josephine Campbell	*Jessie*	Margaret Morrow
Sheriff Kemp	John Hall	*Emma*	Sarah Burns
Strapper Kemp	Joseph Harker	*Foreman of the Jury*	Duroc Jecker
The Woman	Kay Martin	*Waggoner Joe*	John Detwiler
Babsy	Alicia Morrow	*Nestor*	Sidney Zipser

THE "BOYS"

Herbert Deardorff, Elliott Fitch, Roland Hawes, Warren Horton, Eric House, Harry Keeling, Otto Sass, Morton Shields, Claude Van Marter, Alfred Voak Eldon Wright.

THE JURY

William Booth, Wendell Humphreys, Clyde Geibler, Duroc Jecker, Edward Keachie, Frank Mason, William Riggs, Robert Sherman, Folkee Skogg, Carl Weise, Walter Wilkinson, Sidney Zipser.



BAND

This year the band has again proved itself one of Tech's big assets. Under the able instruction of Mr. Alexander Smith, it has grown into a well-balanced group of musicians who are capable of playing at any and all occasions, and playing well.

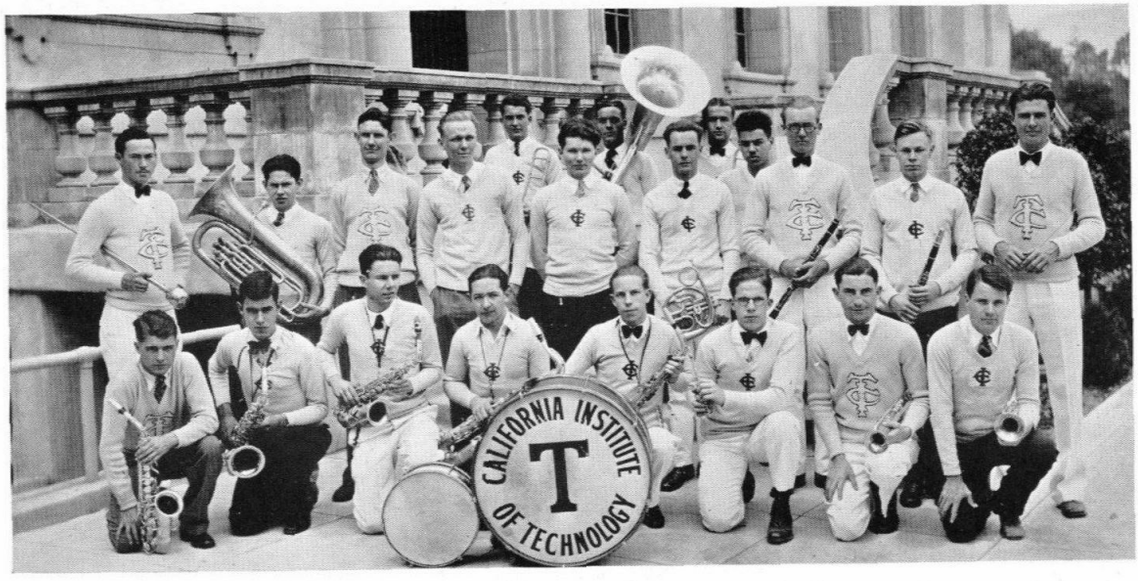
The band has had a rather busy year, and has given its services willingly and frequently. As usual it appeared at all football games and paraded, forming large letters symbolic of Tech and its opponents, doing serpentines, and also giving color and spirit to the game with frequent selections. At the Pomona game, the band combined with a band from that college to do some interesting and good drills between the halves of the game. The band, likewise, played at rallies, at several student body assemblies, and on April 15th, gave a Monday Assembly program. The program covered a wide variety of marches, overtures and popular music which was well received by the students. Johnnie Crawford played several piano selections.

Besides giving its services for student activities, the band played for various outside events. Among the more important of these occasions were the Annual Pasadena Tournament of Roses, election campaign parades, and an engagement at the Flintridge Riding Club.

Tech's band is a part of the military unit of the school. It aids at all parades and inspections of the battalion as well as the annual exhibition day military maneuvers. Its practices are held under the instruction of Mr. Smith who comes to Tech twice a week from Roosevelt High School to help with the work.

The work of the band this year cannot be praised too highly. Much credit must be given to its members as well as its instructor and officers for the time and effort they have expended in making this organization what it now is, one of the student body's most valuable assets.

George Taylor - - - - - - - - - - - - - - - - *Director*
Harlan Asquith - - - - - - - - - - - - - - - - *Bandmaster*
Otto Reinen - - - - - - - - - - - - - - - - - *Manager*
Bob Smith - - - - - - - - - - - - - - - - - - *Librarian*



ORCHESTRA

Despite the handicap imposed by a dearth of violinists and 'cellists, the Cal Tech Orchestra, under the leadership of Mr. Reginald Bland, director, and Harlan Asquith, president, has managed to carry on a heavy program of rehearsals as well as presenting three student body assemblies. In addition to the difficulties encountered in securing an adequate number of stringed instrument players on the campus, there has been the added worry of conflicts between orchestra and major sports, at the expense of the former.

No doubt this has been discouraging to Mr. Bland, but there has been a feeling of co-operation and loyalty between director and players, backed up by the apparent interest and enjoyment of the programs by the student body, that has made the year's work very pleasant to all concerned.

At the first assembly program, the orchestra presented "Sabers and Spurs" and a medley of selections from "Show Boat," while Mr. Townsend, who presented several violin numbers, was enthusiastically received by the student body.

When next the orchestra played, the string section was so depleted that it was necessary to borrow several young ladies (and quite charming young ladies they were, too) from the Pasadena Civic Orchestra. At this time, selections from the "Three Musketeers" and Sousa's "Nobles of the Mystic Shrine" were presented, while Mr. A. E. Adams literally made the piano talk with a series of humorous numbers.

As this goes to press, the third program of the year has not yet been arranged, but it is certain that it will be of the same order of excellence as the previous ones.

Because of the extremely heavy programs in regular and extra-curricular subjects carried by the members, no outside performances have been given, but with the usual influx of new material, it is to be expected that the organization will be in a position to eclipse not only this year's work, but that of other years as well.

MEMBERS

Reginald Bland - - - - - - - - - - - - - - - *Director*
Harlan Asquith - - - - - - - - - - - - - - - *President*
Stanley Lohman - - - - - - - - - - - - - - - *Manager*
Joe Foladare - - - - - - - - - - - - - - - - *Librarian*

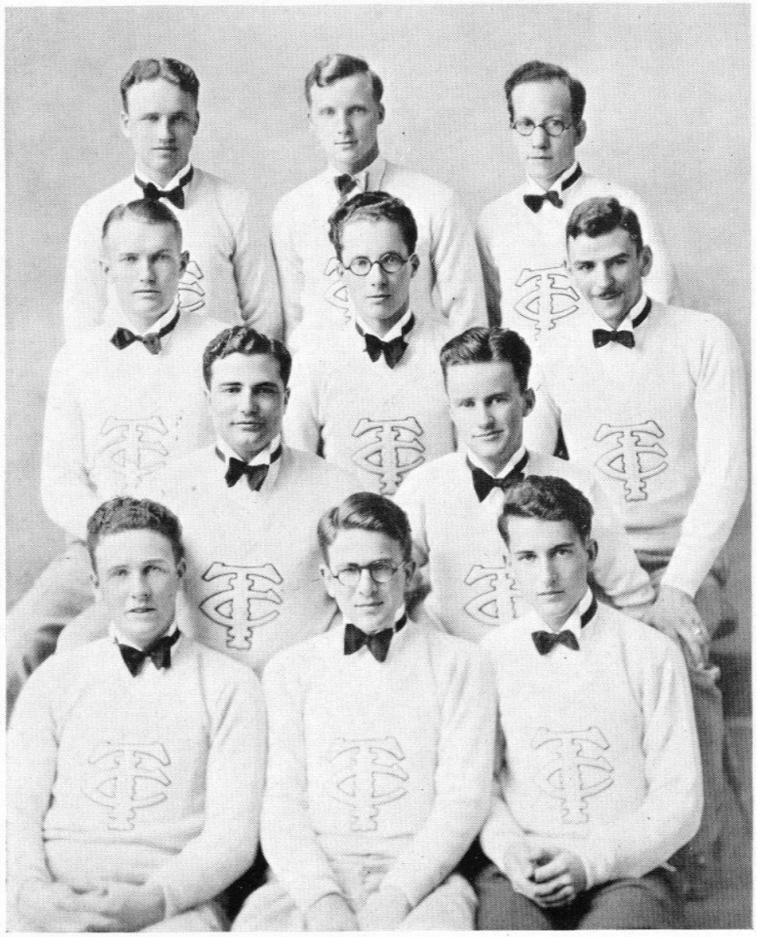
GLEE CLUB

One of the outstanding organizations on the campus, and one which should make everyone of us feel proud, is the Tech Glee Club. Handicapped by the lack of a Department of Music and the absence of trained voices in the student body, the Club has, nevertheless, gone on year after year affording good training and good times for its members and at the same time giving Tech a good name.

The activities of the Club started at the beginning of the year, with try-outs conducted by Mr. Walter W. Ogier, Jr., and about twenty-five voices were selected. Regular practice was begun and, in spite of conflict over studies and athletics for the time of the members, the Club began to round into shape.

The Club received two set-backs during the year which greatly hampered its progress. Lloyd West, president of the Club, dropped out of school early in the second term, but Franklin Crawford was chosen in his place. At the end of the second term Mr. Ogier resigned from the faculty, so the Club was without a director. After almost a month's delay, Mr. Allen Ray Carpenter, a local instructor in voice, was chosen to direct in Mr. Ogier's place. After this the Club rapidly reached its top form again. However, this disaster kept Tech out of the annual Southern California Intercollegiate Glee Club Contest.

The Club presented several excellent programs at nearby colleges and high schools. By appearing before the banquets and meetings of the various clubs and church groups and before assemblages of high school students the Glee Club served to advertise Tech and make it known in a non-scientific way.



On each program, intermingled with numbers by the Club as a whole, were special numbers arranged by the members. Among these were a trio, Allen, McGarry, and Crawford, which was both instrumental and vocal, and Merrill Tucker, harmonica artist par excellence.

The Club was very fortunate in finding two new accompanists in Liedholm, a Junior, and Smith, a Freshman. Both men will be with the Glee Club next year.

TECH EXCHANGE PROGRAMS

Pomona, unlike other colleges of the Conference, has its assemblies at night, hence, about 5:30 one afternoon a number of Tech "artists" (we shall call them that, anyhow) could be seen piling into cars behind Throop Hall for the trek to Pomona.

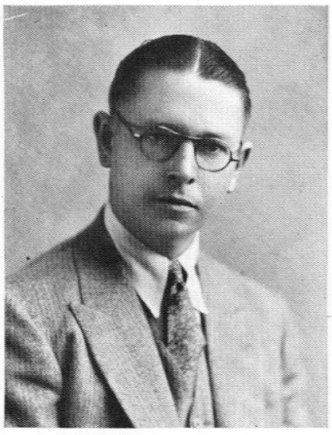
The group of entertainers were: Tom Evans, master of ceremonies; John Crawford, piano player supreme; Bob White and Bill Shockley, fencers of note; Frank Crawford, Jack McGarry, and Horace Allen, as clever a trio as one could desire; and Herb Ingham, master magician with his assistant, John MacMillan.

Later, in the evening, Tom Evans conveyed greetings from Tech to Pomona and introduced the members. The trio led off with some popular selections on the piano, saxophone, and banjo, supplementing its music with warbling that would have put Caruso to shame. Johnny Crawford outdid Paderewski and Rachmaninoff together in a number of selections which drew several encores.

Substituting the clash of steel for the sweet strains of music, Bob White and Bill Shockley explained the art of fencing and the use of the blood gutters on the dueling sword, much to the horror of several co-eds. Two exhibition bouts with the dueling sword and foil were so impressive that no challengers were forthcoming from the audience at their conclusion.

Again music by the trio for variety, and then the "pièce de résistance" of the evening — Herb Ingham performed feats of skill and magic that left the spectators gasping. Causing balls to break and multiply; making two bowls of rice grow where one grew before; and then turning one into a bowl of water; causing cigarettes to appear and disappear at will; shooting cards out of the air with a .32 pistol; and finally, pulling a real live rabbit out of a hat; such feats of dexterity kept the audience on the edge of the seats. Some sweet young thing eventually got the rabbit. We hope it was treated kindly.

DEBATING

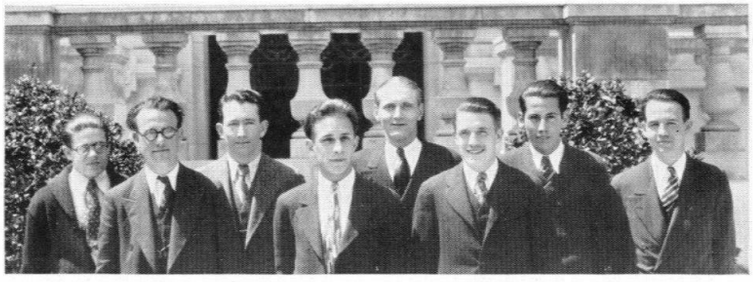


UNTEREINER

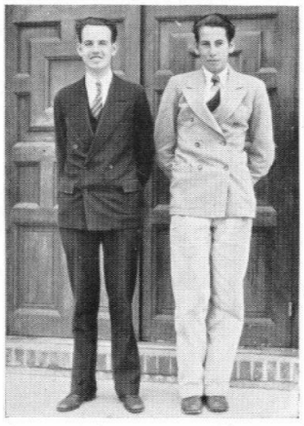
"It's not the victories that count, but the teams that do the fighting."

With more interested in debate than ever before — with some of the best teams that ever represented Tech — with a spirit of enthusiasm that could not be beaten — Tech finished her most glorious season.

One of the most spirited and closely contested debates of this year took place at U.S.C. on February 7th when Wendell Humphrey and John Hall of Tech argued the negative question, resolved: that the plea of temporary insanity in defense of crime, should be prohibited by law. The audience hardly knew which of the cases to believe, as both were presented so logically and forcibly. The more accurate and sound arguments of Tech's team were blown to pieces by the clever oratory of the last affirmative speaker and resulted in a close Judge's decision of 2-1 in favor of U.S.C.



However, against Washington State, Sidney Zipser and Ray Cromley found that meeting two coeds on the debate platform proved more difficult than more informal encounters. Tech upheld the affirmative of the question, resolved: that a coeducation has been a failure in American institutions of higher learning, against the coed Washintgon State team composed of Misses Aippels and Shoemaker. Humor and wit ran rampant. With the girls accusing the Tech men of jeolusy, and with the affirmative retaliating by showing that women are trying to become men under out present system, the only thing certain was that Tech men were convinced of the desirability of coeducation, and the Judges agreed to this by a close decision.



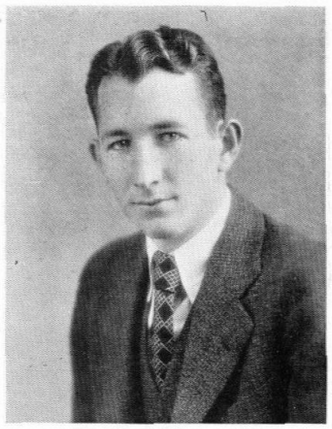
McMILLAN-CROMLEY

In the annual debate with Stanford, Tech, represented by Sidney Zipser, William Cutts, and Ray Cromley, proved to be the victor by the unanimous decision of the Judges in upholding the affirmative in

the question, resolved: that the plea of temporary insanity in defense of crime, should be abolished.

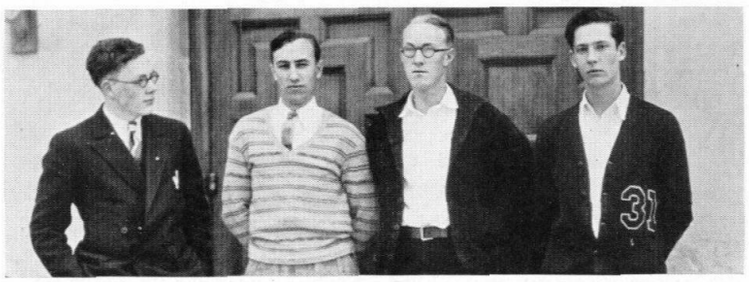
The constructive speeches were hotly contested, with Stanford men attempting to tear down the "ideal" course of the affirmative by dint of oratorical ability. Both teams admitted that the present system was grossly inadequate, differing only in the method by which a solution was to be accomplished.

It was not until the rebuttals that the final outcome of the debate was certain, for it was these which showed the true practicability of the Tech substitute, and the weaknesses of the negative.

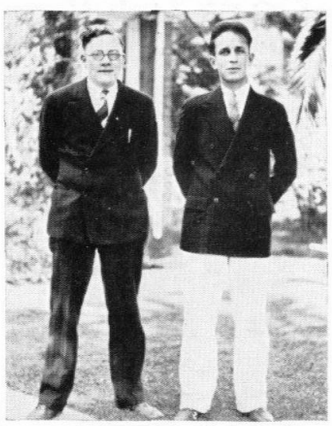


SCOTT

The two main questions for debate this year were "Resolved that the existing American Jury System is inimical to the ends of American Justice," and "Resolved that a substitute for trial by jury should be adopted." The former was the Conference question while the latter was the Pi Kappa Delta question. Starting on

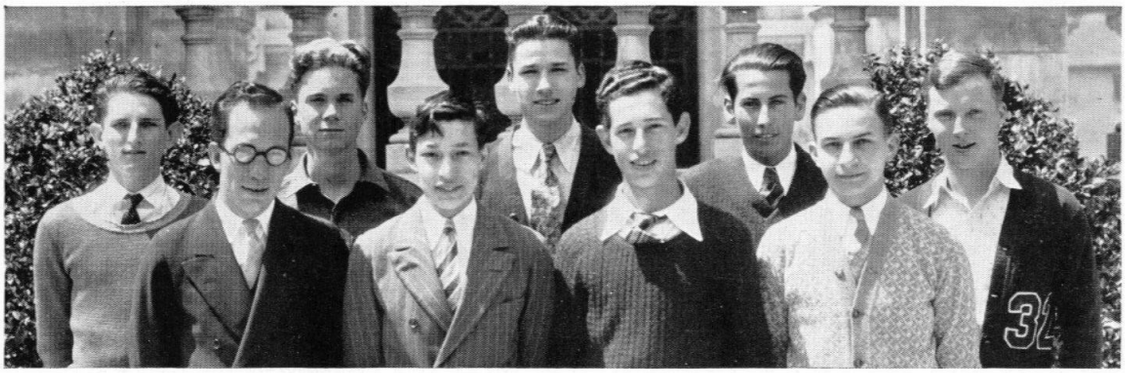


February 7th when Wendell Humphreys and John Hall lost to Southwestern on the Insanity question the season worked its way to a successful climax, when on April 6th and 7th at the Pi Kappa Delta Conference, Tech lost two debates and won two debates on the subject mentioned above. Wallace McMillan and Ray Cromley were the winners and Francis Hutchinson and William Cutts were the losers in both cases.



CUTTS-ZIPSER

Perhaps one of the best debates of the year was that held on March 27 in which Sidney Zipser, William Cutts and Ray Cromley, upholding the affirmative of the temporary insanity question, won from Stanford University. Teams composed of Herbert Ingham and Wallace McMillan, Duroc Jecker and Francis Laird, Jack Amann and Charles Kircher, and Birch Horton and Kenneth Miles also were very successful. Walter Wilkinson and Ray Cromley lost to Baylor on the Pi Kappa Delta question on March 14, but Robert Jacobs and Francis Hutchinson were more successful against Redlands. Other men competing this year were Jack Hatcher, Francis Drake and Lawrence Ferguson.



FROSH DEBATING

With Freshman debating an elective subject and only those really interested in forensics participating in the study of the art of argumentation, some really good results were obtained by the Freshman debate squad this year. While the prime object was to learn the fundamentals of logical argument and its formal application in theory, the means to the end, debates with other societies were participated in. The success of the Freshman in overcoming a good half of their opponents was in part due to the able instruction of Raymond Cromley, Junior debater.

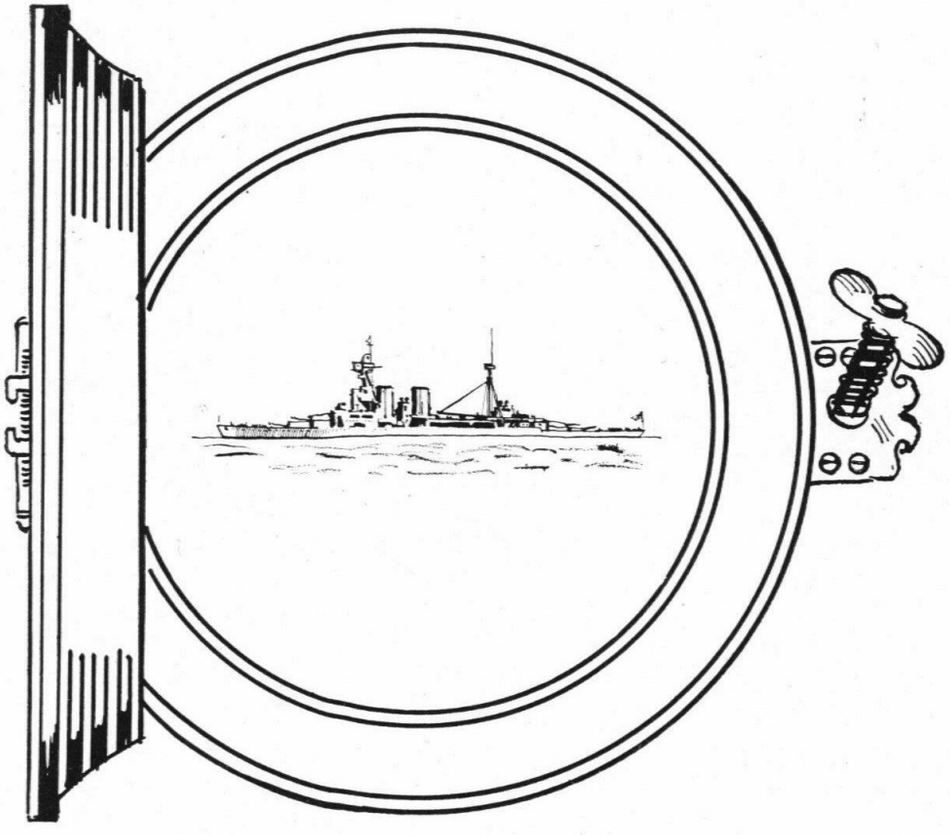
The subject on which the majority of the debates were held was: Resolved; that the present emphasis on intercollegiate football is subversive to the fundamental aims of education. It was a subject of interest to everyone and one on which good material for both negative and affirmative sides could be found. Those taking Freshman debating and the teaming of them was as follows: Barker Bates and Joseph Sheffet, Mott Prudames and Harold Roach, Clark Goodman and Charles Harsh, Paul Arnerich and C. H. Van Marter and Rupert Bayley.

EXTEMPORANEOUS

The Southern California Extemporaneous Speaking Contest was held at Pomona toward the end of the first term. "Reform of Judicial Procedure" was the general topic discussed by the speakers from five Southern California colleges. Tech was well represented by Francis Hutchinson; and although he did not place in the contest against the more experienced speakers, he showed great promise and will be a serious threat to other Conference colleges in the next two years.

In the extemporaneous contest held at the Provincial Convention of the Pi Kappa Delta during the third term, Sidney Zipser represented Tech, but did not place. Although this was Zipser's first attempt at extemporaneous speaking, he pressed the more experienced winners very closely and established himself as a contender for Conference honors next year.

This year, while it may not have been as successful as the several previous years, has been very valuable. It has developed at least two men, and probably more, who will represent Tech next year. With Hutchinson and Zipser, Tech is in the best position of any Conference college for Extemporaneous honors the coming season.



SOCIAL

JUNIOR-SENIOR PROM

With the end of the examination week in the third term came the final social event of the season, the Junior-Senior Prom, held in the magnificent ballroom of the Elk's Lodge in Los Angeles. This event was featured by a fine orchestra, including several novelty numbers. The dance was an overwhelming success, both because of an exceptionally large attendance, and because of the spirit of pride which filled the happy Seniors who had concluded four years of undergraduate study, and who had been recipients of the much-striven for B. S. degree only the day before. The Juniors in attendance, however, felt that this would be, perhaps, the last time they would see their Senior college-mates for many years until their paths might happen to cross once more.

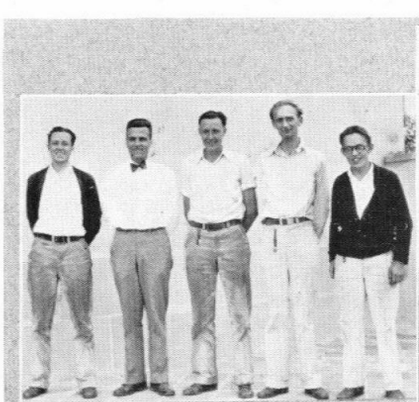
The arrangements for the dance were all in the best of taste, thanks to the chairmen, Karl Ganssle and Roland Hodder, who were chairmen of the Senior and Junior committees respectively. Much praise is also due the other members of the committee as well as the two treasurers, Beverly Fredendall and Fred Scott, who so ably handled the financial transactions which made the dance possible.

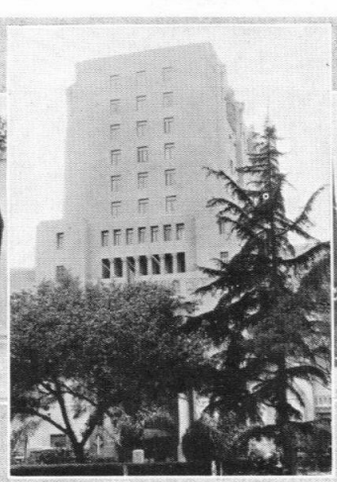
Perhaps the feature of the dance was the hall, which was one of the best obtainable. It was sufficiently commodious to accommodate one of the largest crowds which ever turned out of two classes at once. The grand staircase of the Elk's Temple particularly interested the engineers both because of its elegant yet simple beauty, and because of its stupendous size.

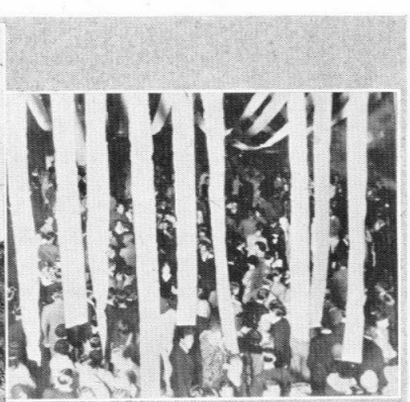
Many were the alumni present at this function, and many were the old acquaintances which were renewed. Graduates complimented the undergraduates for their fine athletic teams and marveled at the rapid development which has taken place on the campus during the last few years.

Altogether too soon the dance ended, and with the conclusion, the men wandered off into varied fields of endeavor, probably not to meet again for many years. The leave-takings were sad, and many promises to write were exchanged among the men who were to find their positions in the world at the four corners of the earth.

The termination of a very successful year from a social standpoint thus came to an end on June 8th, and we may rest assured that no better dance will ever be forthcoming for Tech men than that held under the auspices of the Junior and Senior Classes of 1929. Thus, the social activities of the year have many memories to remind students that Tech is not merely one uninterrupted grind, but is a source of culture and broad experience as well.







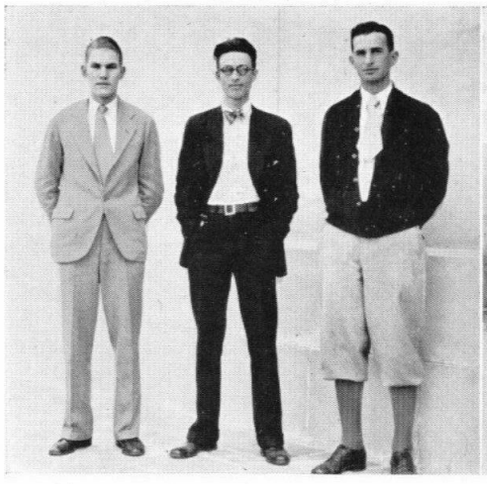
INTERFRATERNITY FORMAL BALL

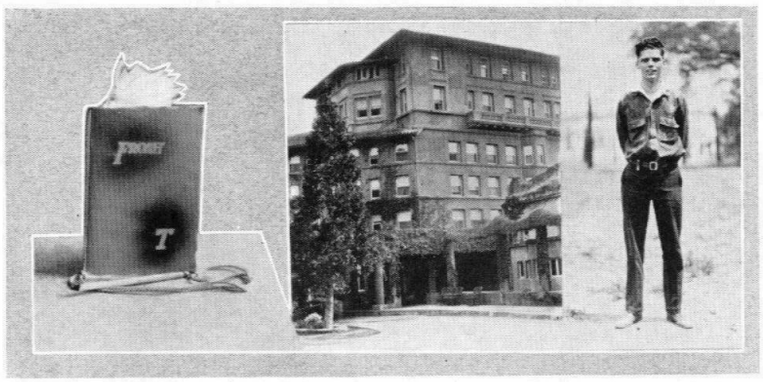
One of the old traditions among the social fraternities is the Annual Interfraternity Formal Ball, held as the social function of the Interfraternity Council. This occasion has always outshone contemporary events in splendor and dignity and this year's event was no exception. The dance this year was held during a full summer moon at the Oakmont Country Club. The grounds, which were very beautiful in the moonlight, were as popular as was the smooth floor and enchanting music. Languid couples could be seen drifting around on the lawn or seated on the stone verandah on the greens side of the club house.

The committee was composed of Mick O'Haver, Beverley Fredendall, William Booth and John Hall, headed by Edmond G. Grant, who has been active on this committee for the past four years. Many roadhouses and expensive clubs were visited in order to secure the best possible setting for so momentous a ball. Much data was collected along with photographs, after which the committee got together and selected, by the process of discriminating discussion and elimination, the most noteworthy of them all, the Oakmont. Much thought and collaboration was expended on the arrangement of the programs, which were unanimously voted unique. Old Epicureus was given an added impetuosity by the learned decision of the committee. Sterling never having been given for favors before, the idea was as original as it was gratifying to everyone.

May 18th was selected as the date because it was desired to have a last grand affair before cramming for the finals began in earnest. Patrons, patronesses, members, alumni, and pledges of the five fraternities—Pharos, Gamma Sigma, Sigma Alpha Pi, Gnome Club and Pi Alpha Tau—were all in attendance without reserve to make the dance a success. Although there were one hundred and fifty couples present, the floor was not crowded. Excellent punch was served by the Club. And last but not least were the favors. In exchange for the little silver embossed door card each couple was presented with the beautiful favors which the committee spent much time in selecting. The lady friend received a sterling silver cupped transfer jar upon which was mounted the interfraternity crest, and the fellow, likewise, a sterling silver key chain of the latest design with an engraved tag.

The exquisite music was imported from nearby. Each of the eight players played several instruments in a manner that was more charming than has hitherto been experienced at Tech dances. When all was over but the moonlight, each couple felt that the memory would linger on.





FROSH STUDENT BODY DANCE

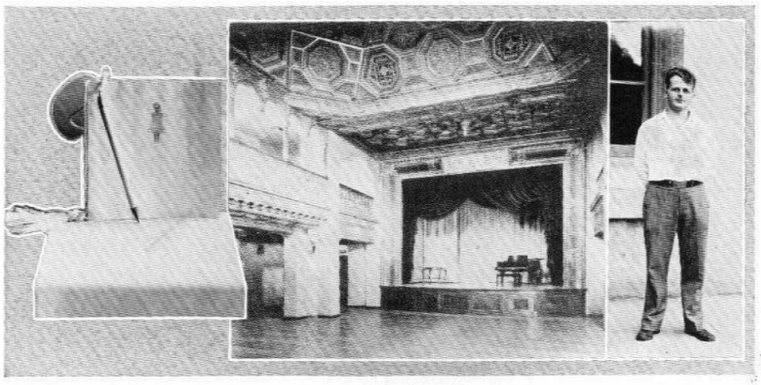
The aim of all Freshman classes was actually attained this year when the Frosh Dance Committee put over the best dance of the year. The ballroom of the Hotel Huntington was the scene of the dance on the fifteenth of December. It was well attended, and had it not been for the spacious gardens of the hotel, the floor would have been crowded.

The ballroom was tastily decorated in the Tech colors with a big "T" at one end. The orchestra was of the best, the surroundings delightful; and, since examinations were just over, everyone fully enjoyed himself.

The Dance Committee was composed of James Bradburn, William Clagett Walter Huntley, Robert Carey, Rupert Brown, Paul Arnerich, and Kenneth Rossall, with John Chambers as chairman.

SOPHOMORE STUDENT BODY DANCE

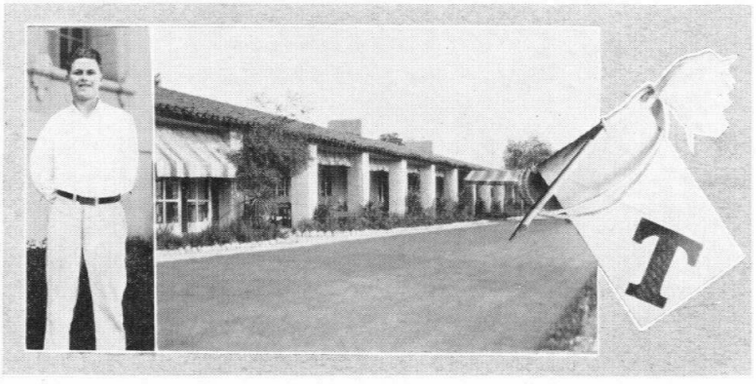
Continuing the tradition set by previous classes, the Sophomores favored the entire student body and many alumni with a semi-formal dance held at the Breakfast Club during the evening of March 16th. The dance was without question one of the best and most enjoyable given in many years. Although used to capacity during nearly every dance, the floor was at no time over-crowded. Johnny Crawford's orchestra dispensed some very enjoyable music that kept the dancers eager for more long after the last dance. The celluloid programs were quite novel, and the punch was both delicious and plentiful. Everything considered, an unusually good time was enjoyed by many.



TAU BETA PI DANCES

A noticeable quickening of the life on the Tech campus came with the end of the first term, when the highly respected seal-brown and white, colors of Tau Beta Pi, made their appearance in Culbertson Hall on November 30th. The occasion was the annual formal ball in honor of the newly elected members from the Senior Class. This event is always one of the most brilliant of the social functions of the year, its exclusive nature adding appreciably to the splendor of the occasion.

An equally auspicious occasion was the second Tau Beta Pi formal, held in honor of the incoming men of the Junior Class. This ball was the crowning event of the second term of the college year. Culbertson Hall again furnished the setting for the huge bent-shaped center-piece and the attractive decorations which are characteristic of the organization.



VARSITY CLUB DANCE

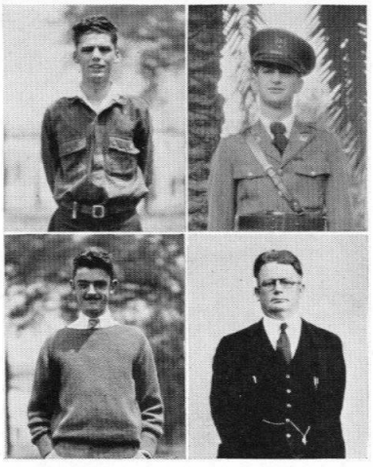
Far out in the wilds of Flintridge on the night of April 13th the lettermen gave their big social affair in the form of the annual Varsity Club Dance. The dance was held at the Flintridge Country Club, and was a success from all standpoints. The crowd was large, and all enjoyed themselves.

Perhaps the most unusual feature of the dance was the fact that the floor was of stone. Johnny Crawford's orchestra furnished the music. The programs were rather original affairs of folded paper bearing the large yellow "T" of the Varsity Club. Trite as it may sound, it was certainly true in this case, that the dance was really one of the best of the season.

RODEO DANCE

The first Student Body social function of the year was the informal Rodeo Dance in Culbertson Hall, October 13, in which the Freshmen entertained the Sophomores, victors in the Rodeo clash in the Rose Bowl a week previous. The entire Student Body takes an interest in the Rodeo itself, but only the two lower classes can tell of the good time had at the dance which the loser pays the winner according to Tech tradition.

The unprecedented short time which elapsed between the struggle and the dance in no way affected the quality of the latter. The whole affair was a tribute to the Freshman Class.



CHAMBERS DE CAMP

O'HAVER SORENSON

TECH STAFF

Literary lights of the campus gathered in Culbertson Hall on the evening of May 25 to celebrate the biggest strictly literary social event of the year, the Tech Staff Dance. The dance, as is customary, was given through the combined effort of the Tech Staff, the Big "T" Staff, and the Press Club. Attendance was limited to members, which added the piquant touch of exclusiveness to the affair.

The clever programs, excellent punch, and appealing music were only incidental to the success of the dance. The big factor was the feeling of comradery and good fellowship which prevailed. The members of these three organizations, having worked and played together through the course of the year, feel like a large "happy family," and their social functions reflect this in their rarely achieved spirit of charm.

MILITARY BALL

The annual Pi Kappa Sigma dance was a formal military ball, held in Culbertson Hall on Saturday evening, April 27th. As usual the orchestra was peppy and the floor good. The decorations were distinctly military. The Battalion Colors and the Company Guideons combined with rifles and machine guns gave the hall the desired effect. This atmosphere was strengthened by the array of polished brass, high-cut military boots, and silver spurs that adorned the members and their military friends. The moon was nearly full and she did her best to show the wandering couples about the campus.

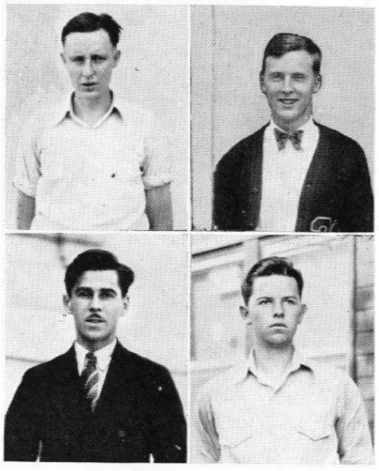
FACULTY-OBSERVATORY

A series of dances were enjoyed by members of the Faculty and the Mount Wilson Observatory Staff at Culbertson Hall at various times during the year. There were four dances in all; one, during the first term, on November 17th; two in the second term, on January 19th and March 2nd; and one during the third term, on April 20th. The dances were thoroughly enjoyed by many of the older members of the Faculty as well as by the younger ones, and were well attended, about sixty couples being present at each dance. Arrangements were made for the dances by a joint committee composed of members from both the Faculty and the Observatory staff. The dances are sponsored by the two organizations in order to give closer contact between the two organizations and to enable the new members to become acquainted.

JUNIOR-SOPH

In the middle of the second term, on the night of February 16th, the Sophomore and Junior Classes co-operated in giving a dance in Culbertson Hall. This affair was arranged to make up for the Senior-Frosh Dance, at which time the two middle classes were left to provide their own entertainment, or else to bury their sorrows in profound study.

An exceptionally good orchestra, an excellent floor, delicious punch, clever programs, and plenty of time from midnight on, were all provided. Under all of those circumstances anyone who failed to have a good time was hard to please.



HODDER WHITE

GOODMAN KILLGORE

CHEMISTRY CLUB

Putting aside the rubber aprons and their wash-bottles long enough to think of a little social recreation, the members of the Chem Club staged a very fine dance in Culbertson Hall on the evening of the 11th of May. This dance has become an annual affair, which is open to the student body, and each year finds a jollier and happier crowd than the year before. This dance was marked by both very fine music and by a number of novelties which were pleasing to the very large crowd which turned out for this dance. Punch correctly mixed to the tenth of a milligram of citric acid was furnished by the test-tube jugglers, who were the hosts at the function.

DORM CLUB DANCES

The decorations for the Hallowe'en Dorm Dance consisted of many pumpkins and cornstalks from some questionable source while outside the harvest moon shone in its full glory. Naturally with such romantic surroundings everyone had a glorious time.

At the Thanksgiving Dance, given in honor of the Frosh football squad, Coach Layton Stanton was presented with a handsome leather traveling bag as a token of the team's appreciation of his services. A large orange T, electrically illuminated, was one of the unique means of decorating the somewhat dilapidated dorm. The peppy orchestra and tasty punch helped to make perfect the evening.

On February first the Dormenians entertained about thirty girls from the Nurses' Home with a dance. From then on, of course, the floor was crowded until the hour of midnight halted the gala event. Ere the dance had ended many of the Frosh had decided that a hospital probably wasn't such a bad place after all. At the time of this writing, preparations are being made for another dance at which the girls are to be hostesses to the Dorm residents.

Due to the cheerful aid of Miss MacFarlin and the hearty co-operation of the members of the Dorm Club, the dances this year were enjoyed a great deal by everyone.

FOOTBALL BANQUET

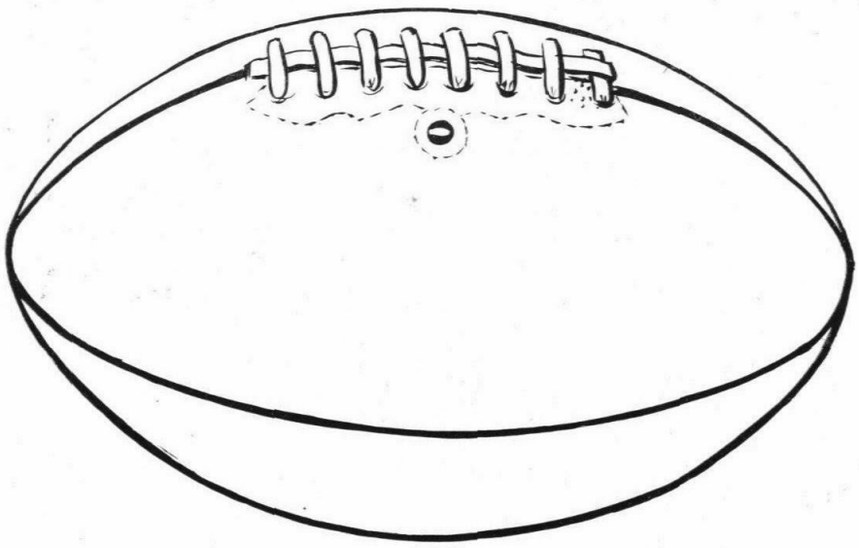
From behind great clouds of smoke poured thunderous noises. The heavens shook with the echoes of mighty shouts and chairs creaked for the weighty Tech men had put the feast of feasts under their steel-studded belts and were reclining at their ease while the bards of old told of the mighty deeds they had done. Yes, the evening was December 7th; the place, the South Pasadena American Legion Hall; and, of course, the event, the Football Banquet.

The banquet marked the culmination of one of the most successful seasons which Cal Tech has ever enjoyed, and was held in honor of one of the greatest teams which has ever represented Tech on the gridiron.

Professor Sorensen, otherwise known as "Red," was, of course, the most important person at the banquet. It is difficult to see how a Tech banquet could proceed without him in the toastmaster's chair. Mr. Les Henry and Mr. Blankenhorn, both well-wishers of Tech, and good friends of the Institute, were present with a few words of flattery as well as of sincere praise and encouragement. Dr. Millikan gave a short talk on the value of intercollegiate sports, after which the coaches expressed their views on football. Then came the well-earned awards for the season.

Nineteen varsity letters were distributed, each with an appropriate story from the jovial toastmaster. In due time Muff, Cravitz, Daly, D'Arcy, Exley, Keeley, Kingman, Olson, H. Reed, Shields, Westlund, Alderman, Boyle, Kuhn, Liedholm, Stroud, Sturgess, Crawford, Frick, had all been properly honored. The Freshmen numeral winners were Ayers, Brakesman, Cogen, Foss, Goodman, Hayes, Keeley, Mathews, McKinley, McLaughlin, Paulson, Pruden, Rhyner, Schultz, Shaul, Shuler, Wengren, Woods.

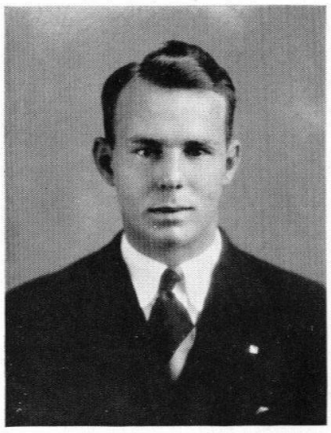
Finally, that most coveted of all honors, the Wheaton Trophy, was awarded to Kenny Kingman and Elmer Muff, jointly, after which the meeting adjourned with the singing of "Hail, C.I.T."



BASKETBALL LUNCHEON

The establishment of the Annual Basketball Luncheon as a traditional yearly function came one step nearer realization when, at the close of the 1929 basketball season, the Dugout became the scene of the second of these meetings, held for the purpose of honoring those men who represent Tech on the hardwood courts. The occasion was one of more than usual significance, as the awards for the long suffering Cross-Country men were presented by the Student Body, these long distance men being rewarded, as usual, with the minor sport circle-T. The men, seven in number, who were rewarded for the extremely hard yet only moderately successful work on the basketball floor, were: Captain Al Cramer, Captain-elect Bernhardi, Hodder, Pratt, Tutschulte, Fredendall, and Sinram. Of this group, four men remain for further intercollegiate competition; Captain Cramer, Sinram, and Fredendall are lost by graduation. With this group of lettermen as a nucleus, the 1930 squad has already an impetus which is by no means insignificant.

The many speeches perpetrated at the second basketball luncheon smacked of the old days when everyone prayed for a new gymnasium, although the doubtful tones and the doleful looks failed to impress the many listeners with the possibilities of immediate answer to the prayers on the occasion in question.



JOHNSON

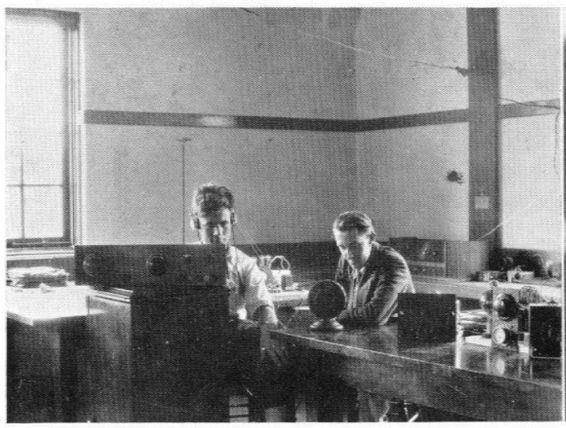
EXHIBIT DAY

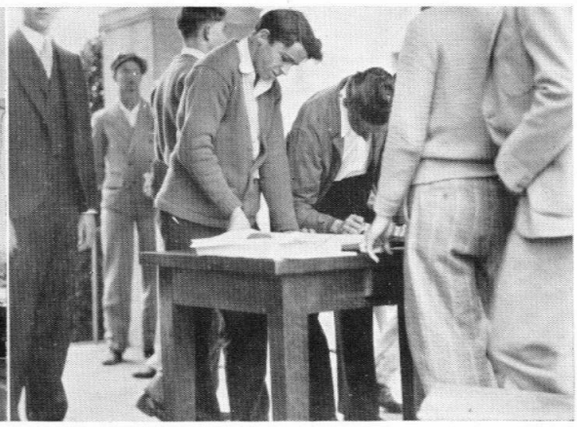
The Annual Exhibit Day at the Institute was held this year on the afternoon of April 19 and on April 20, with a record attendance for the event of more than eight thousand visitors. This traditional day of demonstrations and exhibits, always of great interest to the visiting public and to the uninitiated among the undergraduates, was made much more interesting this year by the presence on the campus of three new buildings which had never before been open to visitors.

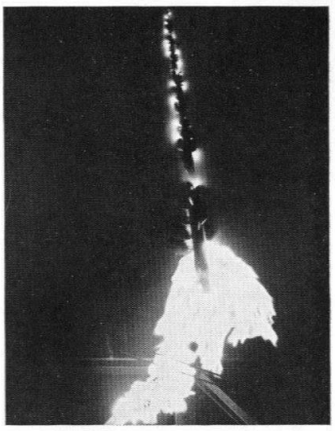
The new Guggenheim Laboratory of Aeronautics proved a source of unlimited interest and delight to the many people interested in the development of aviation and aeronautics; exhibits of materials and machine parts, and of special motors and safety devices, provided the casually interested ones with entertainment, while the more technically inclined eagerly examined the new wind tunnel and received information regarding the uses and potentialities of this new experiment station.

At the opposite end of the campus was a second new building which attracted its fair share of the visiting friends of the Institute. The varied and amazing collection of exhibits in the Kerckhoff Biological Laboratory were entirely new to even the men of the college, and consequently afforded everyone an unusual opportunity to ascertain the true nature of the work being carried on in the newest of the buildings on the grounds. Animals and reptiles of the most vivid colors and the most terrifying appearance were to be seen crawling or gliding slimily about in the cages and tanks provided; flies and other insects, of beautiful coloring, held the attention of the many visitors for hours.

Of especial interest to those insufficiently informed concerning the broad policies of the Institute authorities were the art exhibits and the luxurious rooms of the Dabney Hall of the Humanities. The presence of the lounge in the wing of this beautiful new home of the humanities was soon known to all the visiting public, with the result that there was not a moment during the day which did not bring scores to view this strangest of strange things on the campus of a technical institution.







LIGHTENING

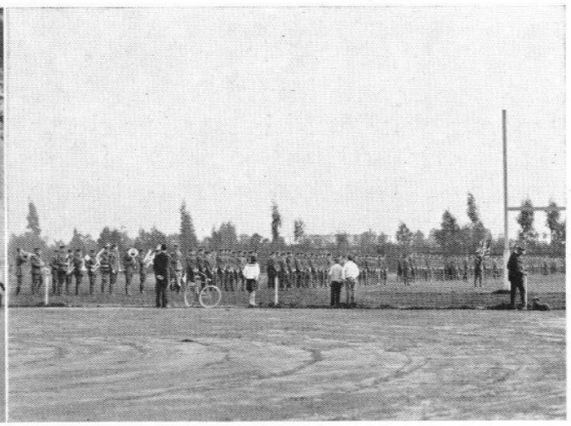
The High Tension Laboratory, every year a feature of perhaps the greatest interest to the general public, was more popular than ever this year, many of the visitors returning more than once to view again the wonders of the million-volt demonstrations. Long, irregular flames of more than thirty feet length and resembling Nature's lightning were thrown promiscuously about the laboratory, while mouths gaped open and incredulous ones became slowly convinced that something was going on of which they had never dreamed. Whirling pinwheels, startling horn-gap arcs, crackling bolts of artificial lightning, beautiful corona effects, all had their share in entertaining the friends who each hour thronged into the galleries of the laboratory.

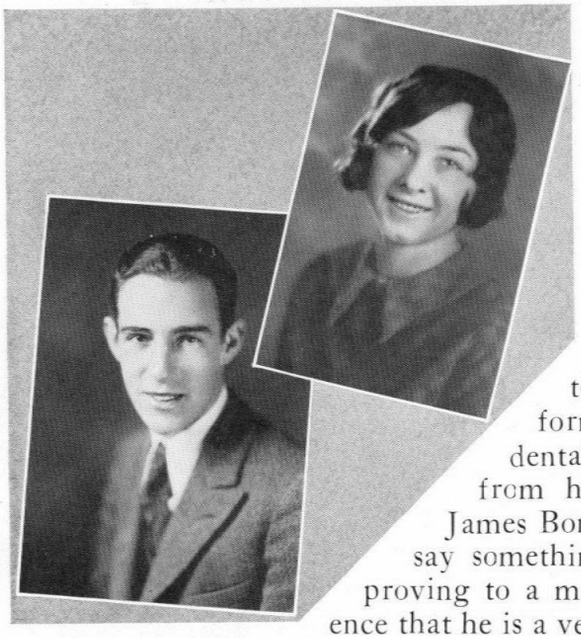
Experiments were carried on in the Gates Laboratory of Chemistry which were prepared for the occasion. Spectacular and colorful experiments were much in evidence and were of great interest to the greater portion of the spectators. For the benefit of those visiting students who were more interested in technique and characteristic tests showing the actual nature of the undergraduate work in chemistry, experiments were set up in both the organic and the inorganic laboratories.

In the Physics Department, more interesting features were presented, these for the most part being the spectacular experiments. The singing pipes, liquid air tests and demonstrations, and the experiments in light and sound attracted large numbers of the interested visitors. Special lectures were presented by the staff of the department for the benefit of those interested in the strictly scientific side of the work of the department.

The Geology Department was, as usual, very well represented. Rooms full of fossils and large exhibits of rock specimens proved of especial interest, while the new exhibit of beautifully colored shells was an added attraction of considerable moment. Models of the most interesting geologic formations found in the country were on exhibition; specimens of all sorts collected by the undergraduate members of the department while on their many excursions were also prepared.

The Military Department shared honors with the Steam and Mechanical Engineering Laboratories on the east end of the campus, while Throop Hall was the gathering place for those interested in the civil engineering and testing materials equipment.

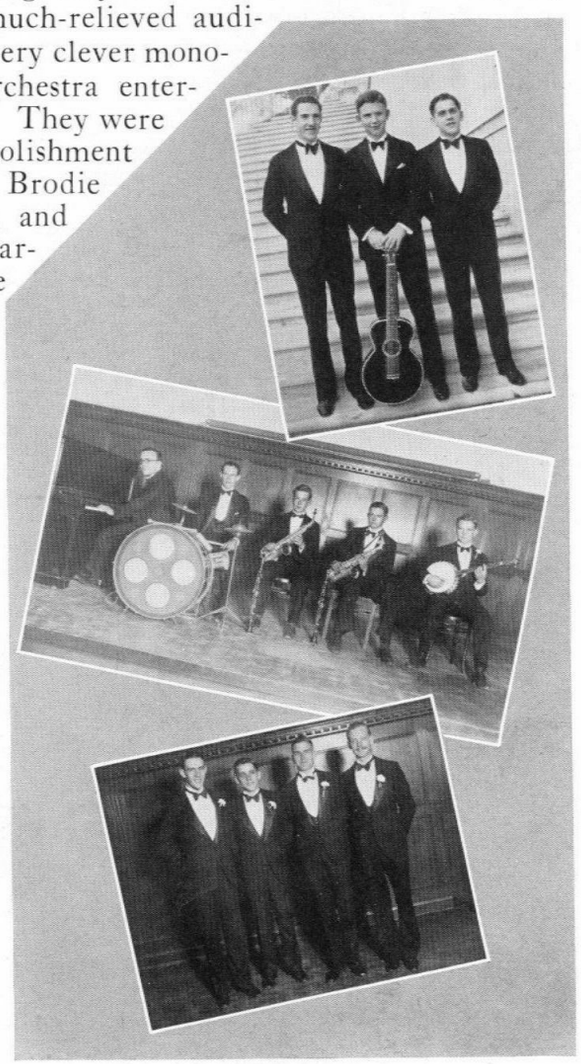




OXY EXCHANGE PROGRAM

Oxy's program this year was marked by high comedy in contrast to some previously given more carefully prepared programs which consisted largely of selections by the Boys' and Girls' Glee Clubs.

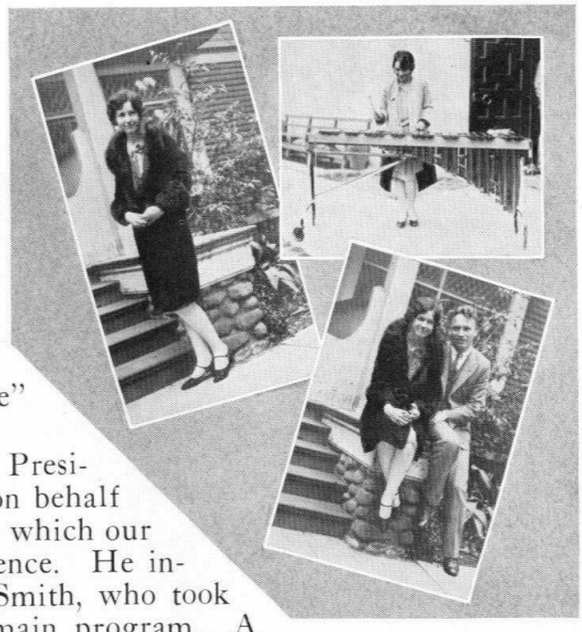
Led by Bob Hastings, manager and comedian, the group put on a very interesting assembly. Kenny Holland, a former student body president of Occidental, opened the assembly with greetings from his college. He was followed by one James Bone, comedian de luxe, who started out to say something very serious, but who ended up by proving to a much-relieved audience that he is a very clever monologue man. An excellent six-piece orchestra entertained with a number of popular pieces. They were followed by mind-reading and other foolishment by the comedy team, Bone and Hastings. Brodie Burnham, Count Jones, Larry Brown, and Harold Mosen, composing a pleasing quartet, sang "Pale Moon," "Parade of the Wooden Soldiers," and "Songs My Mother Taught Me"; they were accompanied by Kenneth Bush.



After Bone had vainly attempted to give a song, the feminine part of the program, appeared in the person of Princess Booth, who made up in quality all that was lacking in the way of feminine quantity. Accompanied by the piano and orchestra she sang many popular songs. She was afterwards heard to remark in a sad tone that there was no one to boob in the front row.

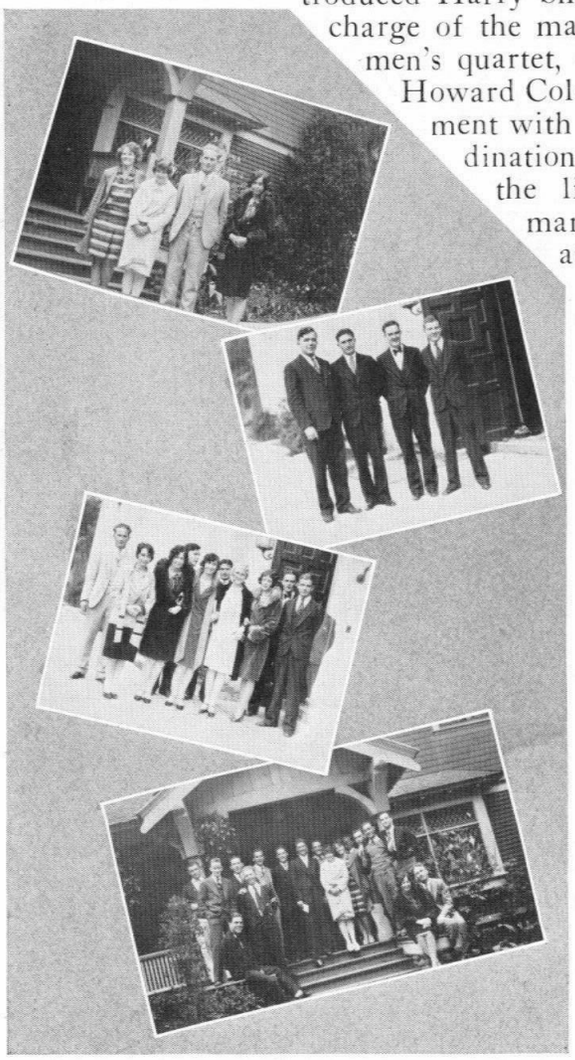
The orchestra played again, and the program was closed by another clever sketch with Miss Booth, Bone and Hastings. Then Tech men went home to lunch, wishing they had been less ambitious and more wise, and had gone to a co-educational institution.

WHITTIER EXCHANGE PROGRAM



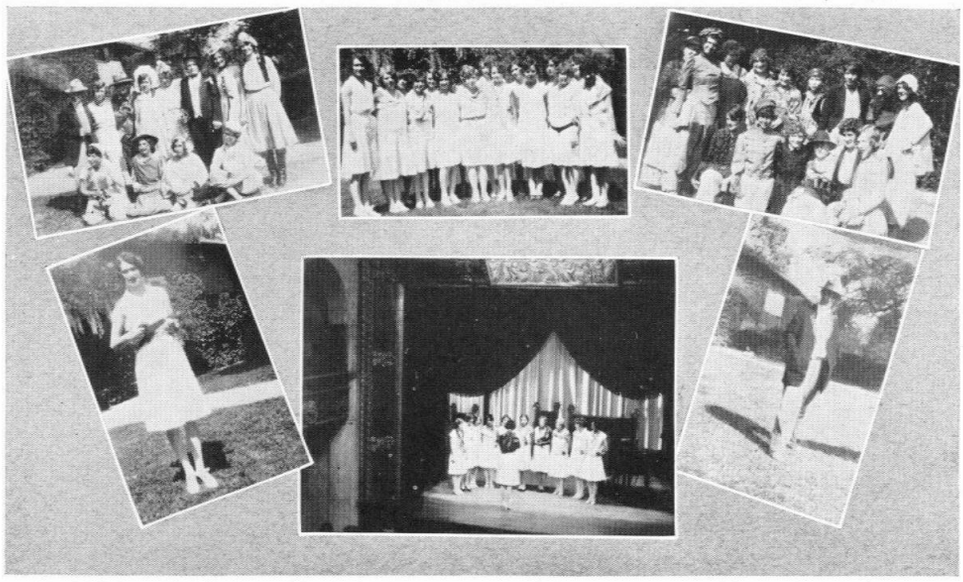
Living up to their reputation of presenting the best exchange program of the year, Whittier entertainers came here April 26th to treat the Engineers to a most enjoyable hour of music. To the great delight of the audience, the captivating Cherry McRae was with them again to melt the hardest of hearts with the most sentimental of "blue" songs.

Art Hanson, Whittier Student Body President, greeted the Tech Student Body on behalf of Whittier, and expressed the pleasure which our program had given the Whittier audience. He introduced Harry Smith, who took charge of the main program. A men's quartet, composed of Joe Bosio, Harry Smith, Howard Cole, and Joe Ranning, began the entertainment with some songs which showed clever co-ordination of voices. Dorothy Tuttle delighted the listeners with three selections on the marimba, accompanied by Bob Tomlinson at the piano. Some classical selections, sung by Pemelia Smith, accompanied by Winnifred Fogelman, added a touch of the deeper element to the occasion. A novelty number on the piano by Bob Tomlinson was received with great enthusiasm.



Then, as a much anticipated pleasure, Cherry McRae won over the hard-hearted Engineers completely, but, miraculously enough, self-restraint ruled the day, and no over-emotional Frosh had to be subdued. A few violent harmonica exercises by Joe Ranning aroused the listeners from their trance, and brought down the house with laughter. Miss Hadley, who sang last, had a very pleasing voice, and won generous applause.

The Whittier Alma Mater, sung by the entire group, finished the program. The entertainers were invited to the fraternity houses for lunch.



BROAD OAKS PROGRAM

Ditching classes for the occasion, the Broad Oaks Glee Club arrived to entertain us in the Friday assembly January 11th. How they did it is the purpose of this tale.

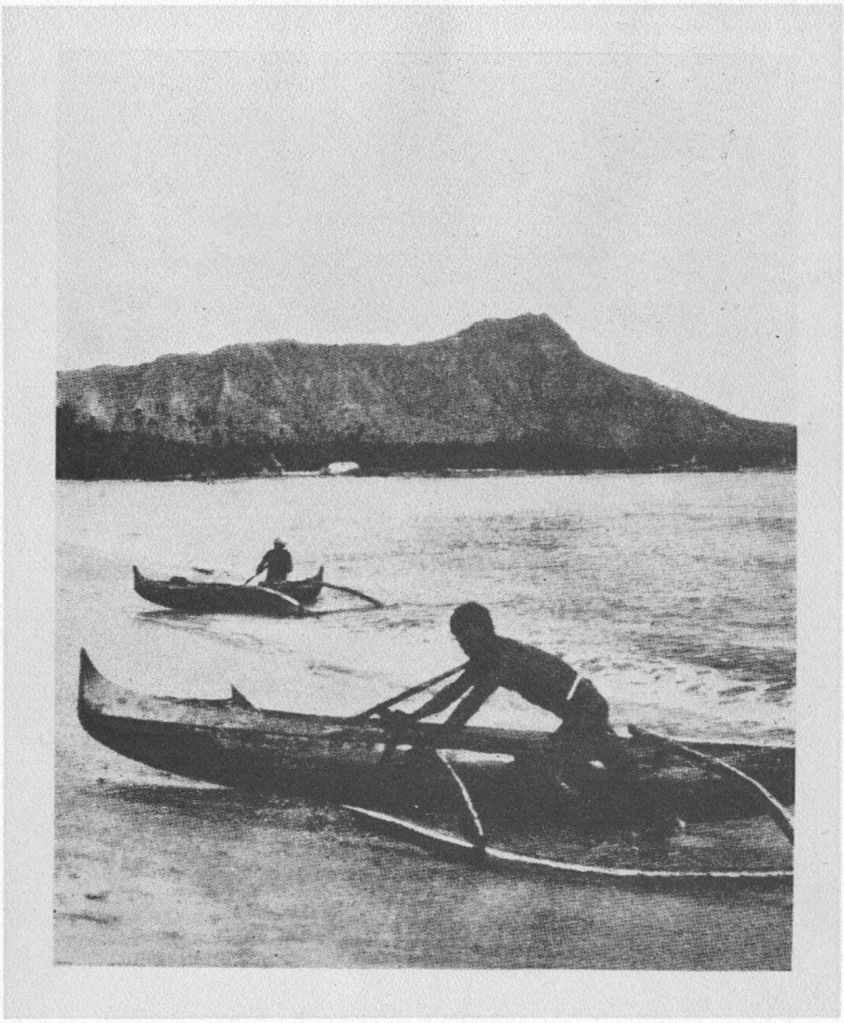
With the announcement, "It's really all in fun," Miss Norma Anderson, the leader of the delegation from the other end of California Street, prepared us for a truly unique program.

The first number of the Glee Club, "Tom, Tom, the Piper's Son," got the audience so excited it had to be calmed down with "The Old Refrain" by Kreisler. Margaret Gioconnazzi entertained with two whistling solos, "The World Is Waiting for the Sunrise," and "Rose in the Bud."

Then Norma, evidently well known to some Frosh, with her little "uki" came out and sang "Rainbow Around My Shoulder." Looks of interest on the faces of the audience changed to wild delight on the second number, "Don't Be Like That." Two more numbers, "Happy Days and Lonely Nights" and "How Many Times," made the audience hysterical. The Troopers almost had to come out and quell the riot. Can you imagine Tech men singing "When the cows get up in the morning they always say 'good day'." After a demonstration by the girls, and under the able leadership of Norma, that is just what they did. And what is more, half of them pretended to be girls.

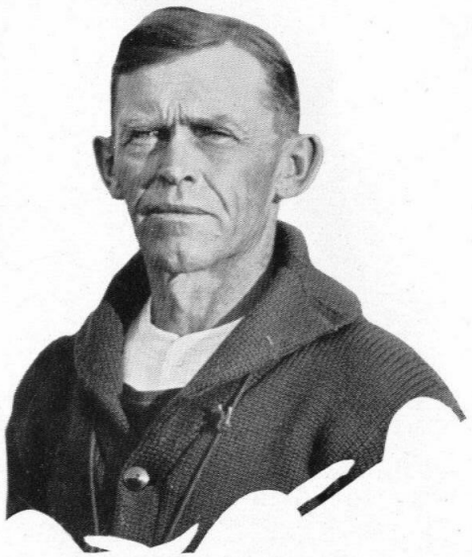
Miss Luxdy and Miss Fox sang a number of songs including "I A'int Got Nobody," and "Following You Around," which left several handkerchiefs moist.

The girls finished the program with two songs by the entire Glee Club: "By the Waters of Minnetonka," and then the Alma Mater Song.



HAWAII

Athletics



COACH STANTON

WHY WE DO IT

In the history of the race our play has grown out of an instinct. That instinct is pugnacity, combat, or fight. In war that instinct is seen carrying on in seriousness. Competition in athletics is that instinct of combat turned into play. The play has gradually emerged, as the product of reflection.

The purpose of competition is to give pleasure, satisfaction to a necessary instinct. Can one get pleasure by being defeated? Yes, if one's opponent shows more excellence in performance. If inferiority were rewarded what reward could there be for striving after superiority? Would it not end all striving? It is thus a satisfaction to the inferior to see excellence justly rewarded.

Why should athletics be recommended for all, knowing that only a few can attain the highest excellence? Play is the answer, no matter who wins. The combative instinct is satisfied, and that is the reward.

W. L. STANTON.

CLATERBOS

MUSSELMAN

Are athletics worth while? I believe that this question arises sooner or later in one's life at Tech, and, although its answer cannot be found in a text book, it is, nevertheless, a very important one to decide. My answer to the question is "yes," provided that athletics are not over-emphasized. Personally, I have always thought that two major sports, with perhaps a minor to keep in condition, is about all the load that the average student should carry. Aside from the physical benefits derived from athletics, there are many characteristics developed, also. Of these I believe the most important are: teamwork, quick thinking, and sportsmanship.

My experience in dealing with men in the Army has taught me that one seldom goes wrong if he chooses a man with an athletic background in preference to one just as well qualified in every other respect but that. One usually finds an alert, confident, loyal individual who can be counted on to perform his duties well, in a minimum of time, and with no friction or grousing.

LOUIS J. CLATERBOS.

Our athletic program at Cal Tech is built with the idea of giving every man in school a chance to enter sports on a competitive basis; to create in him a desire to match his skill against other men of like ability in a competitive way.

A card file is kept of the athletic activities of every man in school. Last year we found that 78% of our Student Body competed in some form of intercollegiate or intra-mural activities. Figures for this year are not as yet available, but we have found that 84% of the Freshman Class have already competed.

We are striving toward 100% competition. Each individual should have a definite schedule for relaxation and exercise. The natural form of exercise is that from which are derived pleasure as well as benefit.

Compete and play for the "fun of it," and you will find yourself the winner for it.

H. Z. MUSSELMAN.

ATHLETIC COUNCIL

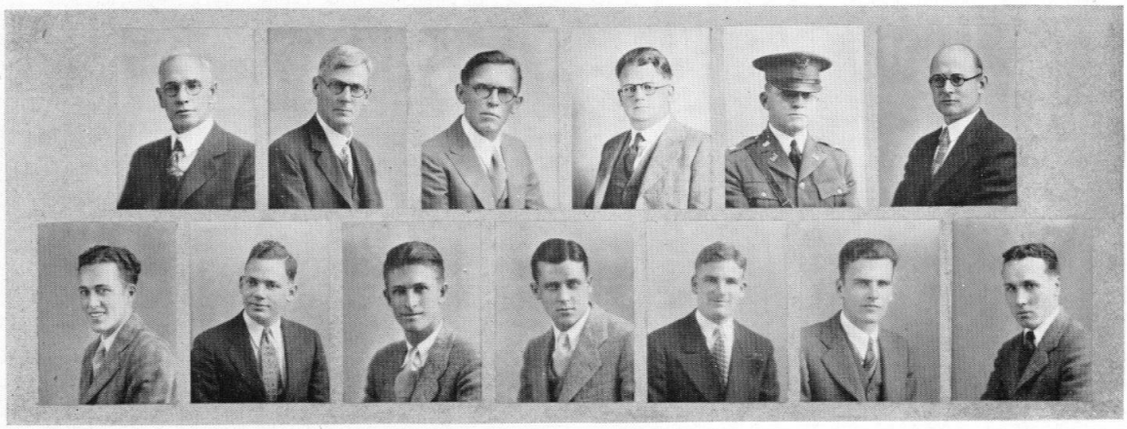
The development of athletics, both intra-mural and intercollegiate, for every man, good or bad, so that everyone gets the full value of athletic competition instead of just those who are good enough to make the team, has been the wise policy pursued by the Athletic Council. It is this Council that presides over all of the athletic affairs at Tech, and determines the policy that the Physical Education Department shall follow. This principle of physical education and competition for all has resulted in attaining a very high physical standard for every man in Tech, a necessity in balancing the mental requirements.

Besides exerting its influence within the college, the Council is always represented by one of its members at all Southern California Conference meetings, and hence, it also helps to determine the policy of the Conference as a whole. It is here that rules are formulated and schedules arranged for all intercollegiate sport events under the Southern California auspices.

The Athletic Council consists of six members of the faculty and four representatives of the Student Body. The faculty members are Professor Sorensen, chairman; Colonel Adams, Graduate Manager Musselman, Coach Stanton, Dean Hinrichs, and Professor Clapp. This year the Student Body was represented by Tom Evans, Clyde Shields, and Elmer Muff. The fourth student member was the senior manager of the current sport. They were Weismann, football; Cline, basketball; Ganssle, track; and Hatch, baseball.

The fact that faculty members are anxious to co-operate with the Student Body in this respect is greatly appreciated by all students who are at all interested in their physical well-being. The element of rivalry in sport is recognized by the Council to be a great incentive to the attainment of perfection in control of the body by the mind, as well as mere physical development. An effort is made to provide enough of such rivalry to effect every student if possible, sponsoring ten different sports so that a student may follow his taste for physical activity and not have to train for something which he doesn't enjoy.

The sports now sponsored by the Council are football, basketball, track, baseball, and swimming. Surely one of these sports will appeal to any normal student, and diligent training will soon enable him to experience real competition in some type of match, meet, or game. Emphasis is justly placed upon sports which develop teamwork, which is an essential element in all engineering practice; yet, the value of individual self-reliance is not overlooked in other sports.



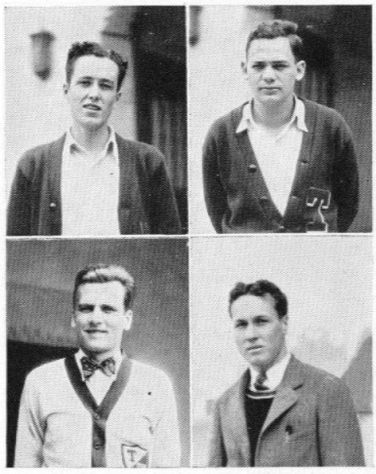
CLAPP HINRICHS STANTON SORENSEN ADAMS MUSSELMAN
WEISMANN CLINE EVANS MUFF SHIELDS GANSSLE HATCH

MANAGERS

FOOTBALL

Much hard work and little credit is the lot of that small and unfortunate group of very necessary people, the football managers. According to the old adage they must be very dull for it is indeed a case of all work and no play. They have to be out before the team, and then be on the jump all the time, until the team leaves, five days in the week.

This year the managers did their work very efficiently, getting as little credit as possible for it. The Senior manager was George Weismann. Under him were Whitman and Uecke, Juniors, and Jecker, Folsom, Leeper, and Grafman, Sophomores.



WEISMANN GANSSLE

CLINE HATCH

TRACK

It would be impossible for Tech to produce the track teams that it does, were it not for the efforts of those who see to it that all of the equipment is at the service of our athletes, and hurdles are set up, that inquisitive children are kept off of the truck during the sprints, et cetera. It really is not much fun to be a track manager and there certainly isn't any glory in it.

Our hard-working managers, Gordon Mitchell, Kenny Miles, Bill Horton, Dave Marshall, and Barker Bates (Frosh Manager), were ably supervised by Karl A. Ganssle, Senior manager. These men put in several hours of work each day, in addition to carrying equipment to meets.

BASKETBALL

The Senior basketball manager, Fred Cline, was assisted by two Juniors Roland Hawes and Austin Strong, and by two Sophomores, Emery Buffum, and William Thomas. These men kept the team supplied with towels and socks, pumped up the balls, and served as amateur doctors. Besides being on hand for each of the daily practices, some of the managers traveled with the team to the games where they served as timekeepers and scorekeepers, in addition to the duties which they performed in the afternoon practices. Supplementing these, Cline had the task of securing officials and practice games.

BASEBALL

There are six baseball managers for the varsity baseball squad; one Senior, two Juniors, and three Sophomores. Their main duties are similar to those of the managers of any other sport. They keep track of equipment, keep scores of the games, and in various ways supply the wants of the members of the team and of the coach. Six men are required so that the home games can be properly handled, and so that each man will not have to report every night.

The Senior manager gets as a reward for his services a letter on a sweater. This year's Senior manager is Bill Hatch. The assistant managers get the equivalent of second team awards, with an M replacing the 2.

YELL LEADERS

ZIPSER

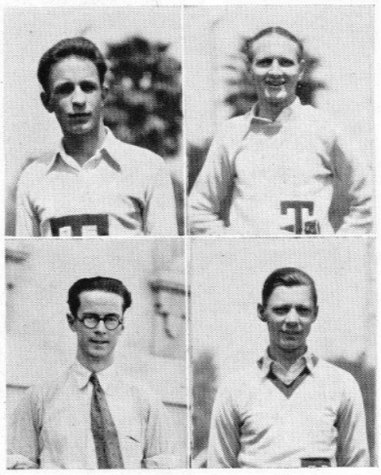
The Institute has, indeed, had a successful athletic year and no small credit is due to the yell leaders and especially to the yell king, Sid. Zipser. With the noise of the "big tin can parade" still sounding in our ears and the reflected glory of the bright orange T still shining in our eyes, we can truthfully say that the year 1928-1929 was, indeed, in capable hands in the field of organized cheering.

Always on hand when needed, always, with a new trick or a novel stunt in store, cheering for the team when the team needed that, all in the hands of one capable man, Sidney Zipser.

HALL

A man who dies for his country wins fame, but a man who dyes shirts for his cheer section in order that the orange T of Tech shall give confidence to the team also deserves fame, and not only does John Hall, but also the other two yell leaders deserve credit for the best rooting section stunt in the history of the Institute, a great orange-shirted T, blocked in by the usual white of the rooting section. It stood out like our great T on the mountains.

This was Hall's first year at cheer leading, but he proved to be an able and willing assistant to the yell king.



ZIPSER HALL
ROBINSON ROSSALL

MINOR SPORTS

True Robinson has had charge of the minor sports this year in the managerial capacity, and too much cannot be said about his good work.

Gordon Mitchell was appointed by the Executive Committee in October to act as cross-country manager and did some creditable work arranging for practice runs and conducting the three interclass runs. In November, Otto Reinen was appointed rifle team manager and he worked hard arranging for two matches with Stanford, one with University of North Dakota, one shoulder-to-shoulder match with U.C.L.A., and two with Pomona. Fred Scott was appointed tennis manager in December and did some good work in arranging for the novice and varsity tournaments.

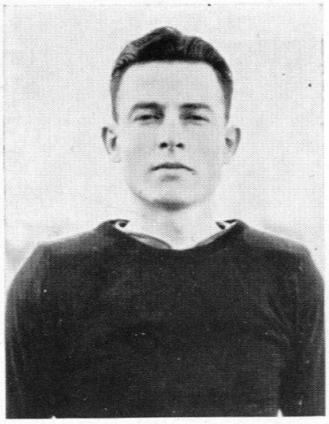
ROSSALL

A Freshman as a varsity yell leader is something rare, indeed, but Kenneth Rossall as a yell leader for this past season proved an able and willing assistant to Sid.

It is not enough for the yell leaders simply to keep the rooters together in their cheering, but they must also direct their efforts so that they will be used to the best effect and not be wasted. Above all things, they must pep up the section so that their enthusiasm may be transmitted to the men on the field.

The yell leaders for 1928-1929 have, indeed, contributed their share to a most successful season.

WHEATON TROPHY



KINGMAN

The most highly prized athletic award at Tech is the Wheaton Trophy, which is awarded to the man on the football team who is acknowledged by his teammates as standing highest in sportsmanship and in moral influence, and who stands high in scholarship as well. The selection of two names to share the Trophy for 1928 surprised no one, for the outstanding sportsmanship and ability of either man throughout the season was beyond reproach.

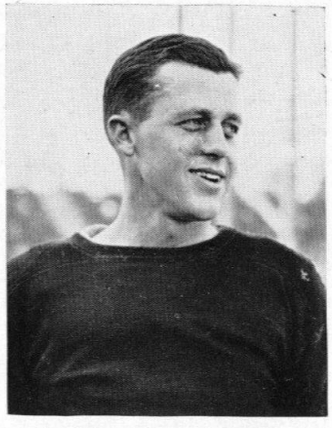
Not only was this the first time two names have appeared side by side at the base of the cup, but it is also the first time the same name has appeared twice. Besides achieving the additional honor, Elmer Muff was first to win the Trophy as a Junior in 1927. The excellence of his playing is indicated by the fact that he was voted to be the most valuable man on the Southern Conference gridiron during the season of 1928 by a group of disinterested and well-qualified judges.

The brilliant and consistent playing of Kenny Kingman contributed greatly toward the success of the season. However, his moral influence, fighting spirit, and co-operation contributed as much, if not more, than his physical skill, toward this success. His clean sportsmanship and cool-headedness throughout all trying situations was an inspiration to most of the team in time of need. Surely Kenny deserves the honor of having his name engraved as one of the five which signify the greatest Tech football athletes since the cup was donated.

The Trophy is a beautiful silver cup, which was given to the Student Body in 1924 by Mr. L. W. Wheaton, who is an ardent supporter of intercollegiate sports. His interest in football was first aroused at Yale, where he was a student and a member of the football team. Later he became a coach there, and since that time has coached at several other large universities. For the past few years, he has transferred his entire interest in this line to sports at Tech. This year he has helped Coach Stanton considerably, giving about two nights a week of his valuable time. At present he is connected with the T. V. Allen Company of Los Angeles.

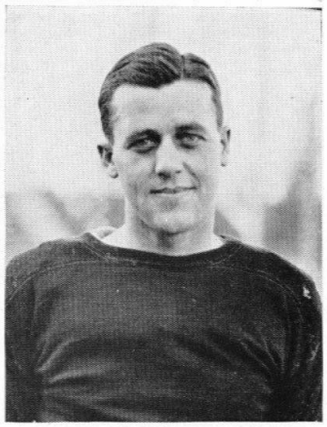
The Wheaton Trophy has had much to do with maintaining the high standard of sportsmanship that exists at Tech, for, without a doubt, the keen competition which is found among the contenders for this award has kept improving the mental and moral attitudes of the athletes. Undoubtedly this Trophy encourages the pursuit of sport for its own sake at the Institute, which is the goal set up in the policy of the Athletic Council.

The first winner of the cup was "Mike" Brunner, who won it in 1925. The following year it was won by Jack Baker. In 1927 it was won by Layton Stanton, who has again distinguished himself at Tech as Freshman coach.



MUFF

UNIVERSITY CLUB TROPHY



MUFF

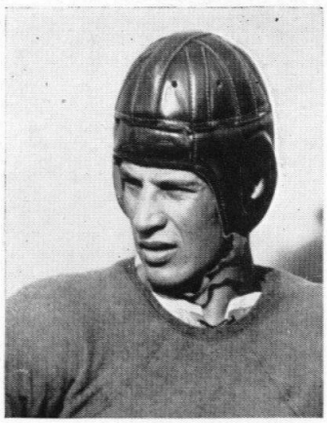
Perhaps the most coveted athletic award given the men in the Southern California Conference was that made to this year's football captain, Elmer Muff, by the University Club of Los Angeles. A comprehensive study of the qualities most desired in a football man were made by this body and Muff, in company with Poke Hartman of Pomona, was made joint holder of the trophy for this year. Both men displayed the qualities of leadership, sportsmanship, and ability which are such important qualities in a football player.

Tech may look with pride on this honor which was bestowed upon its football captain, because with this honor goes the thought that this offers to us, this reassures us that our Institute, though not noted for its athletic prowess, is recognized as a developer of men who stand high in the estimation of the judges of humanity which the men in the University Club of Los Angeles must surely represent.

Witnesses of the fine play displayed by Captain Muff all feel assured that he justly deserves the signal honor bestowed upon him. Those who are acquainted with him here on the campus are certain that the award was justly presented to him.

The co-holder of the award, Poke Hartman of Pomona, is likewise regarded as one of the finest athletes ever to compete in the Southern California Conference and the men of the Institute feel highly pleased that such a man as Hartman should be co-holder with our own football captain. Hartman will be remembered by Tech men for this fine play and clean sportsmanship in the Pomona game this year. The decision as to the man who best deserved the award was a very difficult one to make and all of us rest assured that the presentation to two men jointly was in no wise amiss.

Another award was also by the University Club to Lloyd Thomas in recognition of his stellar performance on the University of Southern California squad in the Pacific Coast Conference. This man played a fine, consistent game in the backfield and well deserved the honor.



HARTMAN

The awards were made in the Banquet Room of the University Club of Los Angeles at the time of its annual meeting in March, and it was not long before the news spread over the campus that Muff was honored by still one more athletic trophy.

Speaking for the Southern California Intercollegiate Conference, we of Tech are very grateful to the University Club of Los Angeles for their interest in athletics and willingness to make an award to the man or men of the Conference who has distinguished himself most by his good sportsmanship and clean playing.

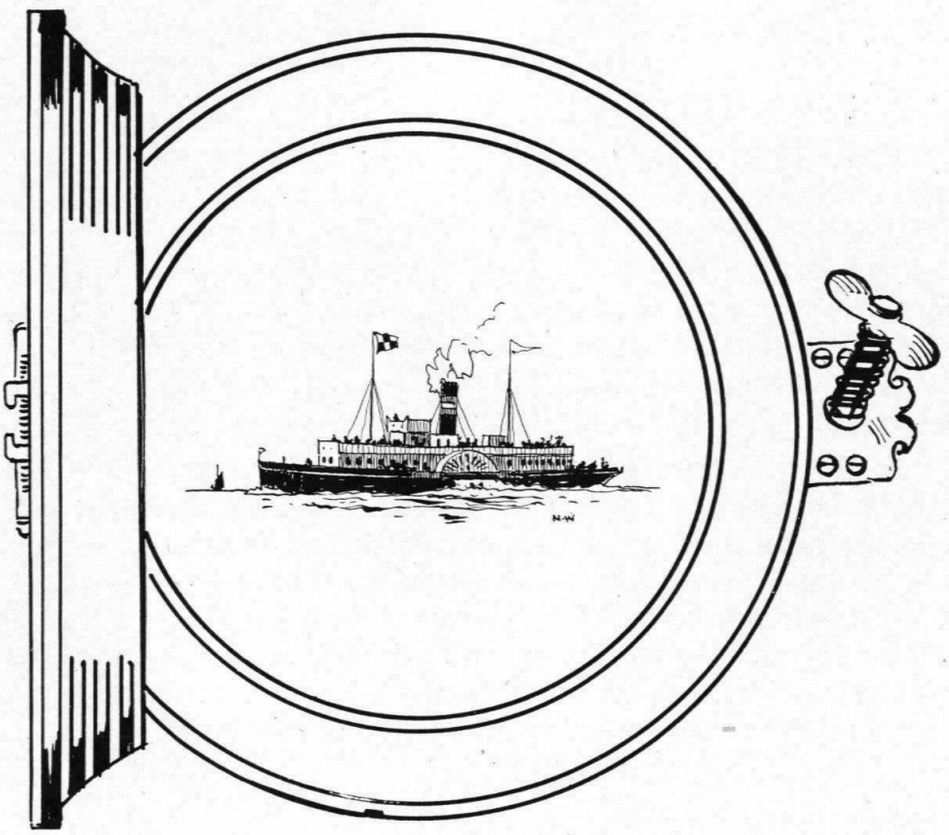
REED

RAWLINGS TROPHY

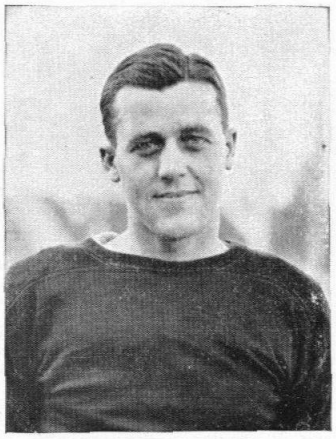
The Rawlings Trophy plays much the same role in baseball that the Wheaton Trophy does in football. This beautiful trophy, a silver cup supported upon a tripod of baseball bats, was presented to Tech by the Rawlings Company of St. Louis for the furtherance of the interest in baseball, the American national game.

Every season a man who best typifies the high ideals of Tech sports is selected from the baseball squad by his teammates. Every man on the squad is graded according to sportsmanship, 15 points; moral influence upon the team, 15 points; improvement during the playing season, 20 points; playing ability, 50 points.

The winner of the Rawlings trophy for 1928 was Homer Reed. Homer's ability is known to every Tech man, and his sportsmanship has won the admiration and respect of players throughout the Conference. His work as pitcher has been brilliant throughout his varsity career of three years. His speed ball and fast-breaking curves have been the Nemesis of many batters of other colleges in the Southern California Conference. His batting also has helped the team out of many tight holes. Reed's natural ability cannot be too highly regarded, but also we must keep in mind that his personality and spirit are of the finest which have ever been encountered on the Tech campus.



FOOTBALL



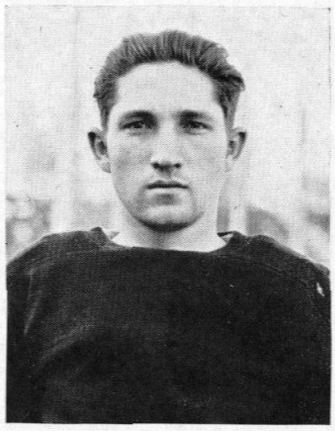
CAPTAIN ELMER MUFF

Elmer Muff, captain of our last football team, proved to be a most successful leader. He is the most outstanding athlete at Tech this year and one of the best ever developed here. Combined with his most unusual athletic versatility, he has a quality of leadership that makes him the inspiration of his teammates. This has been recognized, for he has won both the Wheaton Trophy in football and the Rawlings Trophy in baseball, besides captaining teams in both sports.

Muff's playing was a joy to the coaching staff and to the Student Body. He played a heady game, seldom being outguessed by his opponents. In the Pomona game he outsmarted two Pomona men, who were in the act of making a touchdown, by his brainy playing and his superb tackling. Muff's playing at safety was steady and dependable since he was certain in catching punts and sure-fire in his tackles. Muff's ability as a ball-carrier is on a par with his tackling and he made many yards on the return of punts.

In following the ball as closely as he did, Muff disclosed further ability at the game. He recovered several fumbles throughout the season, the most notable being the one in the Oxy game which enabled him to run ninety-three yards for a touchdown.

The excellent passing attack that Tech displayed this last season depended upon Muff, for he was usually at either the passing or the receiving end of the pass plays. His work in this respect, during the Whittier game was one of the most interesting features of the game.



CAPTAIN-ELECT LESTER BOYLE

The star halfback on last year's varsity, Lester Boyle, will be our next football captain. This announcement was received with great, though not unexpected, pleasure by followers of the game when it was made at the Football Banquet last fall.

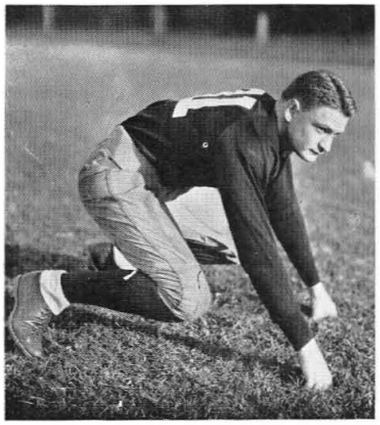
Boyle was a constant threat to our opponents throughout the season with his superior passing ability. In the Oxy game, especially, several of the long completed passes were either hurled by Boyle or thrown to him. His work in this line was notable throughout the season.

In a defensive situation, Boyle's playing is outstanding. He excels at tackling and is a valuable addition to the secondary defense of the team. The team is lucky to have a man who can make up for the loss of Muff in this respect.

Boyle has also made a name for himself on the baseball diamond. His work last year was excellent. He has starred again this year, playing a fine game at shortstop.

Boyle has been playing football at Tech ever since he entered. Under Coach Stanton's direction he has learned the game thoroughly and deserves the honor his teammates have bestowed upon him. He is dependable to the *n*th degree, besides being a player of great ability and a student of the game. Tech can be assured that the team next fall will give good account of itself under the leadership of Captain-elect Lester Boyle.

CAL CHRISTIAN



KEELEY

Coach "Fox" Stanton's football team was only two weeks in the molding when it met and defeated the California Christian College team, running up a 32-6 score. The game, which was played September 29 on the Tournament Park gridiron, was very ragged, and gave no indication of the power the Beaver team was to show later.

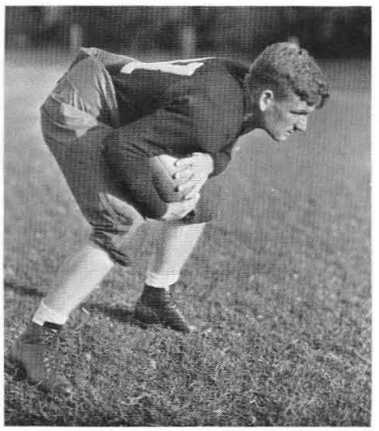
For the most part, the back field, which was supposed to be quite formidable, made rather a poor showing in general, with the exception of Captain Muff. On the other hand, the line, which had been pronounced a source of great weakness, was quite effective, especially at the first. However, the nature of the opposition and the erratic playing in general may have accounted for this paradox.

For the most part, the game consisted of safe plays only. One pass attempted by the Panthers was intercepted by Exley, who scored a touchdown on it, thus discouraging its repetition. This game gave the coach his first opportunity to see all the flaws in the team since nearly all of the varsity aspirants had a chance to show action some time or other.

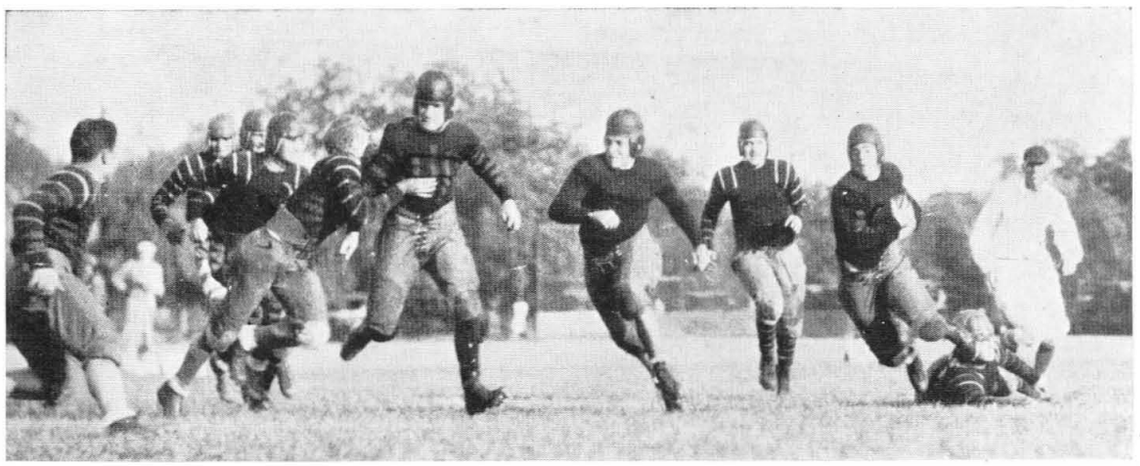
U. C. L. A.

Displaying all of its big league style, the California Bruin tore its way at will through the Beaver team to a smashing 32-0 victory in the Rose Bowl, October 6, in the second game of the season. The game was a hopeless one from the beginning as it seemed that the Bruins could not be stopped until they had made at least five yards on each play.

Although the game was not a conference one, it had an historic significance, for back in the days when U.C.L.A. was in our conference the schools



SHIELDS

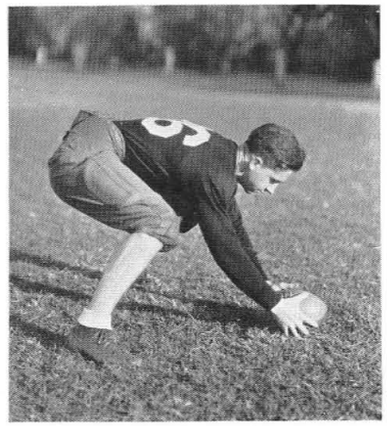


NICE INTERFERENCE

were great rivals and many were the times when Tech cheated the Bruin out of the title by administering defeat. In fact, this game was but the second victory of U.C.L.A. over Tech in history.

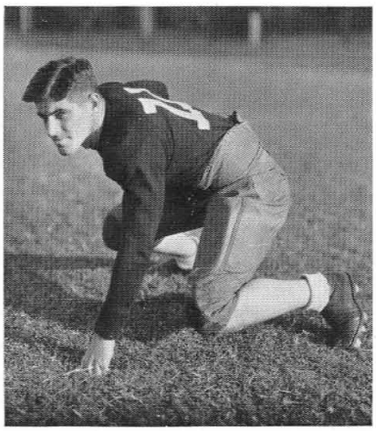
However, the Tech team was outweighed, outplayed, and outfought through the entire game. Catching the kickoff on the thirty-yard line, the Bruins started a march which netted a touchdown before the Beavers even got a chance to feel the ball.

In this manner the game continued, with the ball occasionally in Tech's possession only to be lost again in the course of one or two downs. Once, during the third quarter, the old Beaver fight came to the fore when the Bruins were held for downs on our five-yard line. A few long runs by the opponents provided the only features, and even they held little of the spectacular element.



KUHN

Although the score was extremely lopsided, and the Bruins walked away with the game from the beginning, Tech did show a few gleams of hope for the coming season. As yet the line had had no experience, hence, there were many holes for the Bruins to come through, but the backs were showing that they had good stuff to offer for the rest of the season. The fact that every attempt at conversion was blocked indicated the speed that the team was to develop in later conference games.

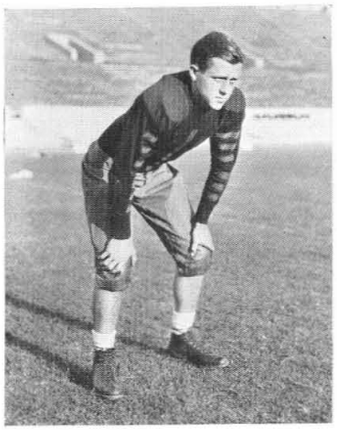


EXLEY

REDLANDS

The opening conference game with Redlands, October 13, found the team improved by the experiences of the previous week, but still a bit shaky. In spite of the many mistakes made by Tech as well as by the opponents, the 14-0 victory did much to put confidence in the team. Four bus loads of Tech rooters carried more support to the distant town than

REED AROUND RIGHT END



MUFF

the home team was able to muster for itself, marking the fine spirit of the Tech Student Body, which was to last throughout the season.

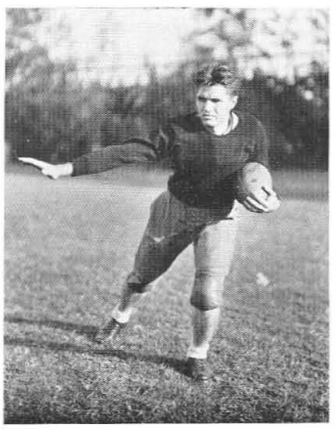
With the fine co-operation of the rest of the team, Clyde Shields made both of our touchdowns. The first was made by a series of bucks from the thirty-five-yard line, in which Shields carried the ball each time. The second was made when he intercepted a forward pass, and ran ninety yards for a touchdown shortly before the end of the game, turning the score from a possible tie to a safe margin of victory for our team. The two conversion points resulted from Muff's kicking.

Early in the second half Tech started a march down the field, but was held again just one yard from the goal line. After this came another series of punts, intercepted passes, penalties, etcetera, with confusing rapidity. In the last period Redlands opened up with passes, and brought the ball to the twenty-yard line. It was here that Clyde intercepted a pass to score again, shortly before the last whistle.

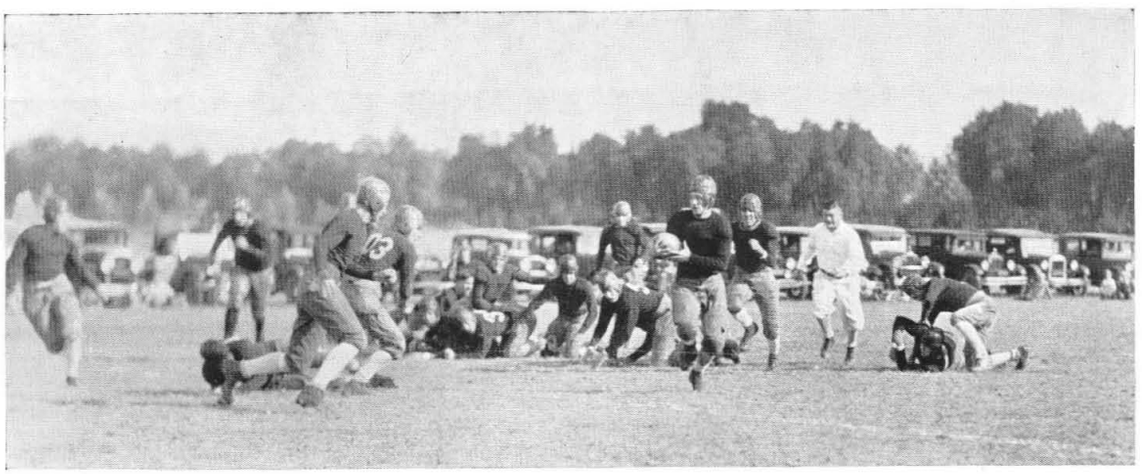
POMONA

After conquering the Bulldogs, the Engineers traveled to Pomona, determined to win another victory. The morale of the team was tuned to the highest pitch, while four large busloads of inspired rooters furnished the student support that is so necessary for good playing.

The game was no disappointment, for though Tech lost, the 7-6 score tells the tale of a hard battle. Throughout the game, the team pushed a powerful attack with passes, and runs, and center bucks, though most of the gains were made by passing. Each team forced its opponent back to the goal posts several times,

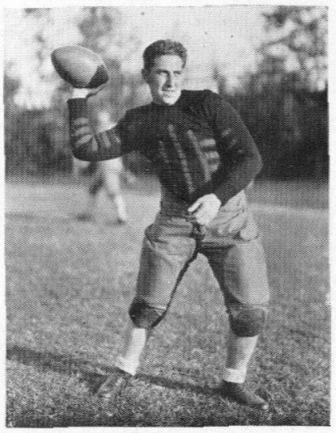


OLSON



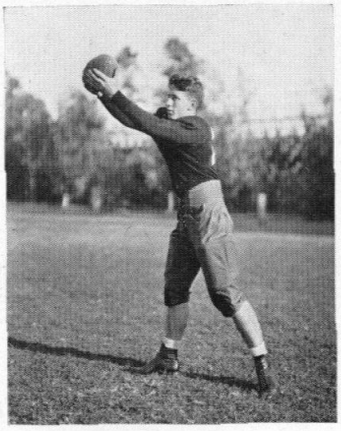
BOYLE CARRIES THE BALL

though neither seemed able to break down that last stand which makes a team invincible on its one-yard line. The last quarter began the scoring, when Pomona's passing attack eluded the Tech defense and scored the Sagehen's one touchdown. It was a new fighting Tech team that dusted the dirt off its back and, made angry by the Pomona touchdown, marched down the field in an attempt to equal the latter's score. A failed conversion left Pomona still in the lead, but this did not discourage the Engineers, for they fought on and were advancing toward another touchdown when the game ended.



CRAVITZ

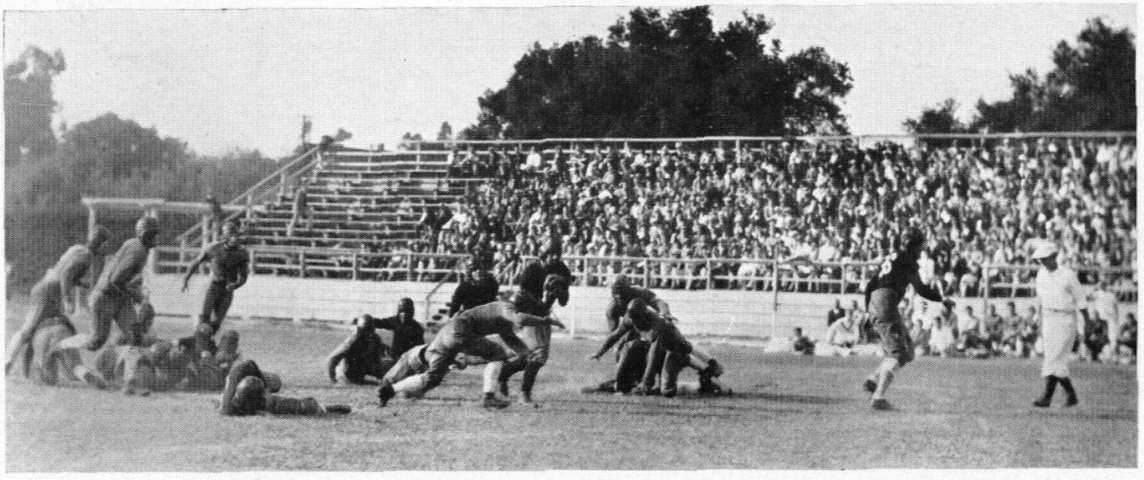
Perhaps the most thrilling period of the game was Muff's tackle of Murdy, who had intercepted a Tech pass on Pomona's thirty-yard line. Muff demonstrated the value of his track experience, and seemingly accomplished the impossible when he outraced the runner, evaded the interference, and got his man. Most of the playing was not sensational, merely two good teams playing straight football.



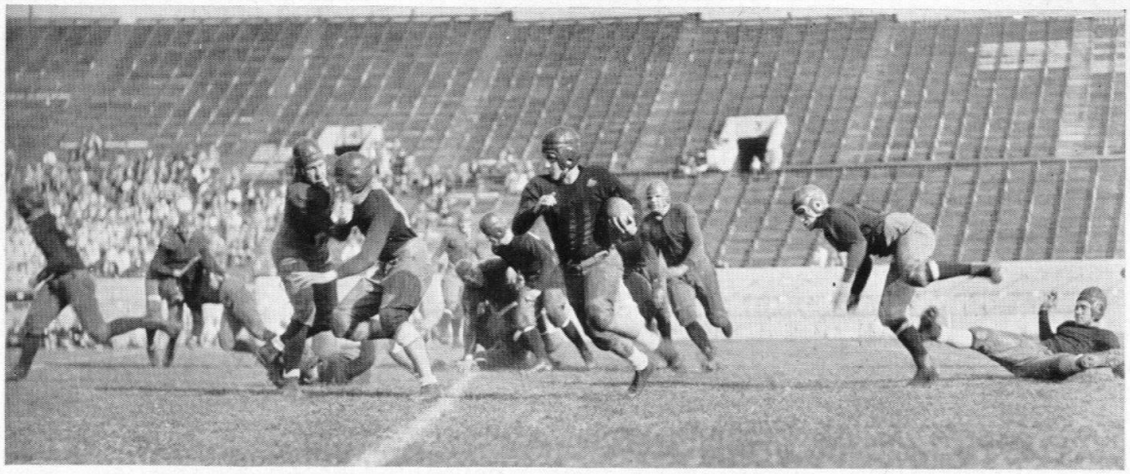
CRAWFORD

It was the tricky shifting of Muff, whose end runs and passes left tthe Pomona line in confusion, and the line plunging of Cravitz and Shields that made the Beaver attack so formidable in this game. The line, making up with science what it lacked in weight, kept the Pomona backfield from galloping in turn, down the field.

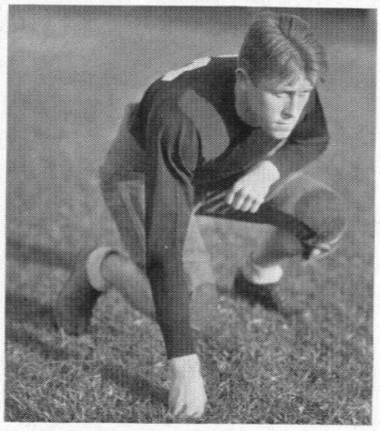
On the Pomona side, Williams, Hartman, and Murdy seemed to be the chief ground-gainers, and with a strong passing attack, made yards when bucking against the Tech stone wall failed. The Pomona line, too, had discouraging strength, and strategy alone enabled the Beavers to gain yardage.



SHIELDS AT POMONA



LIL' DINA BREAKS LOOSE



WESTLUND

LA VERNE

With the lopsided score of 21-0 the Beaver knocked the Leopard's spots all over the Rose Bowl on November 3rd.

During the first quarter, it appeared that the teams were well matched. La Verne pulled a twenty-yard run and completed a long pass, while a punting duel and a few first downs added to the interest.

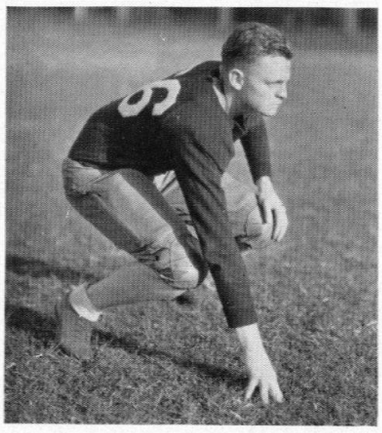
Muff started the second quarter by intercepting passes and making long runs out of them. However, La Verne once put the goal in grave danger. Splendid co-operation between the line and the backs resulted in a touchdown before the end of the quarter.

La Verne, although flashy with several long runs and a lateral pass, could not compete with the steady digging of the Beavers. A Leopard punt, blocked by Frick, and the aerial combination, Boyle to Exley, ran the ball to the second-yard line, whence Shields bounced and ripped his way to a touchdown.

OXY

Fighting, smashing, and tearing its way to victory, the football team, by sheer pluck and brainy playing, upset all dope by defeating the strongest, heaviest team in the Conference, Occidental, in the Rose Bowl on November 10th. The victory was a surprise to everyone because the Occidental team was far heavier and more experienced, and had even made a good showing against U.S.C. But Tech fight stubbornly held back the steam-roller, while alertness and intelligence enabled the Tech men to convert every mistake made by the Tigrs into a score.

The score, 13-7, does not indicate fully the closeness of the struggle. Both Tech scores were made by



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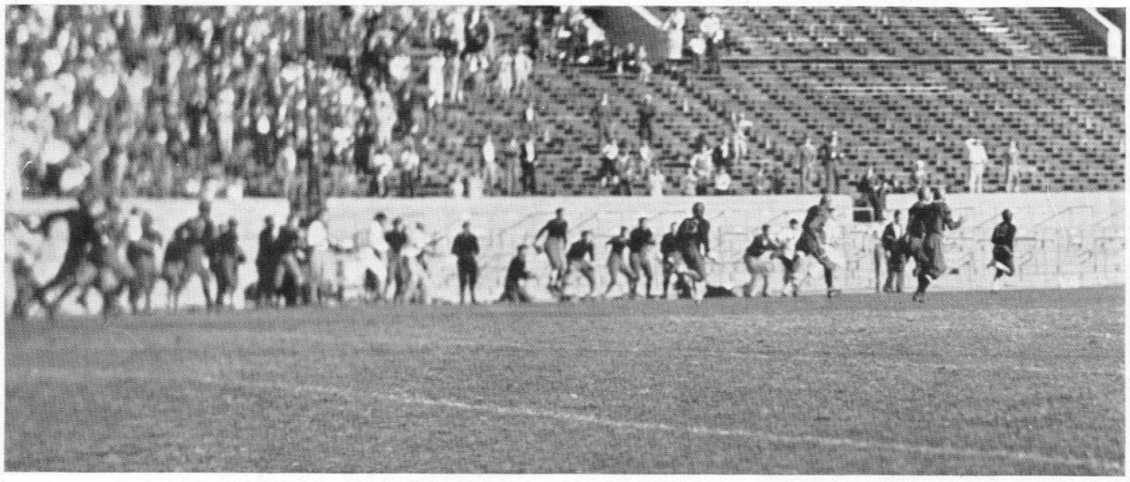
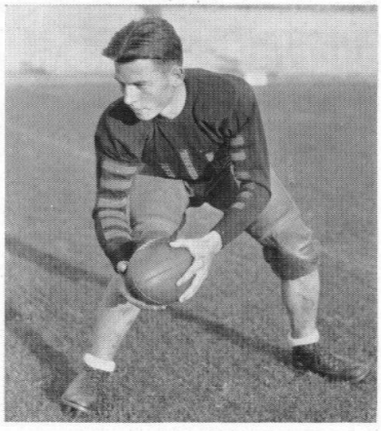


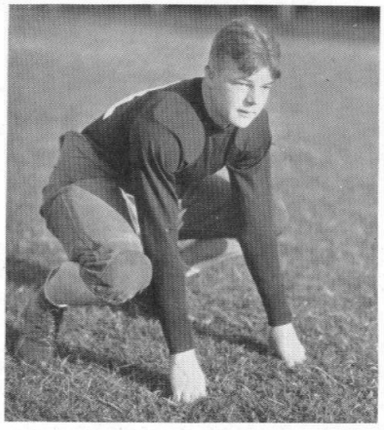
NINTY-THREE YARDS FOR A TOUCHDOWN

recovering fumbles of Occidental. The most thrilling moment of the game occurred in the second quarter when Muff scooped up the ball that had dropped from the hands of the Tiger back, and ran ninety-three yards for a touchdown. Sid Exley made the second touchdown by recovering a fumble behind the Occidental goal line.

Rozelle started the fireworks by kicking off over the goal line. Tech then tried two forward passes but both were incomplete, and so they were forced to punt. The Tigers then, in a flash of good playing, made a first down and nearly succeeded in getting another, but at this point Tech came down to earth. Oxy was held for downs and then Muff and Exley were chiefly responsible for two first downs, but it could not last. Oxy got the ball and Rozelle got off a beautiful thirty-five-yard run, only to lose the ball on a fumble, the very next play. From then on that quarter belonged to Tech, who constantly penetrated deeply into the enemy territory only to lose the ball on downs within the twenty-yard line.



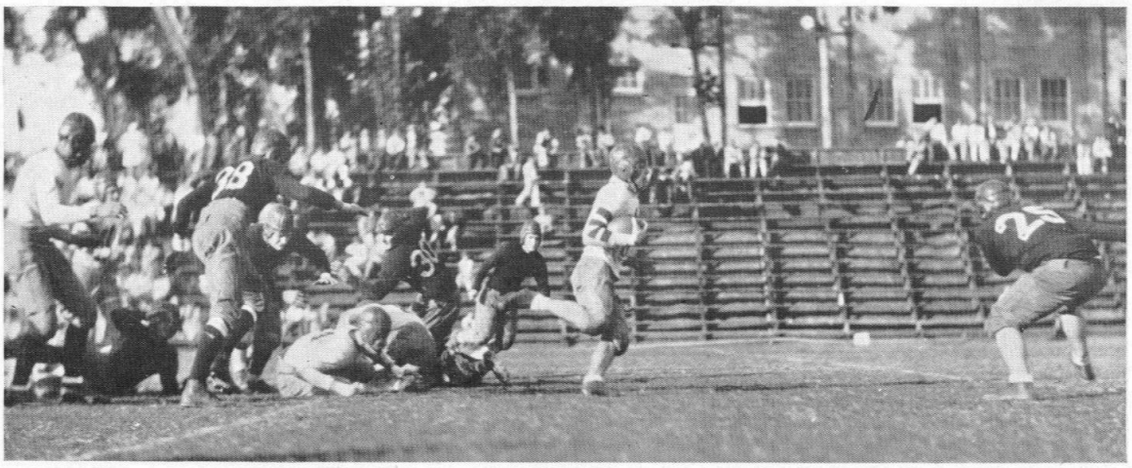
KINGMAN



ALDERMAN

It was in the middle of the second quarter that Oxy chalked up its lone score, as a result of a forty-yard run by Rozelle and a fourteen-yard one by Elliot. A short time later Oxy was on the way to another score, being on the Beaver seven-yard line. Here they fumbled, Muff grabbed the ball and ran ninety-three yards for a touchdown. Much credit goes to Tom Crawford, who performed some quick work to clear a path.

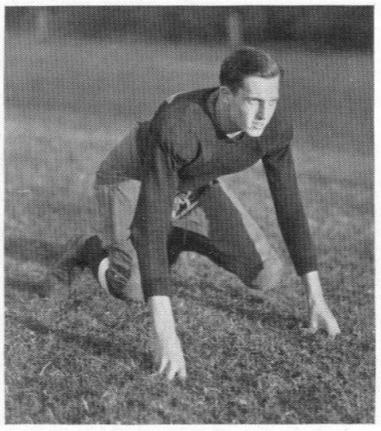
In the second half Tech again broke loose by completing three consecutive forward passes, netting three first downs. However, they lost the ball on the eight-yard line on downs. The third quarter began.



DINK WALKER ON HIS WAY

A few penalties and two good line plays again put the ball on the Tiger's ten-yard line. Then Hunt of Oxy intercepted a pass, but Oxy did not keep the ball for long. A bad pass from center resulted in a fumble, which Exley pounced upon beyond the goal line, giving Tech a second touchdown. The attempt at conversion failed. By this time Oxy had gone to pieces and Tech began ripping through the line. However, it was too late in the game for additional scoring and the game ended.

This defeat at the hands of Tech was the only one sustained by Oxy in the whole conference season, but they were awarded the theoretical championship of the conference because of their victory over Pomona.

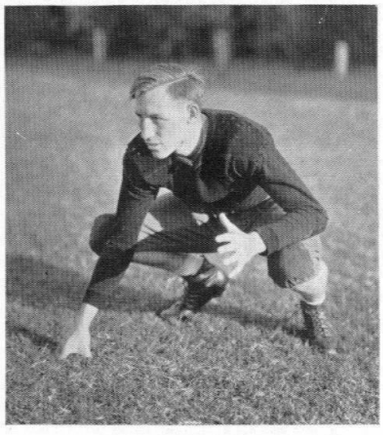


DALY

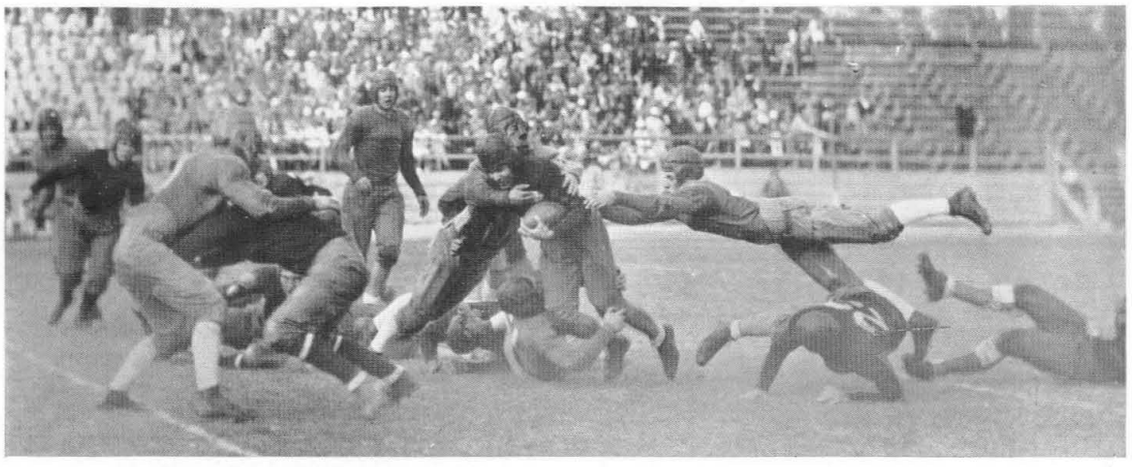
WHITTIER

The Poets with long runs, and the Beavers with their favored passing attack, fought each other to a 12-12 standstill November 17th at the Quaker field. The first thrill of the game came when the Poets recovered the kick-off on the three-yard line and crashed through the whole Beaver team for a touchdown. From then on it was a fight, glorious to behold. The Quakers managed to keep the Tech men busy on the defensive in their own territory for the greater part of the half, until Muff tore off another of his tricky dodging runs. This placed the ball so deep into the Poets' field that a pass and three line bucks tied the score.

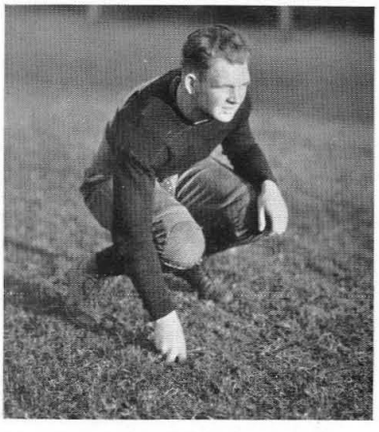
In the second half, cheered somewhat by their brilliant recovery, Tech went wild, while Whittier was determined to tame the raging Beaver. Both sides, tired out from the fast, flashy playing that char-



FRICK



DON GONNA FAW DOWN



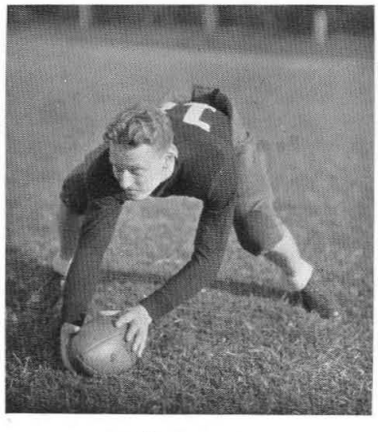
STROUD

acterized the game, were praying for the gun, and spectacular plays, one after another, kept the spectators on their feet. Yardage mounted in each direction, the Quakers varying their running attack with punts. Tech still used the pass to good effect, but was unable to prevent the Poets from driving down the field to another touchdown. Long aerial flights sent the ball deep into the Poets' playhouse, and by consistently good passing Tech managed to garner in the last score of the game. Whittier again ran the ball down the field, but an incomplete pass over the goal line was a break for the Engineers. A punt was returned to the twelve-yard line, whence a pass was good for fifty-three yards. Still passing, the ball was forced to the four-yard line, but Tech was unable to shove it over for the deciding score.

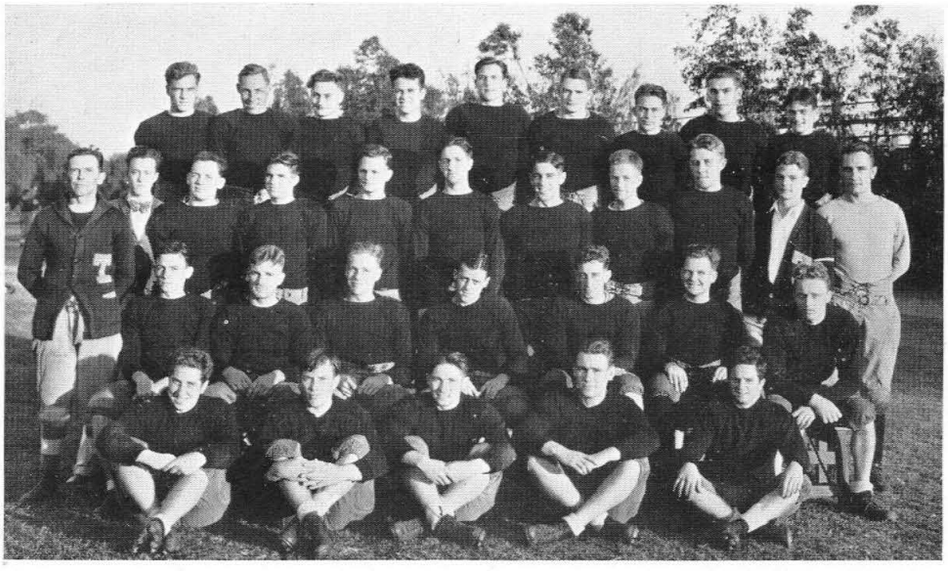
SAN DIEGO

Thousands of San Diegans paid tribute to King Football on Thanksgiving Day when the San Diego State Aztecs were battled by the Engineer squad in the closing game of the season for both teams. And the tribute was repaid by a thrilling game whose outcome was in doubt until late in the third quarter when the Beavers crushed the last offense of the opponents and won 33-12.

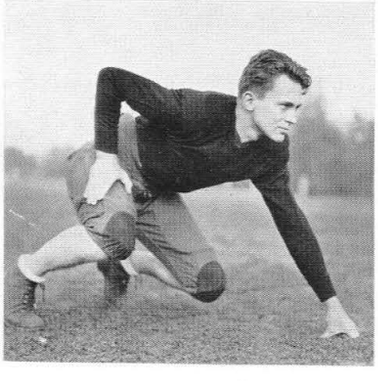
Although the Aztecs had been weakened by losses due to sickness, they were able to feature some brilliant running and passing attacks which continually threatened the Engineers for three quarters. The Beaver squad, not to be outdone, did plenty of running and passing, itself, and added considerable variety to the game through many lateral and forward passes, long spectacular runs, as well as short powerful drives.



LEIDHOLM



THE VARSITY



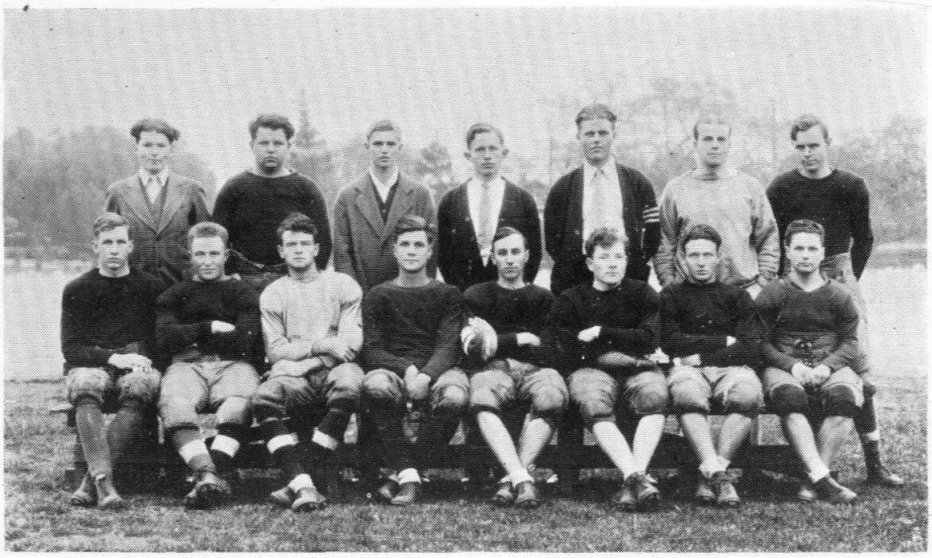
STURGESS

From the very start, action was the keyword. Hopes rose high for the local sympathizers when Avery of San Diego caught a beautiful pass from Endfield after a vigorous attack directly from the kick-off, and carried the ball for the first score. On the next play Captain Muff turned the tables with a spectacular run through the entire State team for a touchdown from the kick-off, thus achieving one of the greatest feats possible in the football realm.

The pace set at the start continued until the middle of the third quarter when another of Muff's brilliant broken field runs widened the margin of the score, and gave the opponents a blow from which they never recovered. When the shades of evening began to fall on the field, and the Engineers were ahead by a comfortable margin of 21 points, Coach Stanton substituted, one by one, the Senior members of the squad who were playing their last game for Tech, until each had his last taste of the intercollegiate gridiron.

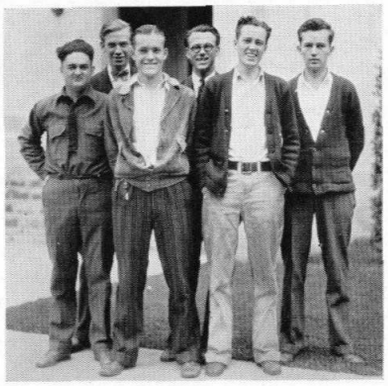
As a tribute to Muff's playing the local San Diego papers boosted him for all-conference honors. In losing Elmer, Tech loses one of its greatest football players. Eleven Seniors played their last for the Engineers: Tech can take pride in the work of Muff, Cravitz, Daly, D'Arcy, Exley, Keeley, Kingman, Olson, Reed, Shields, and Westlund. Tech wound up one of her most successful seasons by tying for second place honors with Pomona, and having lost the championship title by only one point.

BOYLE



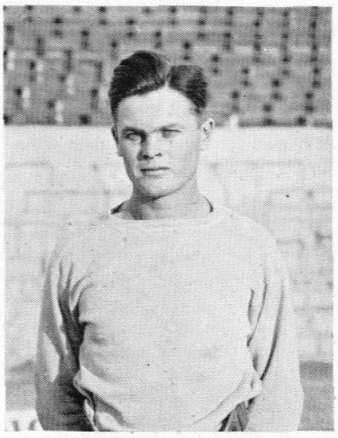
REDSHIRTS

THE SCRUBS



THE MANAGERS

In a summary of the football season such as we enjoyed last fall, mention should be made of that loyal group of men, the Redshirt team, commonly called "scrubs." The function of this squad is two-fold. One part is the training of inexperienced men to the point where they can be used on the varsity. It is a well-known fact that men who enter this institution are not of the type that have had much athletic training in high school. To a great extent, Coach Stanton must develop his own athletes. The scrub squad allows a number of men to get actual playing experience who would otherwise be shut out of the game. Any natural ability in the fellow is brought out as they learn more of the game. Many of the fellows who are now varsity prospects obtained much of their training as Redshirts.



LAYT STANTON

The scrub team is also valuable in the development of team play. It affords the varsity an opponent upon which to practice. The coaches find it necessary to try the systems of defense and plays under fire. The scrubs provide the necessary fire.

Moreover, the scrubs fit very nicely into the scouting system. The advance information that is obtained about the other Conference teams is drilled into the scrubs by Coach Musselman. The scrubs then try to imitate the style of the other conference teams. In this way the varsity is made familiar with their opponents' methods before they actually meet them.

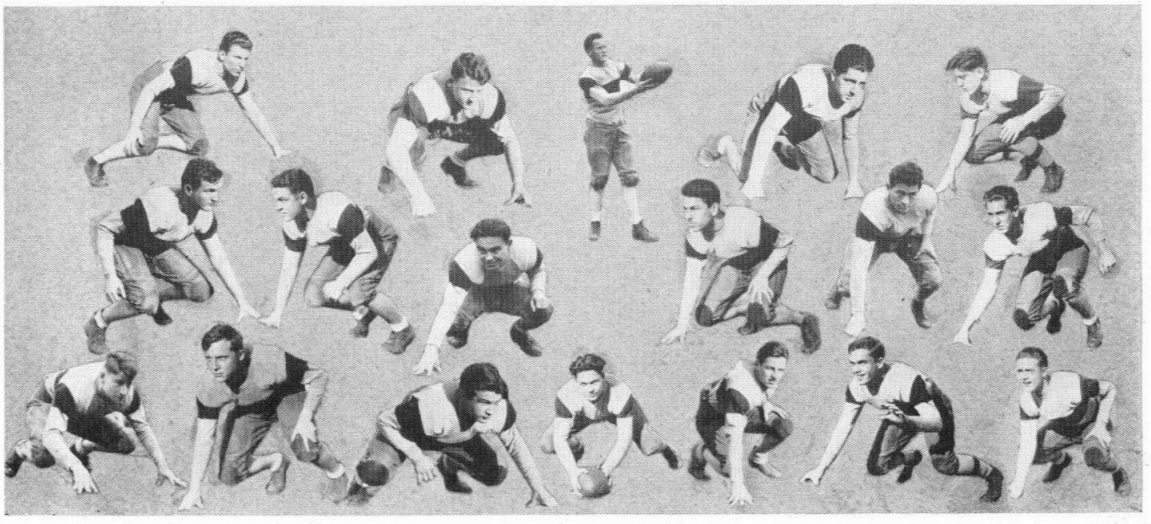
FROSH FOOTBALL

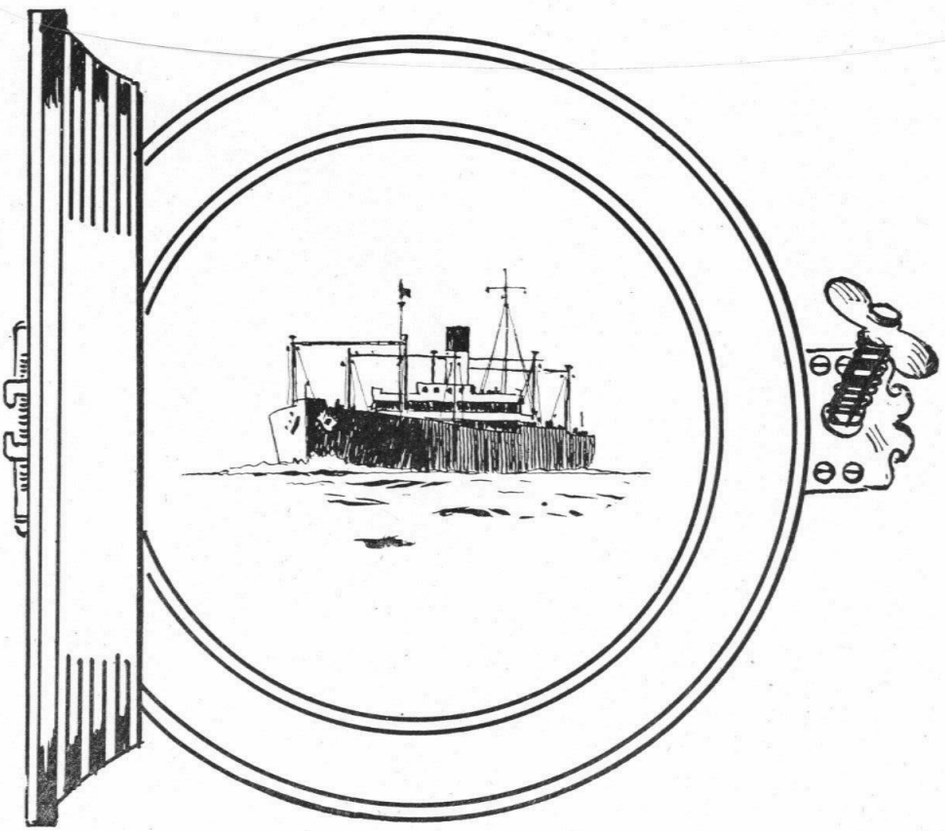
CAPTAIN SHULER

Frosh football season this year was characterized by the large number of men turning out. Fifty men of the Class of '32, the largest number of Frosh ever to turn out, showed up for practice. As a result, despite the fact that as usual few of them had played football in high school, the team completed a successful season, winning or tieing at least half of the games played. Credit for this success belongs to Coach Layton Stanton, as well as to the men, who spent long nights of hard work and plenty of drill in signal practice and the fundamentals, that they might produce a team that would be a credit to Tech.

The struggle with Pomona's chicks ended in a defeat for our aspiring young engineers. The score of this exciting game was 25-2, the latter count due to a smothered punt behind the goal line. The only notable improvement for the Frosh was their ability to march down the field, making four first downs in a row. The following game, that with La Verne, gave our Frosh their first taste of victory, for the score at the end of the fourth quarter was 6-0 in favor of the "Liddle Bivvers." Their ability to fight, and fight well, was shown to the handful that went to this game.

In the third game they met Oxy's cubs at the Rose Bowl as a preliminary to the famous tail-removing contest engaged in by their big brothers. They succeeded in holding that aggressive outfit to a 0-0 score, in spite of the fact that the Oxy Frosh team was considered to be the big threat of the Frosh Conference. They played a fast and smashing game, both teams coming close to the two-yard line, but losing the ball for inability to make a first down. In the last game, that with Whittier, they played an aggressive game, showing a strong line and a fast backfield, which demonstrated its ability to hang onto passes and keep to its feet in any situation.





BASKETBALL

CRAMER

BASKETBALL

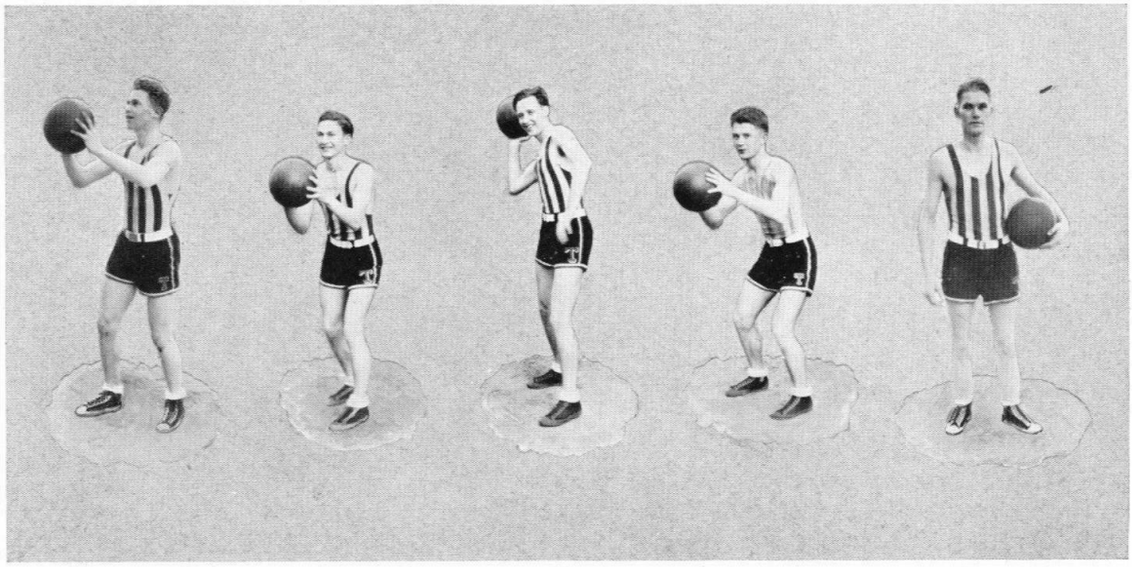
Just preceding the close of the football season, the varsity basketball squad, under the tutelage of Captain "Al" Cramer began practice in the McKinley High School Gym.

The men who made their letters this year were Captain Cramer, Bernhardi, Sinram, Pratt, Fredendall, Tutschulte, and Hodder. Of these, only two men besides the next year's captain, Tom Bernhardi, will be back, Pratt and Hodder being the only nuclei for the next year's team. To the four who do not come back, Tech wishes to extend a vote of thanks for their fine work and their true Tech spirit which made them stay with the game through a long and heart-breaking season.

The prospects seemed fairly good this year, for, with Bernhardi, Sinram and Olson back as lettermen to form about Captain Cramer, and with Hodder, Pratt and Cordes from last year's Freshman Class, and Tutschulte, O'Haver, and Fredendall left over from last year's second varsity to fill in the ranks, the Tech team made a light but fast aggregation. Workouts continued throughout the Christmas vacation, under the expert tutelage of Coach Claterbos, who had taken over the reins after football season. Practice games were held with the Pasadena Athletic Club, the Alhambra Athletic Club, the Y.M.C.A., and various junior colleges in Southern California.

It was during this period that the team received its first serious setback in the loss of Don Olson, versatile running guard. Don was confined to a sanitarium due to poisonous gases inhaled in the Chemistry Laboratory, at the end of the first term.

The Cal Tech basketball season, as it turned out, was very far under expecta-



SINRAM PRATT HODDER TUTSCHULTE FREDENDALL

tion. Although Captain Cramer played a good, consistent game all season, and each of the men at times showed excellent individual work, they failed, as a working unit in the pinches.

The first conference game took place on Saturday, January 5th, with Occidental, on the Tiger's own court. The well-known short pass system of the Tech squad failed to get going long enough at any time to produce results. Oxy jumped into an early lead and though the Beaver aggregation improved their style in the second period they were unable to do better than score 23 points to the Tigers' 48.

The following week, Tech traveled to Whittier with a much-improved team. The first half was a real battle with Tech leading at the half by a close margin. However, a letdown in the second half brought about a disaster for Tech with Whittier doing the devastating to the tune of 34-18.

BERNHARDI

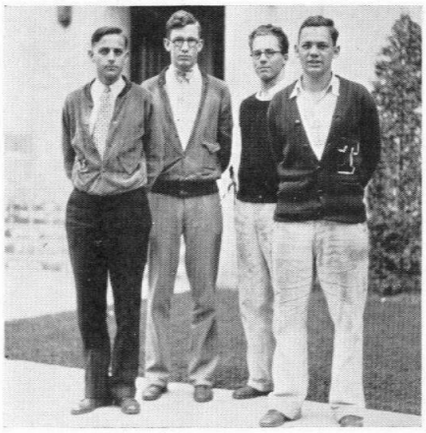
The next game was also away from home, this time at Pomona. Although this was rated to be a close game, the Sagehens, taking little stock in dope, opened up in a dazzling fashion and soon had a lead of 21-2. With a rest at the half and an injection from the coach, Tech came back strong enough to score evenly in the second period, the final count being 45-26.

The sad story of the second Oxy-Tech game is 45-24. The hard-working Beaver simply could not stem the tide of the larger and more powerful Tiger.

The trip to La Verne was likewise disheartening, for a closely contested first half merged into a heart-breaking defeat of 27-17 at the hands of the Leopards.

The best game of the season for Tech was that held in San Diego in which Tech got over some real basketball and threw a tremendous scare into the strong Aztec squad by leading the scoring for the greater part of the game, only to let up a little too soon, losing the game 29-33.

THE SQUAD



MANAGERS

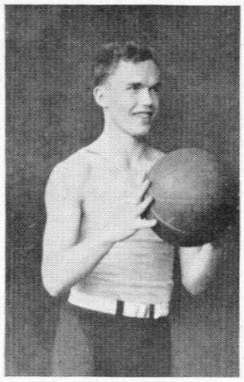
FROSH BASKETBALL

Although this year Frosh basketball season cannot be considered a wonderful success, judging by the number of games won, it really has been much aid in developing players for the varsity squad for the next three years. Coach Musselman worked faithfully with the seventeen practically raw recruits that reported at the first of the second term, and before the season ended, the players had gained much experience and knowledge in the art of handling the "old casaba." The men are to be applauded for their wonderful spirit displayed throughout the entire season, for they were greatly handicapped by the lack of a suitable court and by the inconvenient hours of practice.

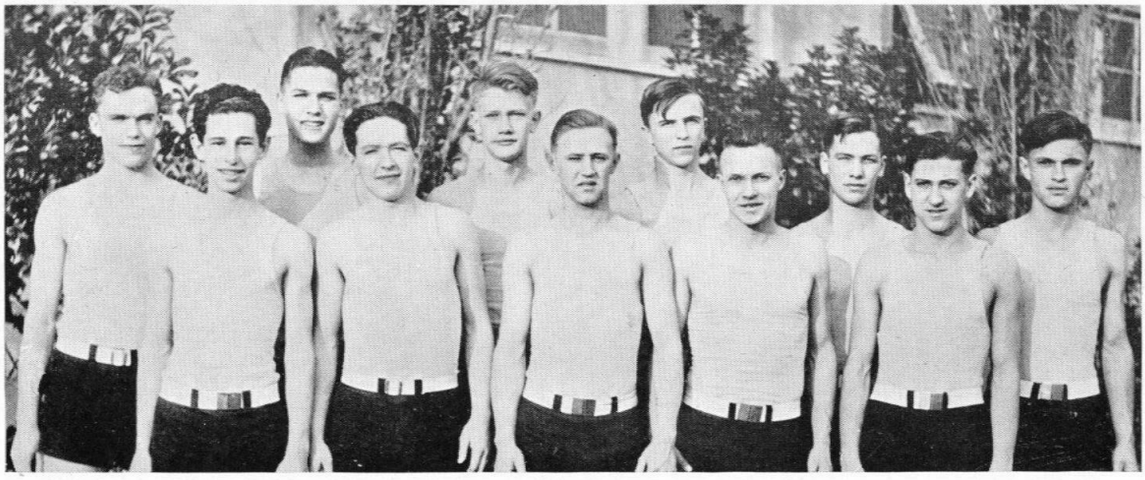
The first conference games, with La Verne and Oxy, were lost by quite decisive scores. However, by the end of the season the men had greatly improved and were barely nosed out by the Redlands team in a hard-fought struggle, which finally ended with the score 17-14.

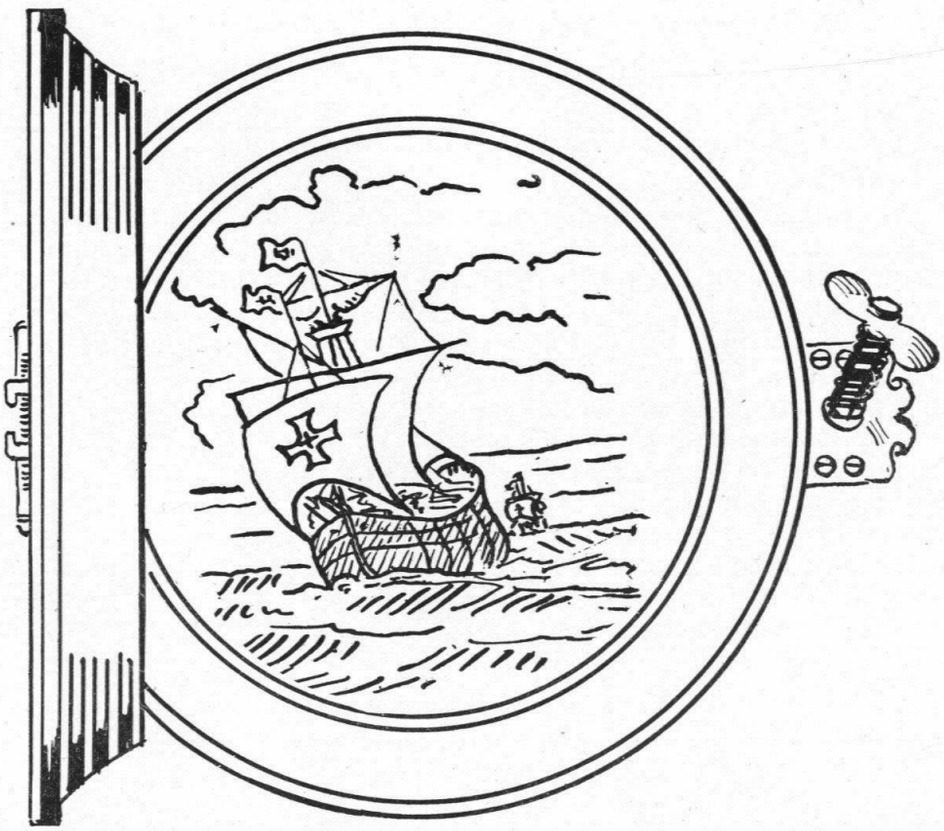
The following men were awarded numerals at the annual basketball banquet held in the Dugout: Captain MacLaughlin, Arnerich, Cline, Crater, Groat, Lani, Lemon (manager), Maass, and Persons.

A difficult task awaits thees men next year. The varsity squad ended its season with a very discouraging record, which must be rebuilt largely through the efforts of the new varsity men, as few veterans will be back. However, the Frosh showed the ability and fighting spirit which is capable of re-envigorating the most demoralized of teams, and will surely carry out their task with zeal.



MCLAUGHLIN





TRACK

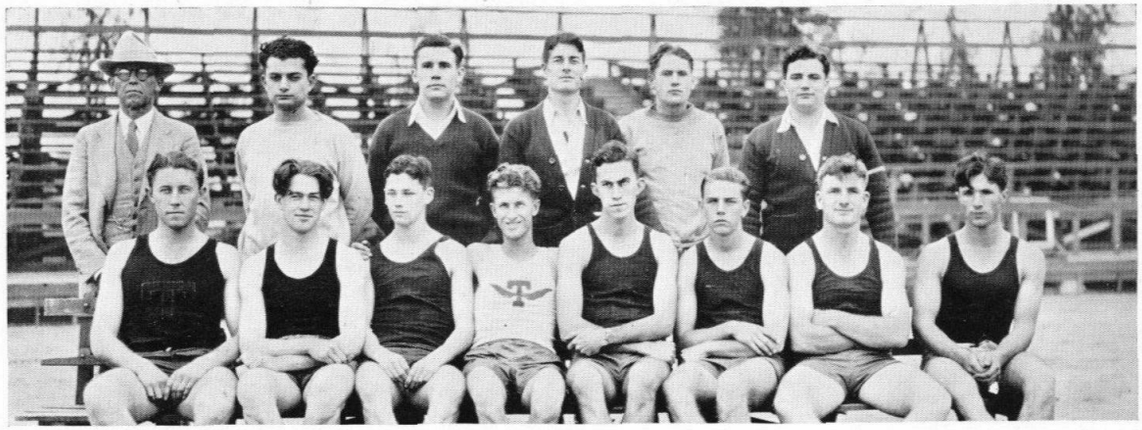
VARSITY TRACK

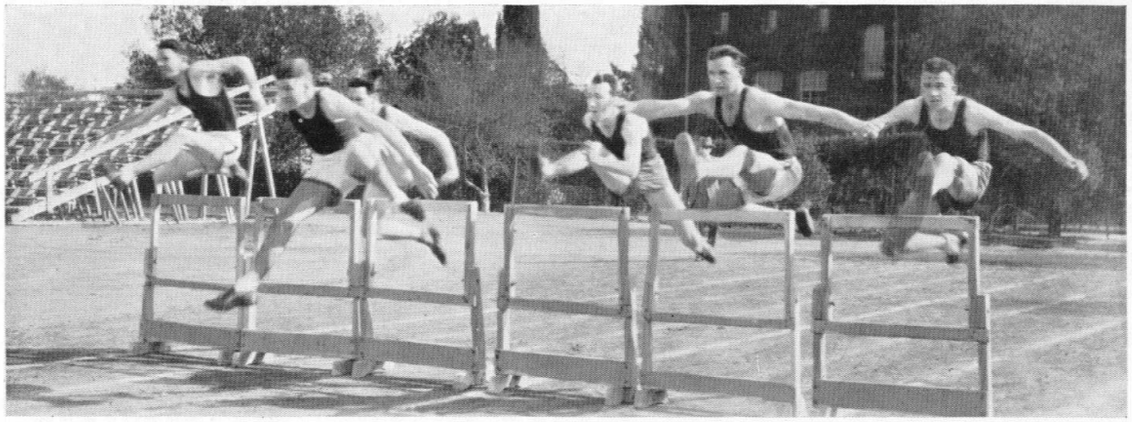
PERRY

AYERS

Captain Douglas Perry has been an outstanding athlete ever since the day he starred at Los Angeles High. As a Freshman he was the best hurdler in the conference, and in the high jump established a new Tech record. At the end of the year he defeated all comers in the first annual intramural decathlon. His Freshman marks in the high and low hurdles as well as in the high jump have never been equaled. In his first year of varsity competition, poor Doug was so hampered throughout the season by a badly sprained ankle that all he could do was to finish fourth in individual point honors and to hang up a new record in the low hurdles. This was the year of our "Wonder Team" when he had to compete with men like Murray Schultz for individual honors. As a Junior he got down to business. This consisted of making fifty points in four meets; in addition he broke his own high jump and low hurdle records. This brilliant performance merited him the position of Captain in his final year of varsity competition. Not satisfied with his previous records, Captain Perry proceeded to remodel both of them to accord with his advanced ideals. He equaled and narrowly missed breaking his high jump record a second time during the season. In five meets he earned sixty-eight points for an average of nearly fourteen tallies in each meet. In neither of his last two years did any of his team-mates even approximate such totals. In addition to his three specialties Perry also ran in the relay whenever necessary. Such fighting spirit and ability were not the only attributes that rendered him a great leader. His advice and encouragement were always ready to inspirit his team-mates. Doug Perry will long be remembered as a great athlete and a great sportsman.

Leaving their rivals mired in the rain-soaked track, the Seniors paddled their was to a decisive victory in the Annual Interclass Track Meet. Captain Doug Perry and Larry Lynn, last year's captain, led the scoring with 11½ points each.





PERRY WINS AT U.C.L.A. AFTER A POOR START

The next week Pasadena Junior College was overwhelmed by Coach Stantons' fighting outfit, and later, Glendale Junior College, the Southern California Junior College Champion, was likewise defeated. Tech was able to take only a few thirds in the A.A.U. relays.

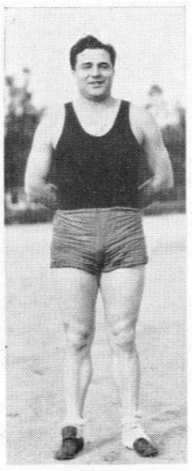
In the Bulldog meet the 220, middle distances, pole vault, and relays were the only events that Redlands managed to win. Scoring first or second in practically every event and clean sweeps in some, the Engineers rolled up a score of 93 2-5 to 46 3-5. This is a slight improvement over last year's total. Perry, as usual, was high point man, closely followed by Westlund and Ayres.

The Oxy meet appealed to the spectators because of the rivalry between the two teams, and because of the thrills furnished by some of the individual contests. The 440 and 880 were interesting enough, but it was the high hurdle race that accounted for the greatest exuberance among the Tech followers. In his eagerness to defeat Perry, Wendel Smith of Oxy knocked over too many hurdles, and so "invincible Doug" was a high point man again. The Beavers had their own way in the hammer, but Oxy retaliated with clean sweeps in the shot and discus. Although the champion Tigers were victors to the sad tune of 93-74, the Tech men take comfort in the fact that their efforts are an improvement.

WESTLUND

The Tech navy set sail for San Diego, waged a bitter offensive against the Aztecs, but lost the most interesting and hard-fought meet of the season for lack of reserves. The figures 65-75 gave no true indication of the closeness of the contest. The duel was not decided until our improvised relay team finally lost a desperate struggle. Running the hurdles on a curve on the unfamiliar track, Doug Perry was the individual star with his usual firsts in the hurdles. His tie for first with Kircher in the high jump put him one point ahead of Brose, the San Diego weight man, who broke his

EXLEY



LUFKIN

college record in the shot and in the discus and who gained second to Lufkin in the hammer. All the men showed improvement over their previous records.

One hundred one to thirty-eight is the sad, sad story of the severe drubbing our Varsity received at the hands of the Sagehens. The score is almost identical with the result of the encounter in 1928 when Pomona received 101 1-3 digits. At that rate of improvement it would be almost a century before we succeed in walloping Pomona College. Perry was forced to share high point honors with Bishop of Pomona, who came within 1-3 of a point of Doug's total for this meet. Lufkin, who won the hammer, was the only other Tech man to win a first place. Ayers unfortunately tore a ligament while running the century. This injury caused him to lose first place in this event, and put him out of the broad jump and the 220 as well as subsequent engagements of the track season.

Tech did very well, indeed, to hold U.C.L.A. to a 95 to 45 score. The powerful Pacific Conference outfit experienced considerably more opposition than it had encountered the previous season. Perry dragged down his customary 10 points in the hurdles. He was closely followed by Dickey in the highs and by Exley in the lows. He just missed 6′ 2″ in the high jump, and therefore had to be content with second in that event. Kircher did well to win third place at 6′ even. Shields and Butler placed one and two in the javelin. In the hammer throw Lufkin effected a beautiful heave of over 140 feet. This mark was nearly 15 feet better than that of his nearest competitor.

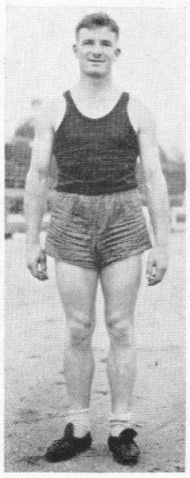
In the Poet meet carelessness, over-confidence, vacation, the under-sized Whittier track, and Old Man Inelligibility combined to play havoc with the Tech side of the dope sheet. Tech won, however, by sheer force of numbers. George of Whittier was high point man, winning the broad jump and both sprints. Kleinbach ran a fast mile and Les Scott took Perry's place in the high hurdles, while Exley won the lows. Mort Shields took the two-mile with Kleinbach second. Lufkin, Holzman, and Alderman made a clean sweep in the hammer throw. Clyde Shields made the winning toss of the javelin and spun the discus into first place, followed by Peer and Sturgess. Mauzy tied for first in the high jump. The score of 83½ to 55½ does not compare with last year's aggregate of 101 2-3 to 38 1-3.

The Conference Meet at the Coliseum was a source of disappointment to the Engineer supporters. Lufkin had an off day and got third in the hammer with an unfortunate heave of only 130 feet. Perry was leading in the high hurdles when he tripped, but with a marvelous recovery he managed to take fourth. He took third in the high jump which was won at 5′ 10″. To compensate for these losses he ran a beautiful race in the low hurdles to win in the excellent time of 24.4 seconds. That broke the college record, which he had himself established. Although a number of Engineers ran creditable races, the only other men to break into the point column were those on the relay team (Eastman, Evans, Wilson, Mason), who copped third place with Oxy and Pomona ahead of them. Tech piled up 12 points to nose out Whittier for fourth place in the Conference.

M. SHIELDS

From the results of this meet, an All-Star Southern Confer-

ence team was chosen to tackle Stanford. Doug Perry and Schild Lufkin were selected to represent Tech. Although the Stanford National Champions made three times as many points as the All-Stars, we can well be proud of the achievements of Perry and Lufkin. Doug tied for first place in the high jump, and took a very close third in the hurdles. Lufkin tossed the hammer out of the lot to defeat his rival, Brose, of San Diego, and the best that Stanford could offer. Incidentally, this proved that his defeat in the Conference Meet was nothing more than a fluke. It is interesting to note that Cal Tech, with two men, was able to make ten points; whereas, Oxy, with ten men, could make only eight tallies.



C. SHIELDS

A summary of the track season indicates that the individual members of the team steadily improved throughout the season; also, this year's showing compared to that of last year in each case indicates what is usually a marked improvement. Captain Douglas Perry established two new records that no doubt will last for many years. In the meet with Occidental and in the meet with U.C.L.A. he cleared six feet one inch in the high jump. His brilliant time in the Conference low hurdles was 24.4 seconds, or two-tenths of a second under his old record, which he had established last year. Because of the unusual strength of the Freshmen this year it is certain that the team will continue to improve in the next few years.

A word must be said for Coach "Fox" Stanton, who has developed an experienced bunch of slide-rule experts into a regular track team. The Coach does not believe in making his men undertake more than they can do without undue strain, and he makes every effort to keep the training from being mere work and drudgery. With him it is improvement that counts. Each contest is looked upon not as a grim battle to win, but rather as an opportunity to derive the pleasure of competition and good sportsmanship. That this point of view is becoming more widespread is indicated by the friendliness and courtesy of most of the individuals of the opposing teams.

KIRCHER

With the graduation of Perry, Exley, Lufkin, the Shields brothers, Scott and Wheeler, the prospects for a championship team would be rather gloomy if it were not for such stars as Kleinbach and Ayres and the members of the championship Freshmen team. Therefore, with Coach Stanton's genius for developing new material and with the aid of a numerous second team, the chances for a strong, all-round squad are materially brightened; however, it must be confessed that no such stars as Perry and Schultz loom on the immediate horizon.

Captain Perry, hurdles and high jump; Exley, 100 and low hurdles; Lufkin, hammer; Clyde Shields, discus and javelin; Mort Shields, two miles; Westlund, hammer and shot; Kircher, broad jump and high jump; Mauzy, high jump; Ayres, sprints and broad jump; Scott, high hurdles; Eastman, 440, 220, and relay; Kleinbach, mile; Wheeler, pole vault; Anderson, pole vault; and Dickey, pole vault and high hurdles; Graff, sprints. All were awarded their well-earned track letters after a hard season full of stiff competition.

EASTMAN

TRACK EVENTS

100-Yard Run—Ruth (O.), 1st; Belman (O.), 2nd; Ayres (C. T.), 3rd. Time: 10.3 sec.

220-Yard Dash—Ruth (O.), 1st; Belman (O.), 2nd; Howard (O.), 3rd. Time: 23.1 sec.

440-Yard Run—Appleton (O.), 1st; Fairbanks (O.), 2nd; Eastman (C.T.), 3rd. Time: 51.9 sec.

880-Yard Run—Imler (O.), 1st; Mullard (O.), 2nd; Wilkinson (C.T.), 3rd. Time: 2 min. 6.8 sec.

Mile Run—Imler (O.), 1st; Goodheart (O.), 2nd; Kleinbach (C.T.), 3rd. Time: 4 min. 43.8 sec.

Two-Mile Run—Crawford (O.), 1st; Shields (C.T.), 2nd; R. Smith (C.T.), 3rd. Time: 10 min. 38.8 sec.

120-Yard High Hurdles—Perry (C.T.), 1st; Hall (O.), 2nd; Love (O.), 3rd. Time: 15.8 sec.

220-Yard Low Hurdles—Perry (C.T.), 1st; W. Smith (O.), 2nd; Hall (O.), 3rd. Time: 25.6 sec.

Relay—Cal Tech (C.T.) Evans, Wilson, Eastman, Mason. Time: 3 min. 36.9 sec.

FIELD EVENTS

Hammer Throw—Lufkin (C.T.), 134 ft. 4 in.; Westlund (C. T.), 120 ft. 9½ in.; Alderman (C.T.), 114 ft. 2 in.

Discus—Brown (O.), 121 ft. 2¼ in.; W. Smith (O.), 118 ft. 2 in.; Coyne (O.), 114 ft. 6½ in.

Shot—Coyne (O.), 43 ft. 3 in.; W. Smith (O.), 40 ft. 4 in.; Brown (O.), 39 ft. 9 in.

Javelin—Carrey (O.), 172 ft. 6 in.; Shields (C.T.), 156 ft. 4 in.; Butler (C.T.), 147 ft. 3 in.

High Jump—Tie for first between Perry (C.T.) and Hall (O.), 6 ft. 1 in.; Love (O.), 6 ft.

Broad Jump—Hall (O.), 21 ft. 6¾ in.; Kircher (C.T.), 21 ft. ½ in.; Kremers (O.), 20 ft. 4½ in.

Pole Vault—Dixon (O.), 12 ft.; Anderson (C.T.), Dickey (C. T.), and Wheeler (C.T.) tied for second, 11 ft. 6 in.

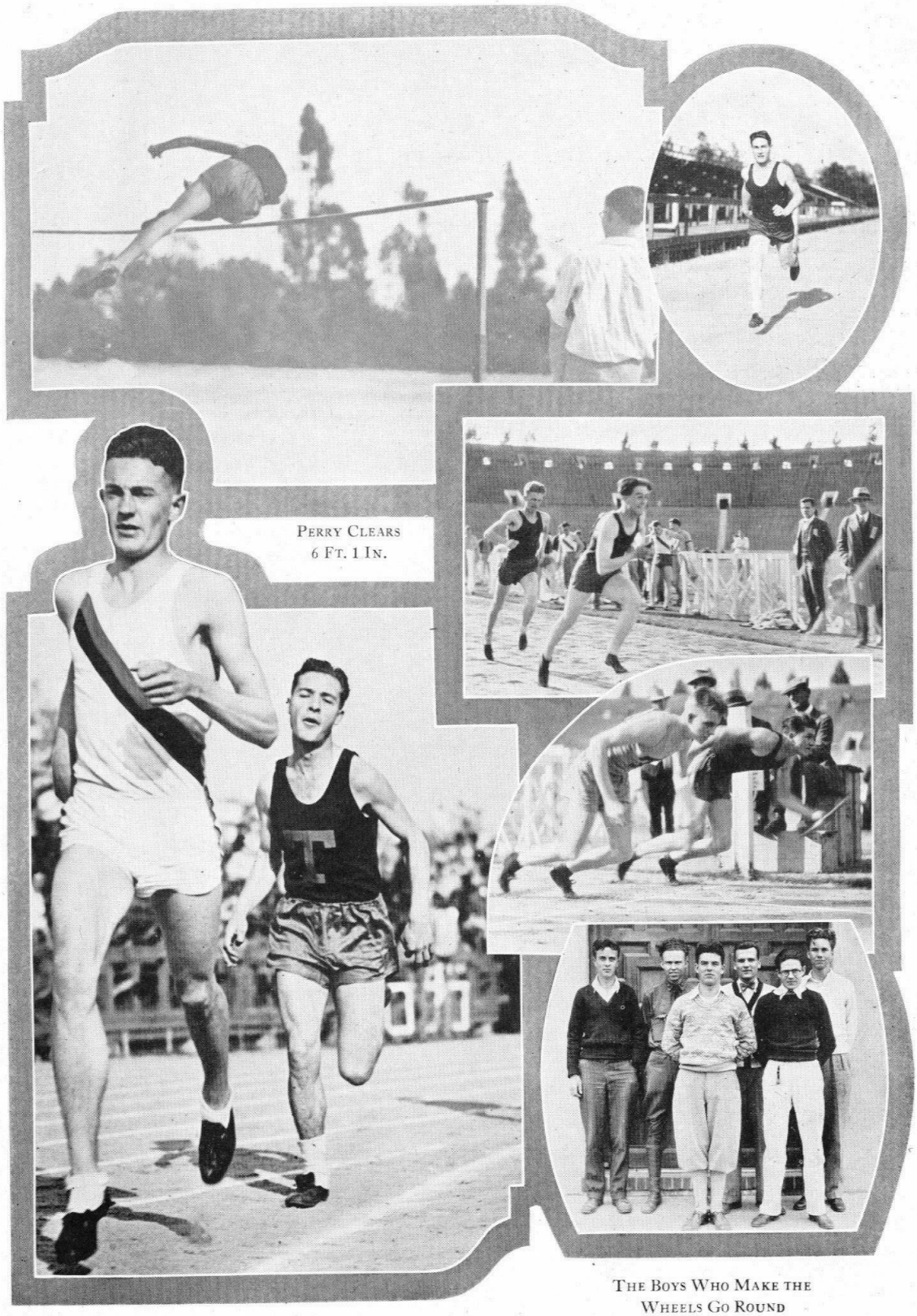
KLEINBACH

DICKEY

COLLEGE TRACK RECORDS

EVENT	HOLDER	RECORD	YEAR
100	Schultz	9.7	1927
220	Schultz	21.3	1926
440	Lynn	51.5	1926
880	Baustian	2:3.7	1928
Mile	Keech	4:31.4	1924
Two-Mile	Keech	9:52.2	1924
High Hurdles	Pomeroy	14.8	1926
Low Hurdles	Perry	24.4	1929
High Jump	Perry	6′ 1″	1929
Broad Jump	Kircher	22′ 4¾″	1928
Pole Vault	Graham	13′ 2.16″	1926
Hammer	Moyse	146′	1924
Shot	Edwards	43′ 6¾″	1926
Discus	Edwards	124′ 6¾″	1926
Javelin	Hoover	189′ 11½″	1927
Relay	Meserve, Schultz, Lynn, Pomeroy	3:25.0	1926

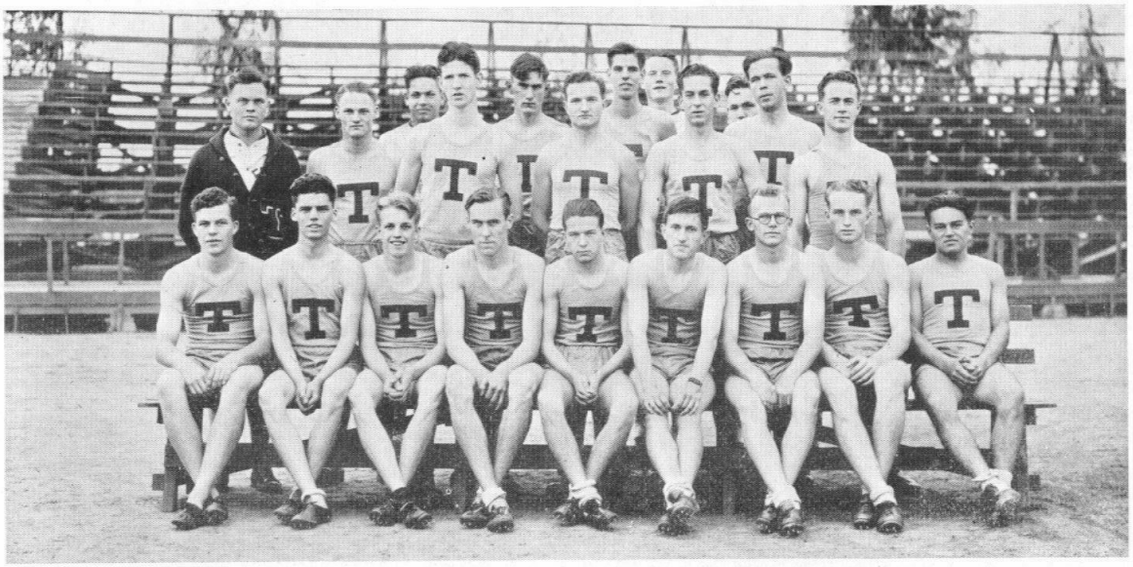
WHEELER



PERRY CLEARS
6 FT. 1 IN.

CRAWFORD OF OXY LEADS SMITH

THE BOYS WHO MAKE THE
WHEELS GO ROUND



THE SQUAD

FROSH TRACK

With the record of three victories and no defeats in conference dual meets; two victories and one defeat in practice meets; and, to top off a successful season, a substantial victory in the Freshman Conference Meet, the Freshman track squad this year made history, history that will not soon be forgotten. Though the material available at the first of the season seemed no more than average, Coach Layton Stanton soon discovered a great deal of talent, and built up a well-rounded team of trackmen.

The first indication of promise was the performance in the Interclass Meet. Though rated a fourth place with twenty points, the Frosh took third with thirty-eight, a bare two points behind second place. This was done without the aid of at least three of the most promising men. As it was, Simpkinson was high point man for the Frosh in the meet with nine points.

The first conference meet of the season was that with Redlands. Though the Bulldog squad had two good men, it was not the well-rounded team that Tech was. The meet consequently went to the Institute men without much struggle. While Brown and Wood of Redlands took all firsts up to and including the mile, Tech blanked the Redlands crew in six events.

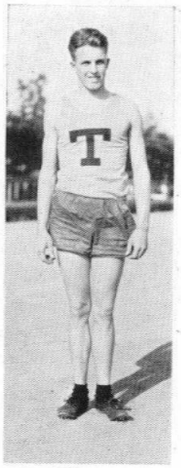
The following three weeks, the Frosh cindermen engaged in practice meets with Monrovia High School, South Pasadena High School, and U.C.L.A. Frosh in that order. Monrovia was an easy victim, the Frosh taking all but four first places and finishing on the large end of a 75-37½ score. South Pasadena was not so easy to overcome and only the relay brought the score to 60-53, a bare win for the Babes. U.C.L.A. furnished the single loss of the season to the Frosh squad by administering a 98-33 trouncing.

The A.A.U. Relays held in the Coliseum about this time found entries from the Tech Frosh in the four-man mile, four-man two-mile, and the medley relay. These entries fared with varying success against the other Frosh teams of the conference, the medley group taking second and the four-man mile winning a clear

victory from the start in time close to the conference record. The team was composed of Freeman, Evans, Adams, and Rhyner.

In the Occidental meet which followed soon, Tech was rated only an even chance to win, but when the day was finished, Occidental was sadly the loser, having taken a bare thirty points. Whittier, the last conference school scheduled to meet the Tech group, had no Freshman squad, so the Tech Frosh participated in the Whittier-Tech varsity meet, taking six firsts against this competition.

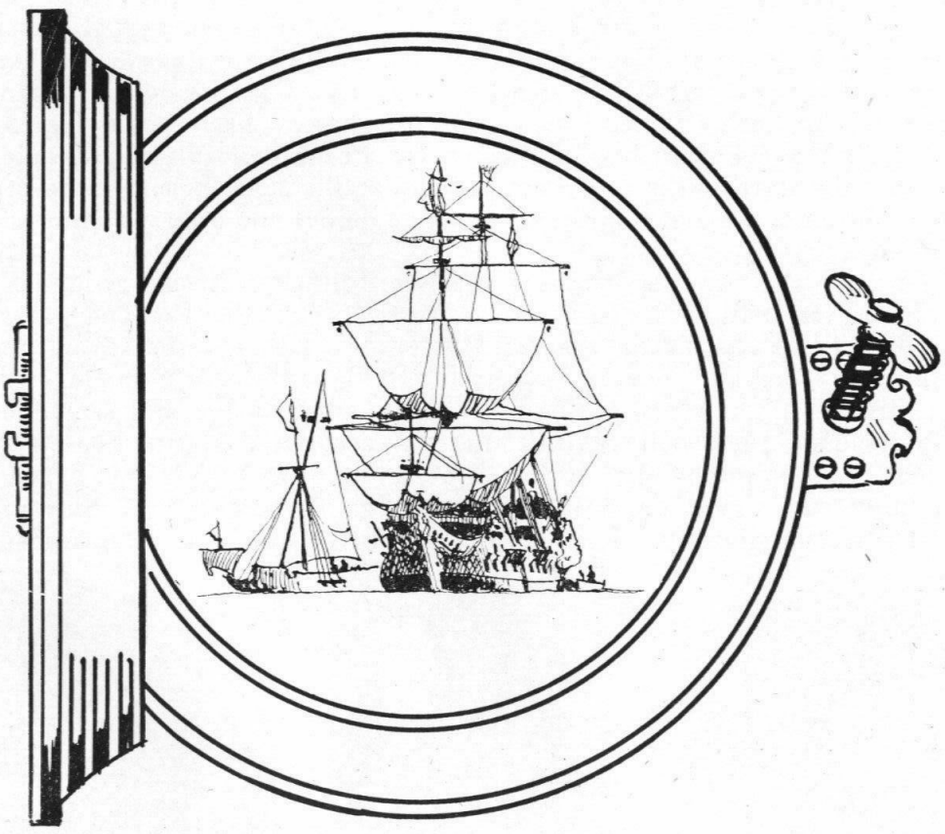
The crowning effort of the year was the performance in the All-Conference Meet. San Diego was the most serious rival and made things interesting for the Tech squad throughout the day. But despite the fact that the San Diego team included two track wonders, who rolled up the prodigious score of some thirty-five points between them, the well-rounded Tech aggregation compiled a total of fifty-four and one-half points, a score amply sufficient to carry the meet against all comers. Fourteen Tech men placed in this meet with Schuler having high point honors by a total of thirteen points from two firsts and a second in the weights.



CAPTAIN FREEMAN

In looking over the records of the season the following points are found: Bob Freeman was elected captain of the squad, seven meets were engaged in by the Frosh squad, and only one resulted in a loss. Of the seventeen Institute Freshman Track records the Class of '32 holds seven. Skoog holds the records for the mile, and two-mile; Adams the record for the four-forty; Schuler the three weight records in the hammer, discus and shot; and the relay team the record in the four-man half-mile. In the A.A.U. relays the Tech four-man mile team won its event (and gold medals) in fast time. Schuler, Hayes, and Freeman were high point gatherers for the season. The Frosh track squad of 1929 was the first in the history of Tech to become Conference Champion.

The team roster includes Freeman (captain), Adams, Evans, Rhyner, and Woods, dashmen; Skoog, Harshman, Bradburn, Polk, Bergren, Chambers, Lind, and Nicholson, distance men; Hayes, and Simpkinson, high jumpers and hurdle men; Wengren, Parsons, Barton, Shaul, high jumpers and broad jumpers; Jones, pole vaulter; Schuler, Huntley, Keeley, Johnson, and Hegardt, weight men; Mathews, javelin thrower; Bates, manager.



BASEBALL

BASEBALL

With three major sports already closed, Tech athletes turned their attention to baseball. With the returning veterans: Pritchett, Scharf, Cramer, Hillman, Reed, Boyle, O'Haver, Muff, Scullin, and Sinram, came a few Frosh numeral winners of last year: Crawford, Green, Futcher, and Bell; and Tutschulte, Cordes, Wheeler, Towler, Hatcher, Hall, Bowen, Thayer, Merrihew, Randall, West, and Keachie, answered Coach Musselman's first call for practice. After a few weeks' practice the starting infield was usually Pritchett, catcher; Reed, pitcher; Cramer, first; Muff, second; Boyle, short; O'Haver, third; and the outer garden was usually planted with three of the five fly-chasers: Green, Sinram, Scullin, Towler, and Futcher.

Perfect balance between games won and games lost was maintained by the Tech squad during its pre-season era. Monrovia High, Santa Ana J.C. and Cal Christian tasted Beaver meat with varying size of bite. The Santa Ana J.C. game was lost 7-6 only after a hectic tenth inning struggle. Tech defeated Cal Christian in their second meeting, winning in the ninth when O'Haver knocked a home run with one man on. Fullerton J.C. and Pasadena J.C. Upper Division Teams were both defeated by Tech. During the conference season, Tech was defeated by the strong Loyola College team 10-5 and won from Franklin High and Pasadena J.C. again. For the start of the conference schedule, the Tech Baseballers were in the best of condition because of their many practice games and able coaching of Coach Musselman.

Many were the Sagehen feathers that were found scattered around Paddock Field on the last Saturday afternoon in March when the Pomona Horsehiders met the Beaver baseballers in the first conference game of the season and went down to a 10-8 defeat. The batting attack of the Engineer clouters, led by last year's captain, Elmer Muff, gave the Tech squad the edge and sent one of the Pomona hurlers to the bench. Muff's bludgeon accounted for one home run, made on the first Pomona pitched ball of the game, and a three-bagger that barely missed being a home run. Two-base hits were the order of the day, with Sinram, Boyle and Pritchett contributing. Many times almost certain outs were miraculously

CAPTAIN REED

PRICHETT

TOWLER

averted by the alertness of the Tech base-runners and the timely errors of the Pomona team.

Captain Homer Reed proved that he was capable of having his most successful season in the box and little chance appeared that Hillman would be called on to do his relief pitching, for which he became famous last year. In the first inning Pomona ran wild and scored four runs before Homer settled down to keeping the visiiting team well in check for the remainder of the game.

The only other time that the Sagehens threatened to score was during the ninth. Poke Hartman, a portsider, clouted a home run down the left field base line and onto the track at the 220 starting line. Luckily there were no Pomona men on base and Reed tightened up, retiring the side before any further threats materialized. Over the entire route, Captain Reed allowed only six men to get to first not on their own efforts and retired ten batters without giving them the smell of the horsehide.

Again the La Verne Leopards invaded the haunts of the Beavers and returned home, not with the Beaver, himself, but with a goodly portion of his dam by virtue of a 6-5 defeat that the Engineers were forced to accept. The Tech squad was considerably affected by an early season nervousness which was responsible for several bobbles that more practice could easily have ironed out. The Leopards attacked the Engineer stronghold with a team of veterans who were exceptionally adept at turning the Tech errors to their advantage.

Kreps, a veteran pitcher, allowed twelve hits, but kept them sufficiently scattered to prevent too many of them materializing into runs. The more sure playing of the La Verne Leopards rather than a noted superiority in fielding and batting gave them the victory. Only in batting and pitching did the Engineers surpass the efforts of their rivals. The expected batting barrage was too slow in starting, and when it finally got under way it was not consistent enough to change more than five of the twelve safe hits into runs. Al Cramer, the stellar first baseman, knocked the horeshide deep into center field for the only two-bagger of the game and incidentally the only hit during the game that enabled the runner to get that far.

O'Haver

Muff

Sinram

CRAMER

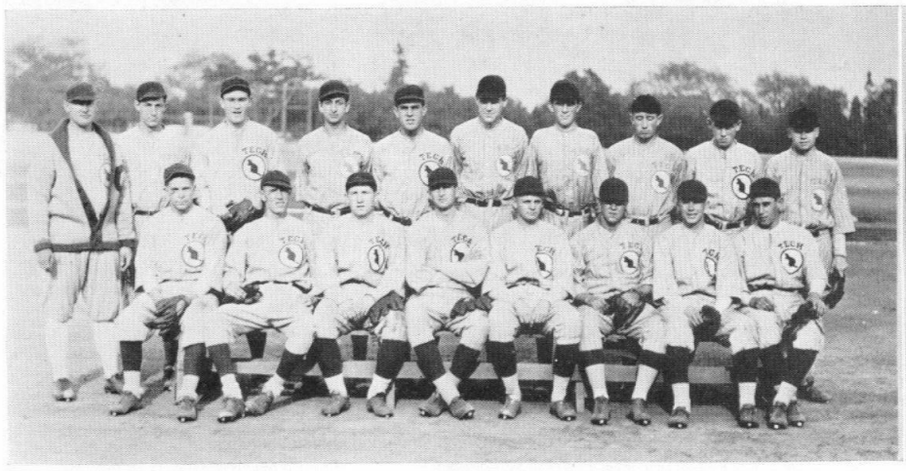
The powerful baseballing Bengals met the Beavers on the Oxy diamond, and forced the Engineers to accept a 9-0 defeat in their third conference start. The Occidentalites began the season with little hope of a championship team, but by virtue of several practice games in which they made good showings, entered the conference race as favorites.

For once the Tech batting barrage met its superior in the Oxy clouting strength. Al de Hoag, the Tiger's stellar hurler, led the attack with a three-bagger after the Tigers had been held to three scoreless innings by Homer Reed. Nathan, left fielder, carried on the clouting attack with two home runs later in the game. Three hits were all that Al de Hoag allowed to Tech batters, while his team-mates garnered eleven safeties at the expense of Reed. Captain Reed of the Engineers hit a two-base clout, which was as far as any Tech man got around the bases.

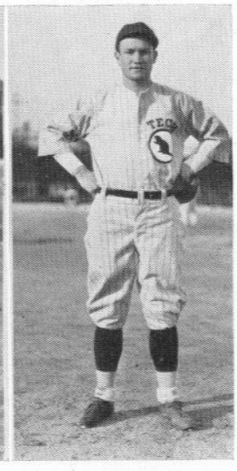
BOYLE

De Hoag starred in the hurling department, allowing only three hits, letting six men to first on balls, and relieving seven Tech batters of the necessity of further interest in hitting the ball. Homer Reed starred in both hitting and hurling departments for Tech, hitting a two-base hit and staving off the Tiger's attack as long as he could. Jack Pritchett, our stocky catcher, showed confidence and intrepidity when he leaped over a four-foot fence in an effort to catch a foul ball.

Mildly turned back by La Verne, and completely bewildered by the Oxy Tigers, the Tech slugging barrage found itself in the game with the San Diego Aztecs, and clouted the ball all over the Aztec diamond as the Staters went down to a 16-4 defeat. Mickey O'Haver led the slugging department of the game with



THE SQUAD

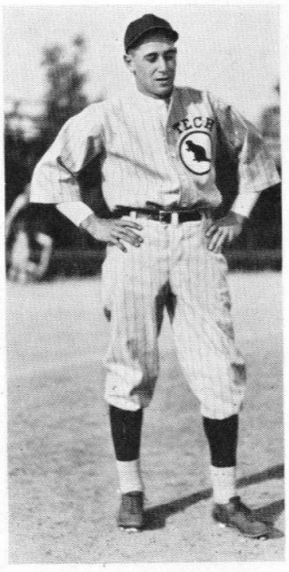


SCULLIN

HILLMAN

three hits in as many times at bat, and scored two runs. Elmer Muff clouted the ball for three safe hits in five times at the plate, and scored as many runs as the entire Aztec team. Towler, with two hits in three times at bat scored four runs by some clever base running that caught the Staters napping. Geddis, stellar Aztec, struck out six Engineer batters, but allowed the Tech sluggers to collect fourteen hits during the game.

On May 5, fired by its conquest of the Aztecs two weeks before, the Beaver squad administered a decisive defeat over Redlands on Paddock Field with a score of 11-5. The game was featured by two home runs, one by Reed, and one by Cramer. While both teams hit heavily, the better fielding of the Engineers kept the Bulldog total down. It is of interest to note that Muff made only one error in sixteen plays, and took part in two double plays.



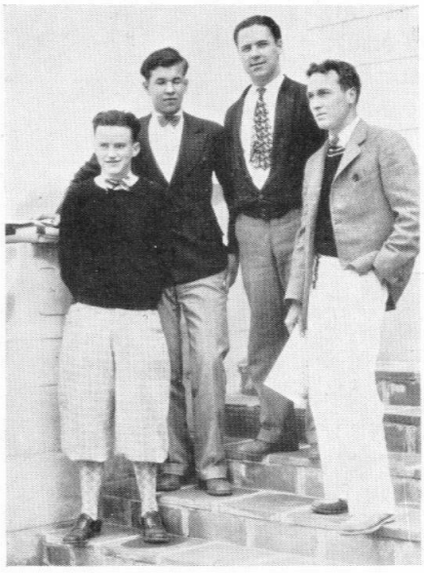
FUTCHER

The following week, just as hopes were rising rapidly after the two previous victories, the Beavers suffered a defeat of 15-11 from Whittier on our own campus. The playing of both teams was marked by inconsistency. Instead of living up to their heavy hitting reputation, the Poets let the Engineers score a 7-0 lead by the end of the third inning . Then as another surprise, the Poet score began to rise rapidly, eight runs being made in the seventh inning.

When the Big T goes to press, there remain two return games to be played, one with La Verne, and one with Occidental. Of the six Conference games already played, three have been won, and three lost. When the final inning of the Oxy game is over, six Seniors, Reed, Muff, Cramer, Sinram, O'Haver and Scullin, will have played their last game for Tech in Conference competition.

GREEN

CRAMER SNAGS IT



MANAGERS

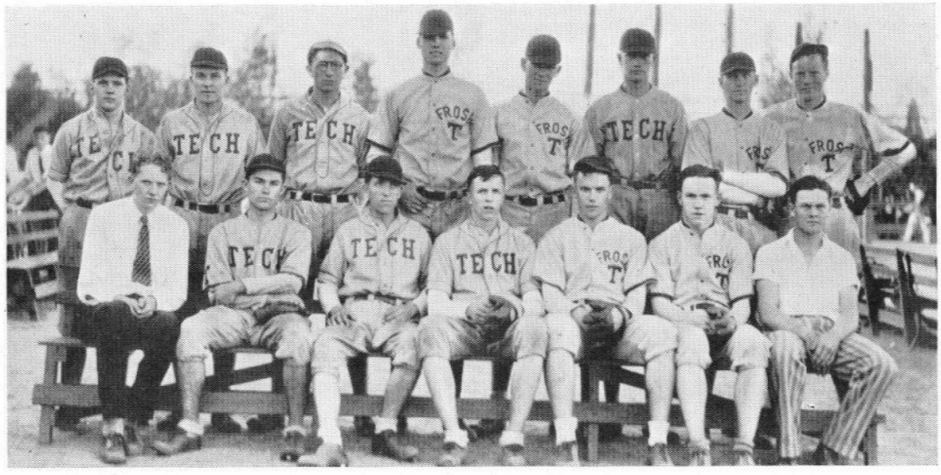
FROSH BASEBALL

In keeping with the record set by the other Frosh major sport teams, the Frosh baseball squad has developed under the efficient coaching of Layton Stanton, who has coached two other Frosh sports this year, into one of the best bunch of horsehide heavers that has as yet been seen in the first year at Tech. Many of the men will probably be out next spring knocking homers on the varsity squad.

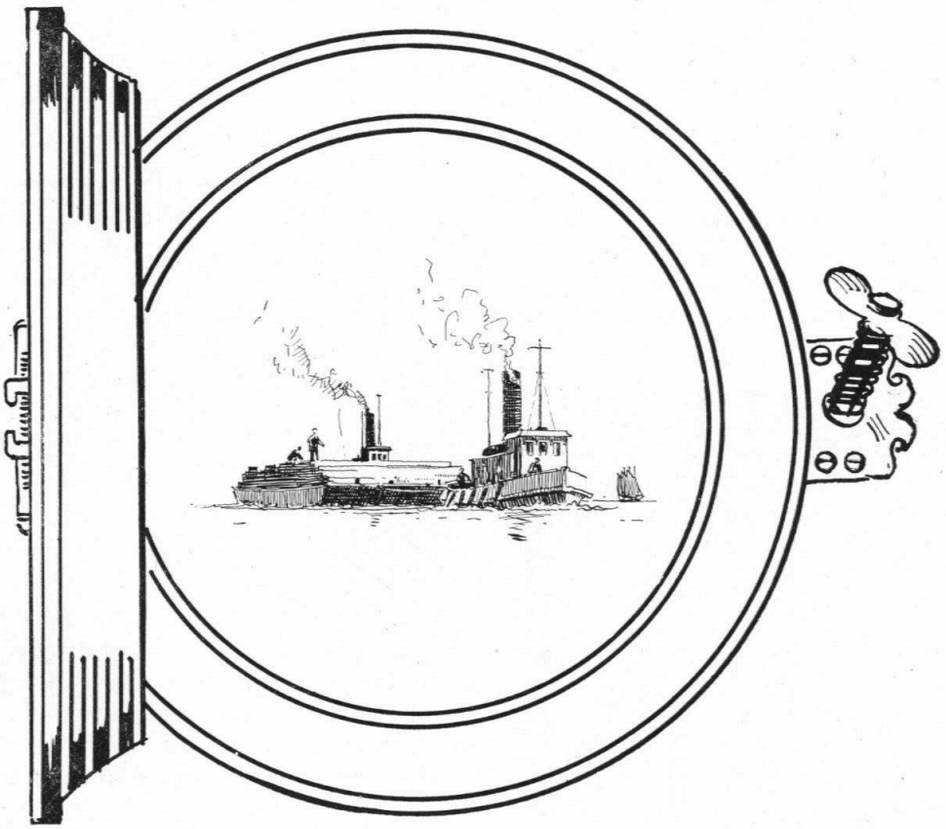
When the season first opened, the majority of the candidates for the team had never played baseball other than on vacant lots, and the lack of experience was quite a handicap. Due mainly to the need of practice under fire, the Frosh dropped the first two games, with Oxy and Pomona, which unfortunately had to come at the first of the season. If either of these tough contests had been toward the last of the spring, Tech would have probably been able to show the Tigers or the Sagehens some real ball playing, for after the experience of these games, the Frosh improved considerably, and at the end of the season were playing first-class ball.

The spirit shown by the players was of the highest throughout the entire season. Even when the scores started off against them, the fellows kept up the fight and were on their toes until the final out. It was this fight and spirit developed in the men that was the outstanding feature of the Frosh games. There were scarcely ever any rooters to cheer the men on to victory and consequently every man did his utmost to keep his team-mates confident and in the fighting mood. Layton Stanton is to be congratulated on his ability to instill this spirit into all of his Frosh teams.

The following men were the mainstay of the squad; Shuler, Hegardt, Wengren, Willis, Claussen, Groat, B. C. Schultz, Wherritt, Huntley, McLaughlin, Wilson, Iwasaki, and Feely.



FRESHMAN SQUAD



MINOR SPORTS

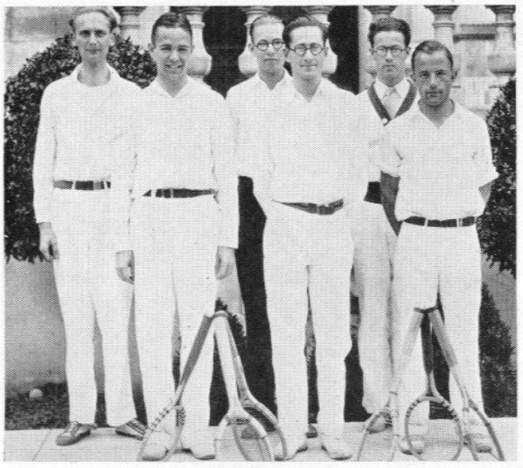
TENNIS

Starting the season with a comparatively small group, the netmen gradually increased their number until nearly a score of ardent supporters showed their preference of racket swinging exercise. Although Captain Ernest Hugg was the only returning letterman, around him was built a team which commanded the respect of every other team in the Conference.

A round robin which followed the elimination tournament in the second term placed the men in the following order: Cary, Hugg, Gilmore, Myers, Alden, Scott, and Coleman. However, the highest man was soon lost when Cary left on his Travel Prize trip to Europe.

After a number of challenges from men who were not in the first eight, a team of six men was chosen to represent Tech in its Conference battles. These men were: Hugg, Myers, Alden, Scott, Coleman, and Dodge. The first match was a non-conference one against U.C.L.A., which was stopped by rain before the games could be concluded. Tech looked relatively weak in this first encounter, but much improvement was noted in later matches.

The first Conference match was that against Pomona. In this match it was evident that the team must develop better doubles squads; consequently, a good deal of attention was turned toward that source of weakness during the subsequent weeks. The second conference tilt was that against the demon Oxy net stars. Led by Ben Gorchakoff, the Tigers definitely defeated the Beavers, but not without a hard struggle to take each match. Glen Myers, playing second man for Tech, looked particularly strong against Gove of Oxy, but finally went down to defeat after hard-fought sets.



TENNIS SQUAD

Tech was host to Redlands in the next important match, but went down to defeat before the Bulldogs by a score of 6-3. Tech took the first doubles from Redlands with little trouble and Myers was able to win his second singles match, but the other matches were annexed by the Bulldogs. In the last conference match of the season, Tech journeyed to San Diego to tackle a strong Aztec aggregation, and this time was turned back by the score of 5-4. Here the team worked more as a unit than it had bone in any match previous, and by winning one more singles match, Tech would have turned defeat into victory.

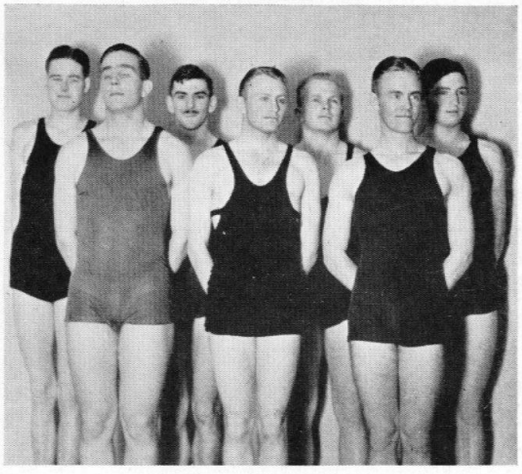
Prospects for next year may be looked on with pleasure, for, although two men, Captain Hugg, and Dodge, will be lost to the squad through graduation the other members of the team will form a good nucleus about which to build a very strong group. This year's Freshmen were particularly adept at the pill-swatting game, and they should add materially to the strength of the team next year.

SWIMMING

With the loss of many men from last year's championship squad, the Tech swimming team has worked hard under the able leadership of Captain "Dashy" Bode to bring home the silver cup which is offered to the winner of the All-Conference Meet. With the guidance of Mrs. Aileen Allen of the Pasadena Athletic Club, the men made remarkable progress from a rather poor start, and rounded out into a team which was well worthy to represent Tech.

Captain Bode still holds the supremacy in the 220 and 440-yard dashes, and is the most feared and respected man in the Conference in these events. Besides being a good swimmer, "Dashy" has proven himself a real leader and deserves a large part of the credit for the success of the squad during the past two seasons.

Harry Keeling, likewise, has proven himself an all-around man by consistently placing first in the breast stroke and the dives, and is dangerously near the Conference record in the former event. Grimes has taken over the sprint positions as well as the back stroke in an effort to fill the wide gaps left by last year's graduation. Jim Dunham still holds down the dives, and under Mrs. Allen's coaching, is again a dangerous contender for the first place he won in the All-Conference meet last year. Shields has developed into a real breast stroke man, and will stretch Keeling to his utmost in three Conference meets. With George Rice, a product of last year's Frosh team, aiding "Dashy" in the distances, and rapidly developing the ability to replace him in these events next year, the varsity squad is complete.



SWIMMING SQUAD

Before opening the Conference schedule, Tech engaged in four practice meets in which the team showed up well against exceedingly strong competition. Long Beach Junior College has what is reputed to be the strongest team in Southern California, bar none, yet Tech was able to make a fair showing against them, taking nearly all the second and third places. Tech won a hotly contested battle from the San Bernardino Y.M.C.A. the following week, repeating the victory of the year before, with a score of 40-32. Although Tech was handicapped by the loss of all the divers and breast stroke men, due to an inspection trip, she placed a strong second to Fullerton Junior college, and beat out the combined Pasadena Junior College and High School teams ina three-cornered meet held at the Pasadena pool. It is not over rating the team to say that Tech would have won readily if the missing men had been present.

Two dual Conference meets, held near the end of the season, both won by Tech, gave us the championship again, since dual meets decide the title. Pomona was defeated 47-21, and Redlands, 41-22. At this time, San Diego alone remains to threaten our superiority in the All-Conference meet.

VARSITY RIFLE TEAM

RIFLE

The performance of the rifle team during the past season left little to be desired. In a total of six matches, five were won by the Institute riflemen.

The first match of the year was a postal exchange with Stanford University. The match resulted in a tie at the score of 1825 in a possible 2000 for each team. The return exchange with Stanford held later in the season found Tech the winner by a margin of two points. University of North Dakota was the next opponent. Here, the Institute group showed promise by winning with a large margin.

The first regular match resulted in a defeat which was to prove to be the only blemish on an otherwise clean record of the team. The superior shooting of the riflemen at U.C.L.A. sent Tech home on the short end of the score. In the customary meet with Pomona, the Beavers made amends for former defeats at the hands of the Sagehens by taking both contests with safe margins. The final totaling of the season's scores gave Tech 9894 points to 9525 points, the aggregate of the scores of its six opponents.

The roster of the men having shot more than one match during the season include Roney, Pohl, Taylor, Reinen, Lewis, Deardorff, Dunn, Tucker, and Dunham of the upper-classmen and Bruderlin, Bates, Simpkinson, Lipp, and Van der Goot of the Frosh.

CROSS COUNTRY

The building of a team from new material, fighting against lack of experience, the "flu," and great odds almost every step of the way — such was the problem which the Cross-Country had to meet this year.

Though we won easily from Alhambra High, the U.C.L.A. meet did not prove so favorable for our runners, and they lost by a score of 16-39. But as the Bruins usually turned out winning teams in Cross-Country while in the Conference, this score was more favorable than it would otherwise seem.

At the end of the first term, the Conference meet was held at Pomona on their extremely difficult course, at a time when the "flu" epidemic was at its worst. Be-

cause of this, Shields of the varsity, and Skoog and Chambers of the Frosh were unable to compete. Determined to win despite these losses, the varsity entered the Conference meet. Though taking no prizes, the men surely showed the fighting spirit which distinguishes all Tech teams on the Athletic field. So the season ended with the knowledge that they had played the game to the last.

At the meet Mort Shields, though unable to run because of the "flu," was elected captain because of his earnest co-operation and unflagging spirit.

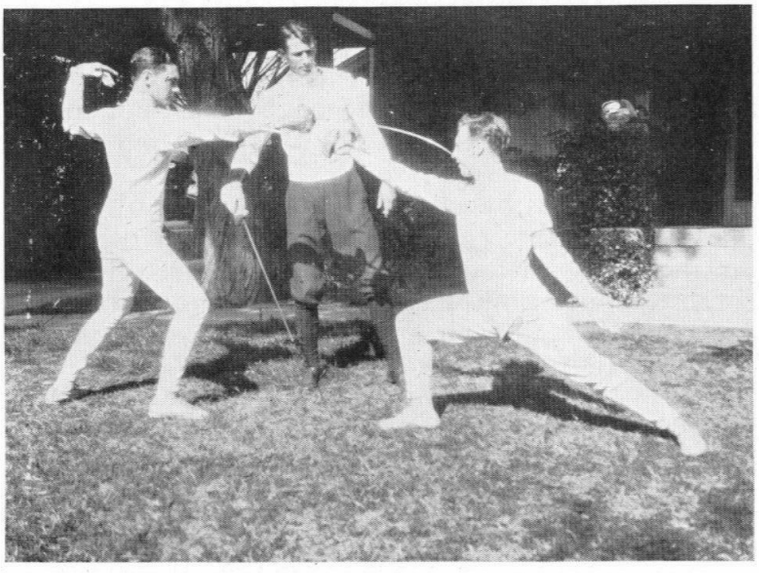
Those men, too, should here be mentioned, who worked throughout the season, and though unable to make the team, greatly aided it by their friendly competition. The following men were awarded letters: Mort Shields (captain), Bob Smith, Hugo Kleinbach, Roscoe Downs, Lowell Green, Ray Cromley, and Gordon Mitchell (manager), with Roney and Schumacher coming not far behind in the competition.

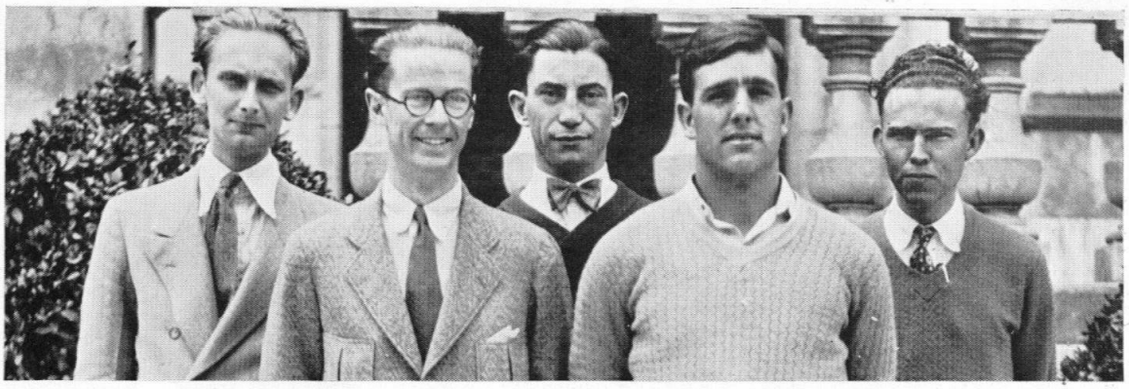
FENCING

Although this was the first year that fencing had held a place in the sport life of the college, it has already ceased to be a mere fad and shows promise of becoming, within the next few years, one of the most important minor sports on the campus.

A Fencing Club was organized in October with a membership of more than ten men, most of whom boasted some previous experience. The Club was very fortunate in obtaining the services of Captain John F. Duff, of the U.C.L.A. staff, who acted as instructor throughout the year. The Club soon grew to considerable proportions, approximately eighteen men finishing the season with a good basic training in foil work.

The only meet of the year was held April 23 with the U.C.L.A. fencing team. Tech was represented by White and Shockly in both foil and épée work, by Brasher in the foils, and by Blohm with the épée. The men of U.C.L.A. won the field in each class, the score being 7-2 in foil and 6-3 in épée. However, since the U.C.L.A. fencers won the championship of the Pacific Coast Conference for 1929, it is evident that the Tech men have developed remarkably in one brief season.





MINOR SPORT MANAGERS

BOXING AND WRESTLING

Although the boxers and wrestlers had little outside competition, and although little attention was paid them by the student body as a whole, those out for these sports had a lot of fun and most of them showed a decided improvement at the end of the season.

The Frosh won the boxing tournament by reason of taking first place in two divisions. W. L. Berry vanquished all contenders on the heavyweight division and Sol Cogen won the middleweight crown. The Seniors took second by having A. J. Larrecq win the light heavyweight championship. Larrecq also did some good work as boxing coach. Howard Smits won the lightweight championship, thus giving the Sophomores third place.

Wrestling was not as well attended as boxing, but those that did turn out were given some good instruction by the wrestling coach, I. Berman. A practice match was held with Alhambra High School during the first term and several exhibition matches were put on during Exhibit Day. The interclass matches were held during the third term. The winners in these matches were: Holdaway, Senior; Weise, Senior; Sass, Junior; Rapp, Senior; and I. Berman, also a Senior.

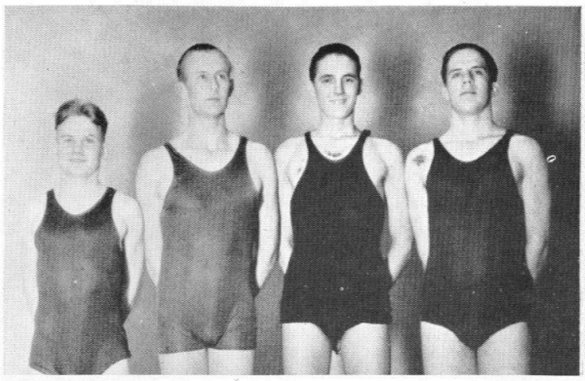
INTRAMURAL SPORTS

The interest in intra-mural sports this year was much greater than ever before. Here at Tech, where the majority of students are not athletically inclined, interclass competition has been arranged for the men who are not out for the varsity or Frosh teams to stimulate an interest in athletics and to aid the men in choosing that sport which appeals to them most.

The class championship is based upon a total number of points earned by each of the four classes. The different sports are ranked in value according to the interest taken in them. Following close upon the intercollegiate contests, interclass football aroused much enthusiasm. The Juniors took first in this sport as well as in cross-country, which came at the same time of the season.

In track the Seniors literally walked away with first place, leaving the Sophomores to take second. While to the surprise of everyone including themselves, the Frosh took first in basketball, swimming, and boxing, thus bringing them up to tie with the Juniors. At this time the baseball, wrestling, and tennis have not been played, but the first in baseball will probably determine the championship.

In the interfraternity baseball league, the Gnome Club came to the fore to win the pennant, while the independent league championship was won by the Graduate team.



SWIMMING SQUAD

TENNIS SQUAD

FRESHMAN MINOR SPORTS

With men entirely inexperienced, but enthusiastic and interested in Cross-Country, the Frosh this year proved successful in developing some talented men. Training with the Varsity and thus becoming used to hard competition, they were thoroughly capable of working every minute. This showed up when they succeeded in taking third place in the Conference meet, beating San Diego out by a good margin. This meant a long, hard grind for the forty Frosh out for Cross-Country, from which the team was chosen; and it is significant to note that very few dropped out during the season, a fact which should make us proud, not only of the team, but of all that were out through the season.

The men making numerals as a result of their endeavors were: Harshman, Bradburn, Iwasaki, Lind, Clagett, Kanegae, and Skoog.

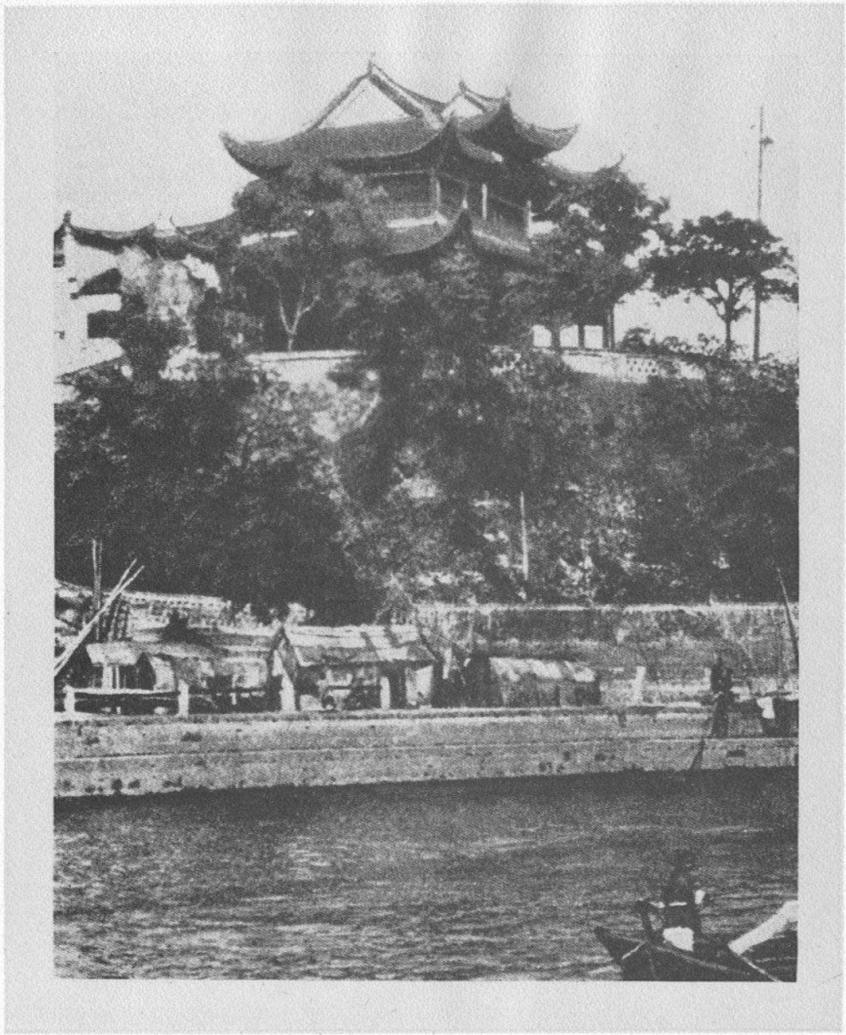
An unusually good tennis squad was turned out this year from among the Freshmen. Though the season was short and perfected play a thing requiring weeks of practice, all the matches were won by the group. Even the Varsity could not stand up under its attack.

After a round robin held soon after the beginning of the second term the men on the squad and their standings were: Lewis Behlow, first; Robert Carey, second; Tom Anderson, third; Emmer Arnold, fourth; Ed. Griswold, fifth; Ray Oelschlager, sixth; Chuck Hamlin, seventh; and Barker Bates, eighth. During the season others challenged into the squad. These were Art Simpkinson, Bob Woods, and Kedrick Keely.

Starting out at the beginning of the second term the Frosh swimming team had little hopes of becoming a formidable squad, but by the aid of their coach, Mrs. Allen of the Pasadena Athletic Club, encouraged by the winning of the interclass meet, and by constant practice throughout the second and third terms, the team has developed into one of the most promising groups of swimmers that Tech has seen in years.

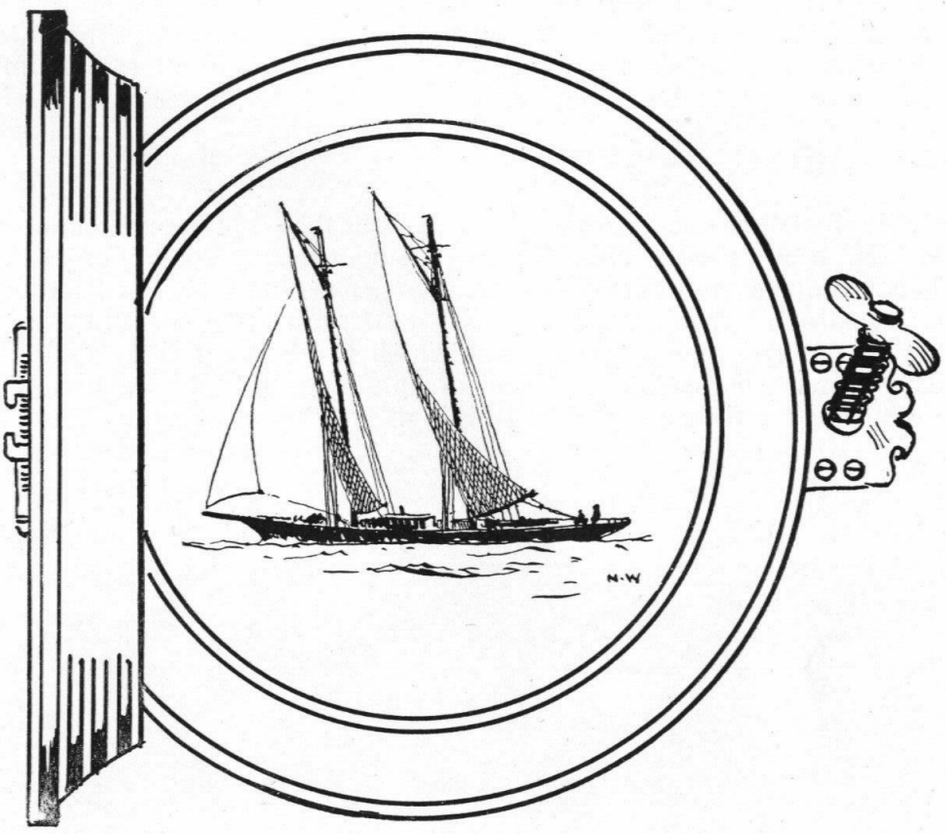
In the practice meets the Frosh showed up well, even alongside of our Varsity. The main difficulty was in the lack of men. The mainstays of the team were: Brewer in the 150-yard, Vander Goot in 220 and backstroke, Schaafsma in the 440, and Secord in the dives.

WHITE STAR LINE
A Round Trip
to
Europe
TRANSIT
STOP OV
. . . from
Sports
to
Organizations
via
Siam
WHITE STAR LINE
RETURN Ticket



CHINA

Organizations



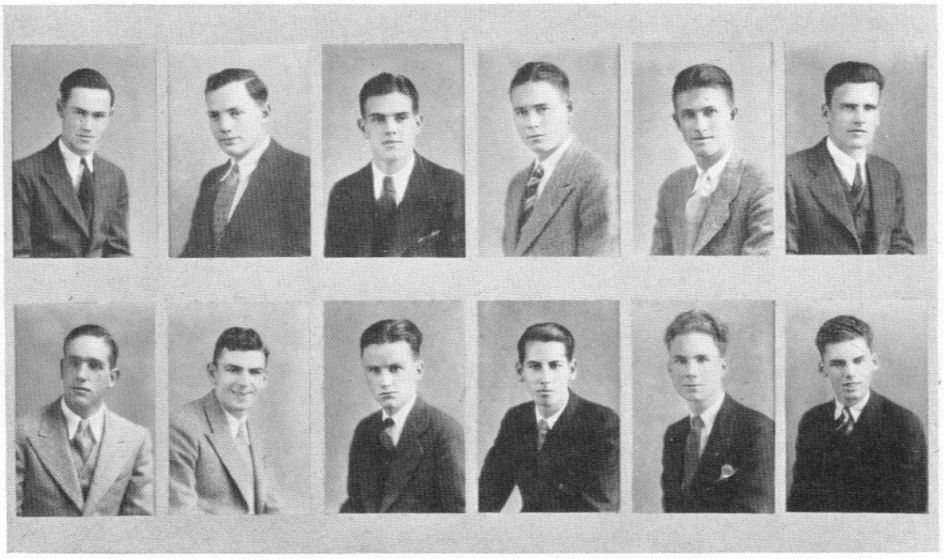
HONORARY

HONOR KEY

Engineers and scientists usually find other interests in life outside of their own particular technical fields. This is also true of some of the undergraduates at Tech, and Student Body offices, athletics, forensics, dramatics, literary pursuits, musical organizations, and other fields of endeavor and enjoyment exist because of the voluntary spirit and interest of members of the Student Body. The Honor Key is the highest tribute given in recognition of these services.

Honor Keys are awarded at the end of the year on an Honor Point rating. These points are given for participation in various activities, the number depending upon the importance and extent of each particular activity. The rating has been determined by the Executive Committee of the Student Body and a list of the various activities is always posted with the number or maximum number of points usually given. This enables students to calculate their possibilities and work for the honor if they desire. The number of awards is limited to a maximum of five per cent of the student body, which sometimes effects the basic requirement of twenty-four points for one year or forty points in two years. The Executive Committee is the final judge as to who is most deserving of the Keys.

Activities have become increasingly difficult as the scholarship standards of the Institute have been raised. This has necessitated a deeper conviction of the value of the honor, and also an increasing effort in order to obtain it. The "activity man" must be in addition a scholar. This annual itself with all it contains is a striking testimony of the importance and interest which the Student Body finds in activities. Every man who has had the ideal of an Honor Key, and achieved it, will graduate with more than a technical training.



ASQUITH GRIMES | CLINE KEELING | CRAMER CRAWFORD | DUNHAM CROMLEY | EVANS BATES | GANSSLE CHAMBERS

CLASS OF 1929

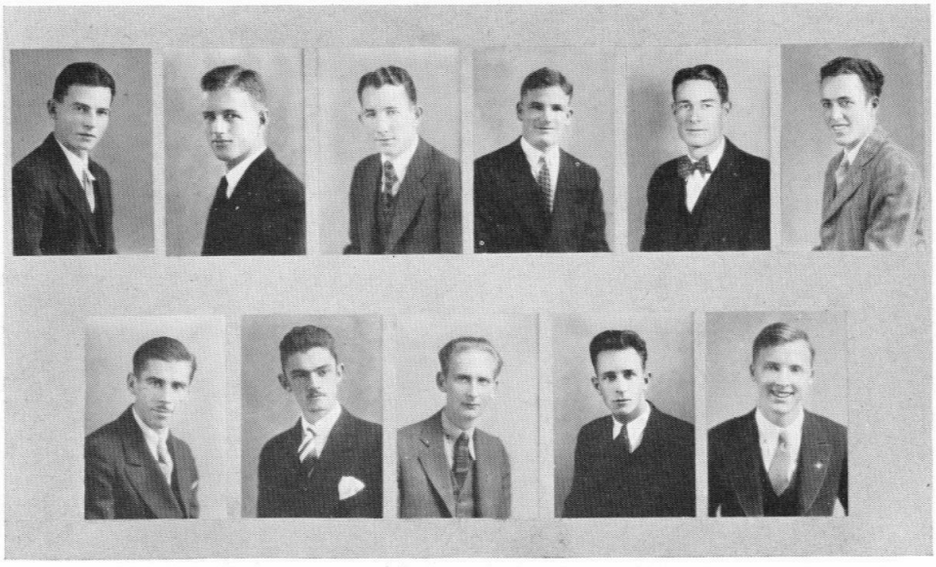
Harlan Asquith
Fred Cline
Alphonse Cramer
Sprague de Camp
James W. Dunham
Thomas H. Evans
Walter Grimes
Karl Ganssle
Harry Keeling
Kenneth E. Kingman
Albert C. Reed
Leslie O. Scott
Clyde Shields
Morton Shields
George F. Weismann
Robert White

CLASS OF 1930

Franklin Crawford
Raymond Cromley
Fred Scott
Sidney Zipser

CLASS OF 1932

Barker Bates
John Chambers
Clark Goodman



KINGMAN REED L. SCOTT C. SHIELDS M. SHIELDS WEISMAN
WHITE DECAMP F. SCOTT ZIPSER GOODMAN

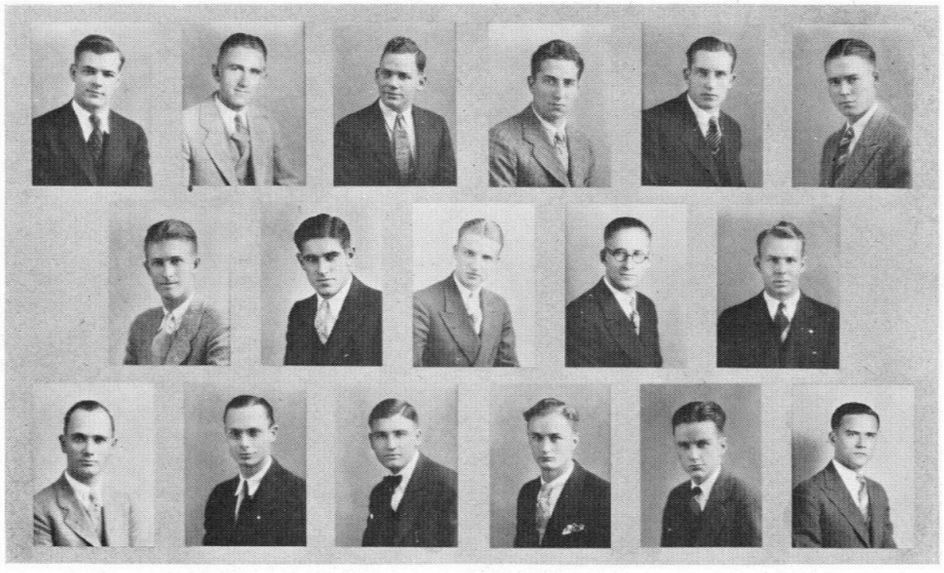
TAU BETA PI

The Institute is the seat of the Beta chapter of California of the Tau Beta Pi Association, which occupies a position among engineering colleges in America which is similar to Phi Beta Kappa's in the colleges of liberal arts.

It is the oldest and largest of the engineering honor fraternities, its fifty-six chapters having initiated over eighteen thousand members. The organization owes its being to Professor Williams of Lehigh University, Pennsylvania, who as a Phi Beta Kappa man realized the need of such an organization. Thus in 1885 the first chapter began its existence at Lehigh.

Although similar in its aims to Phi Beta Kappa, Tau Beta Pi differs from it in being more like a fraternity in its methods of action. Thus the members consider candidates personally by written or oral examination after they have fulfilled the scholastic requirements, instead of simply informing them of their election. Little attention is paid to scholarship in the selection of members after they have been found to be in the highest eighth of the Junior Class or highest fourth of the Senior Class. Knowing what the men can do in the classroom, the members are anxious to know what they do besides study. Last year five of the new men on the Tau Beta Pi list were on the Varsity football squad, and others have held places in Conference track events. Even more emphasis is placed upon interest in cultural activities and student relationships; and it is rare to hear anyone voice the opinion that "Tau Bates" are mere "grinds."

Nor are the contacts among members merely of an academic, serious nature. Two banquets are held each year, and two dances, as well as several informal literary meetings, in which an effort is made to fulfill the aim of Tau Beta Pi: to further cultural development among engineering students of America as well as provide a means of honoring those who have excelled in their academic pursuits.



BARNES CRANE CLINE CRAVITZ DALY DUNHAM
EVANS EXLEY HASLER HUGG D. JOHNSON
J. JOHNSON KIRCHER LARRECQ BERNHARDI CRAWFORD FOLADARE

FACULTY

Robert Andrews Millikan
Arthur Amos Noyes
W. Howard Clapp
Robert L. Daugherty
Frederic W. Hinrichs, Jr.
Royal Wasson Sorensen
Franklin Thomas
William Noble Lacey
Romeo Raoul Martel
Linus Carl Pauling
Robert Talbot Knapp

GRADUATE STUDENTS

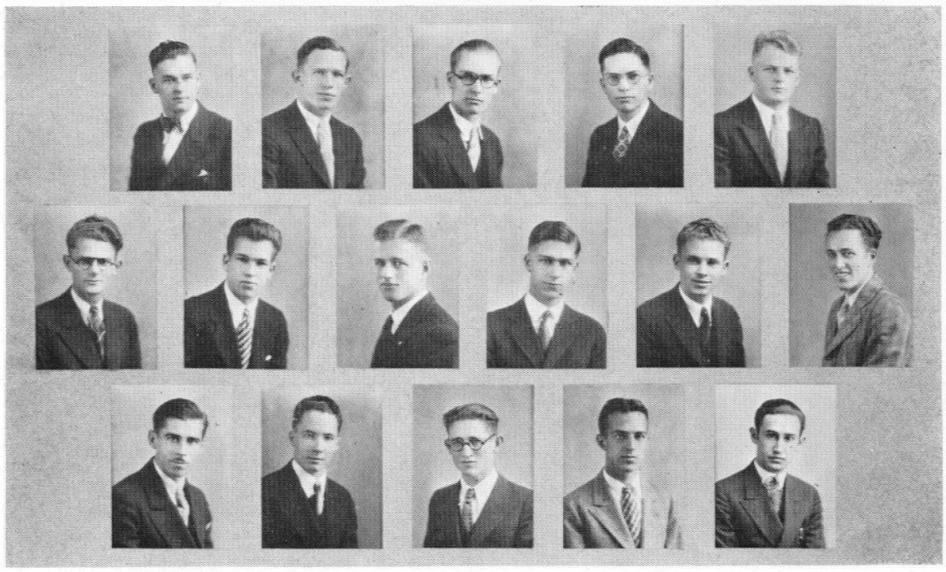
Carl David Anderson
Donald Porter Barnes
Ralph Waldo Cutler
Robert Troutman Dillon
Robley Dunglison Evans
Frederick Junior Ewing
Richard Gilman Folsom
Charles Lewis Gazin
Ferdinand Gunner Gramatky
George Thomas Harness, Jr.
Claude Dewayne Hayward
Douglas G. Kingman
Charles Coyle Lash
William Abbett Lewis, Jr.
Albert Eaton Lombard, Jr.
Edwin Mattison McMillan
Bernard Nettleton Moore
Frank Andrew Nickell
Richard Durant Pomeroy
Emerson Martindale Pugh
Hampton Smith
Charles Albert Swartz
John William Thatcher
Johannes Archibald Van den Akker
Karl Morgan Wolfe
Edward Charles Sandberg

CLASS OF 1929

Frederick Cline
Philip Cravitz
John Warlaumont Daly
James Waring Dunham
Thomas Hayhurst Evans
Sidney Thomas Exley, Jr.
Maurice Fred Hasler
Ernest Branch Hugg
Donald Hall Johnson
Josef Jerome Johnson
Reymond John Kircher
Anthony James Larrecq
Stanley William Lohman
Phillip Griffis Murdoch
Albert Edward Myers
Firth Pierce
Russell Watson Raitt
Albert Clark Reed
Bolivar Roberts
Maurice Harold Sinram
George Francis Weismann
Robert James White

CLASS OF 1930

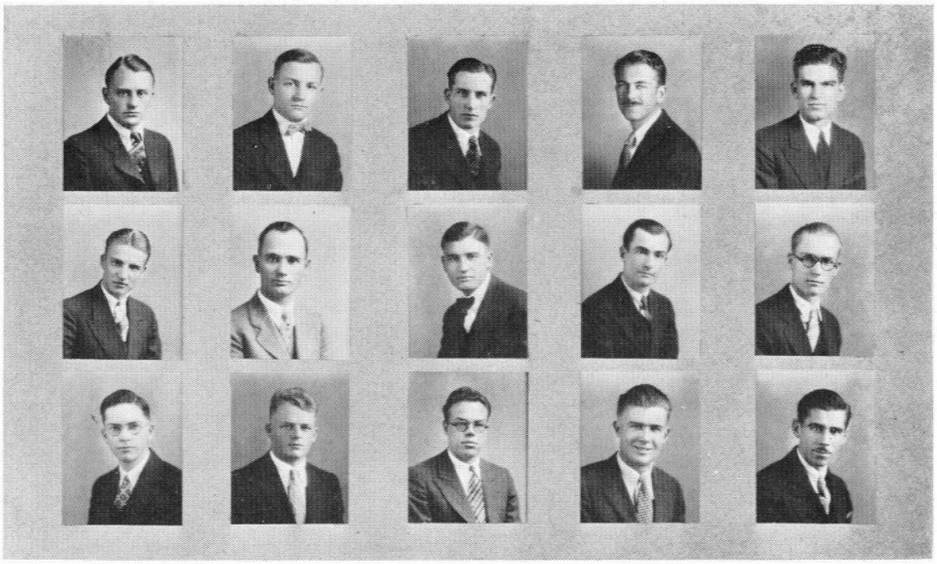
Tom George Bernhardi
Franklin Goodrich Crawford
Joe Foladare
Roland Cyril Hawes
Phillip Otto Jansen
David Sheffet
Theodore Frank Stipp
Victor Douchan Todorovitch



GRAMATKY KINGMAN LOHMAN MURDOCK MYERS
PIERCE RAITT REED ROBERTS SINRAM WEISMANN
WHITE HAWES SHEFFET STIPP TUDOROVITCH

SIGMA XI

Francis Dashwood Bode
Donald Sherman Clark
John Warlaumont Daly
Willard Alexander Findlay
Lawrence J. Grunder
Maurice Fred Hasler
Josef Jerome Johnson
Anthony James Larrecq
Stanley William Lohman
Phillip Griffis Murdoch
Albert Edward Myers
Kenneth Alfred Solomon
John Clark Sutherland
George Frederic Taylor
Robert James White



BODE
HASLER
MURDOCK

CLARK
JOHNSON
MYERS

DALY
LARRECQ
SUTHERLAND

FINDLAY
K. LOHMAN
TAYLOR

GRUNDER
S. LOHMAN
WHITE

PI KAPPA SIGMA

FACULTY

Lieutenant-Colonel Louis M. Adams

Lieutenant Louis J. Claterbos

GRADUATE

Guy L. Chilberg

Richard G. Folsom

F. Gunner Gramatky

CLASS OF 1929

Francis Dashwood Bode

Allen Winfield Dunn

Sidney Thomas Exley

Lawrence J. Grunder

Hubert Maurice O'Haver

Kenneth Edward Kingman

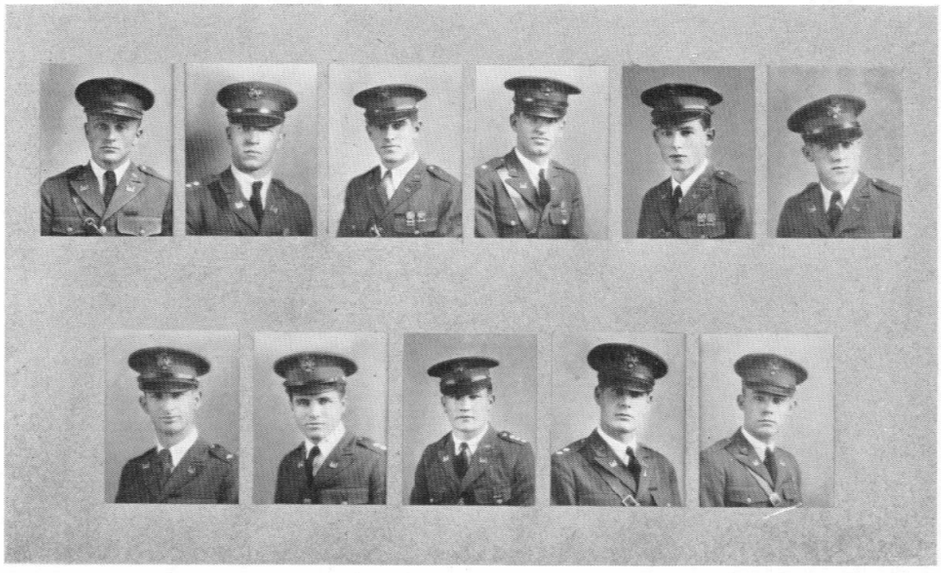
Elmer Mason Muff

Donald Keith Olson

J. Conrad Scullin

Morton Kingman Shields

Fred Aston Wheeler



BODE DUNN EXLEY GRUNDER KINGMAN MUFF
O'HAVER OLSON SCULLIN SHIELDS WHEELER

PI KAPPA DELTA

The encouragement of debating and oratory, with the consequent development of forensic ability, is the purpose of Pi Kappa Delta, honor fraternity, and the California Gamma Chapter, established at the Institute in 1921, has put forth its best endeavor in this field.

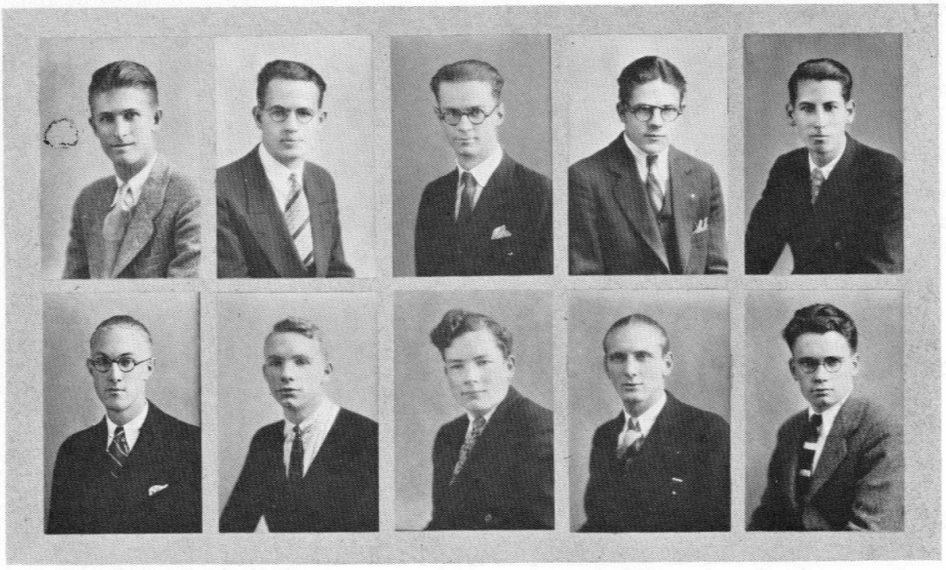
With its members chosen from those Varsity debaters who have participated in one winning or two losing intercollegiate debates, an organization of capable debaters has maintained a deep interest in forensics at Tech since the establishment of the chapter.

The California Institute has had added distinction in this line, that Dr. Macarthur was one of the first national presidents of Pi Kappa Delta, and it was due to his efforts that the successful organization of the local chapter was accomplished.

Though attending a technical school, the men of the Institute are enabled to engage in a wide range of activities of this sort through co-operation with other chapters of the fraternity, in duel debates, in conventions, and in mock oratorical contests. Not only the customary types of debating and oratory are followed, but each year the local chapter presents a classical Greek or Roman play, an event of great interest in Southern California.

Bi-annually a National Convention is held in the Middle West, forming an opportunity for the delegates to engage in numerous contests of debate, extempore, and oratory. Tech has been very successful in these contests, having been represented by able men.

Every alternate year a Regional Convention is held, sponsoring a round of contests between Pi Kappa Delta chapters of the West. One held this year at Occidental was very successful, providing not only an opportunity for platform practice, but a chance for intercollegiate friendships as well. Opportunities for a broader experience and a wider view of life than can be gained in laboratories are thus open to Tech men.



EVANS
AMANN

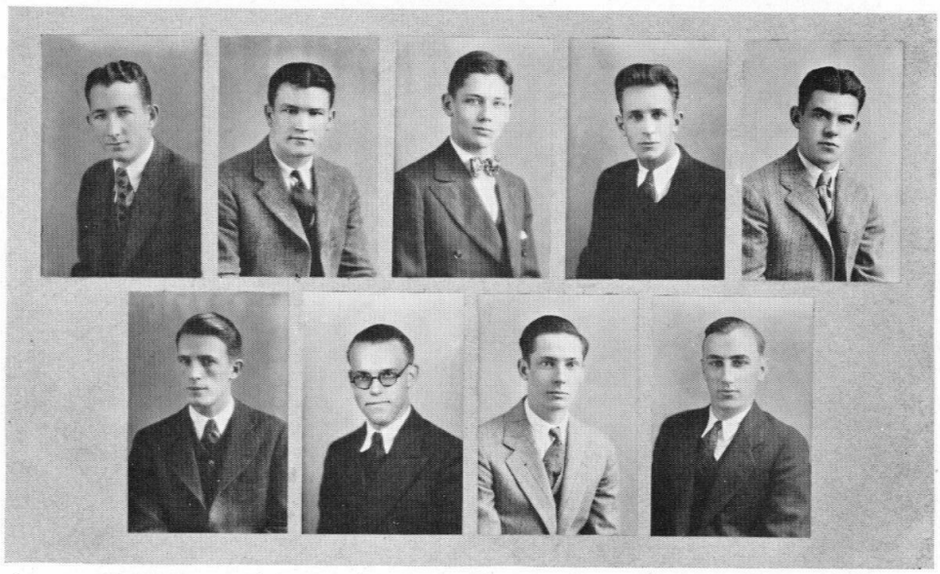
MCMILLAN
CHAMBERLAIN

ROBINSON
CUTTS

MILES
HALL

CROMLEY
HATCHER

Jack Huber Amann, '31
Glenn John Chamberlain, '31
Raymond Avalon Cromley, '30
Francis William Cutts, '31
Thomas Hayhurst Evans, '29
John Leland Hall, '31
John Burton Hatcher, '31
Warren Birch Horton, '30
Herbert Smith Ingham, '31
Robert Byron Jacobs, '31
Duroc Albert Jecker, '31
Charles Edmund Kircher, '31
Francis Neil Laird, '31
Wallace Angus McMillan, '29
Kenneth Leonard Miles, '30
Leslie Owen Scott, '29
James Conrad Scullin, '29
Walter Dunbar Wilkinson, '30



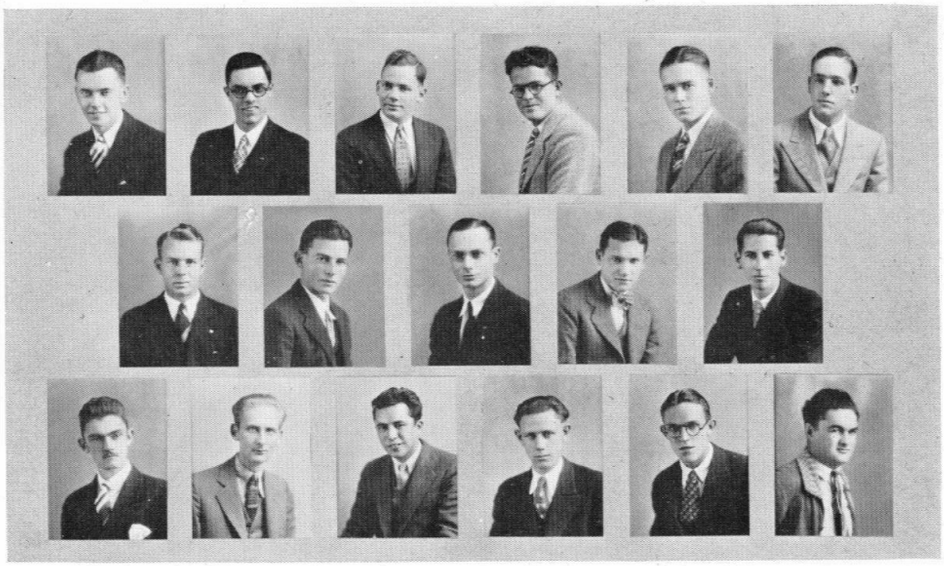
SCOTT SCULLIN WILKINSON ZIPSER HORTON
INGHAM JECKER KIRCHER LAIRD

PRESS CLUB

Men interested in journalism have joined themselves together in the Press Club which has for its aim the development of the highest type of newspaper work. This organization functioning in conjunction with the California Tech and the Big T does all in its power to make these publications the finest examples of good journalism which they truly represent. The Press Club not only fosters writing but is also vitally interested in literature. Meetings are held frequently for the informal discussion of current literary topics which relate not only to journalism but to other worth-while forms of literature as well. Such members of the faculty as Professor MacMinn and Doctor Eagleson frequently join in these discussions and very worth-while studies ensue.

This organization is made up of men elected to membership from those who have shown their interest and initiative in writing for the publications, and it is certainly a very interesting group of men who combine engineering ability with an interest in literary endeavor. Professor MacMinn, an honorary member, who conducts journalism classes on Wednesday evening, is vitally interested in the organization and it is to him that much of its success is due. Organizations of this type which foster closer contact between faculty and students on extra-curricular matters of mutual interest are most valuable, particularly in a technical school where such things are often relegated to secondary consideration.

Under the leadership of Fred Wheeler as president the Press Club enjoyed a very successful year and the organization is looking forward to just as fine a one next year under the able guidance of L. Sprague de Camp, who was editor of the California Tech this year.



BAKER BOSSERMAN CLINE D'ARCY DUNHAM GRIMES
JOHNSON KINGMAN KIRCHER LANGSNER CROMLEY
DECAMP SCOTT SILVERMAN BECHTOLD GAYLORD GRAFMAN

FACULTY

Jones
Judy
MacMinn
Stanton
Klein

GRADUATES

Cutler
Campbell
Ed. McMillan
Sechler

CLASS OF 1929

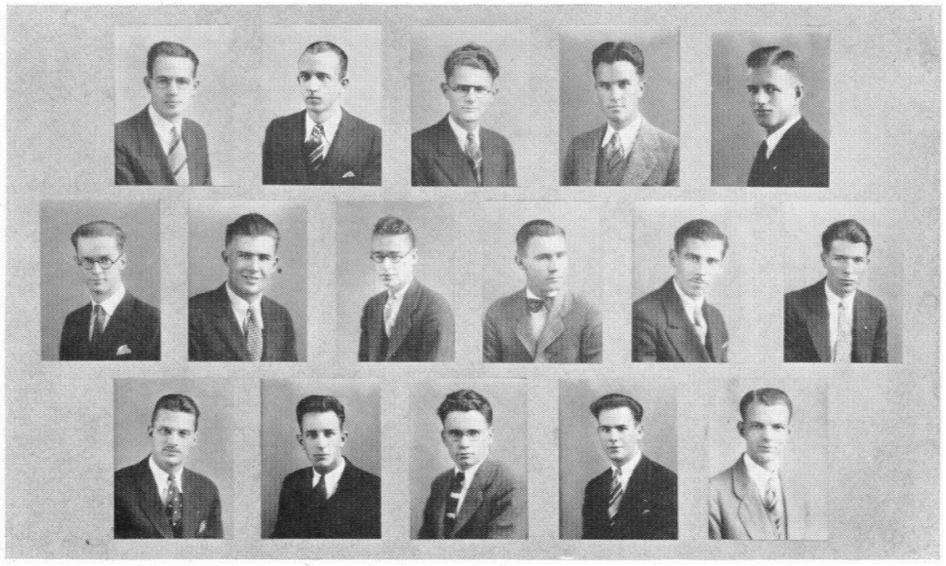
Baker
Bosserman
Cline
D'Arcy
Dunham
Grimes
Johnson
Kingman
Kircher
W. A. McMillan
Perry
Pierce
Pohl
A. C. Reed
Robinson
Taylor
Wheeler
White

CLASS OF 1930

Bechtold
Cromley
Gaylord
Langsner
Zipser
F. Scott
Silverman
Stirton
Westphal

CLASS OF 1931

Grafman
Hatcher
Lewis
Voak



McMillan Perry Pierce Pohl Reed
Robinson Taylor von Beroldingen Wheeler White Stirton
Westphal Zipser Cutts Lewis Voak

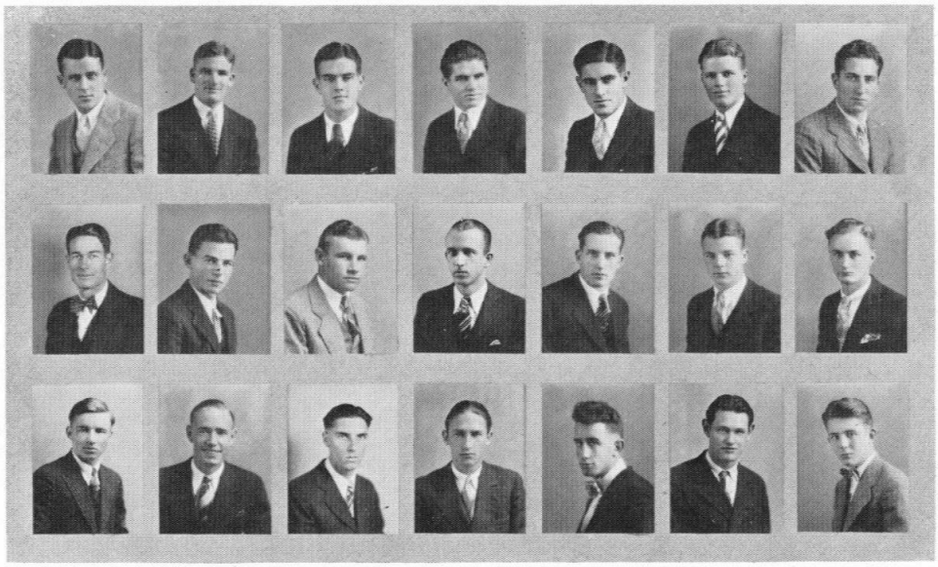
VARSITY CLUB

One of the best known and most honored organizations on the campus is the Varsity Club, the members of which are selected from the Varsity lettermen of the football, track, basketball, baseball, swimming and tennis. Election to the Club constitutes one of the highest honors which can be bestowed upon a Tech man for his athletic prowess.

The purpose of the Club is to further the interest in all kinds of organized sports on the campus; to make recommendations regarding the athletic policy of the Institute; to co-operate with the Athletic Council; and to foster a spirit of good sportsmanship and fair play in all fields of endeavor. Although scholarship does not affect eligibility to membership, the standard is well above the average, proving that in general sound minds go with sound bodies.

Each year the organization sponsors a dance which is open to the entire Student Body. The one given this year demonstrated the ability of the Club to promote social activity as well as athletics.

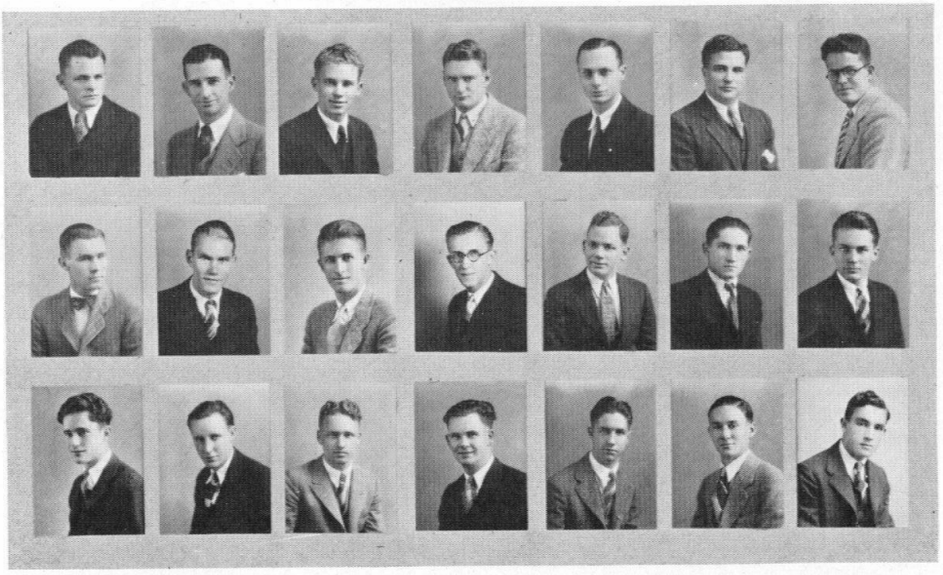
Perhaps the distinguishing characteristic of the Club is its influence in undergraduate affairs which is felt in every corner of the campus. It is a well-known fact that the burden of the Student Body responsibility is entrusted to Varsity Club members. The laws which govern the election of members, both written and natural, have resulted in building up a personnel distinguished by forceful character and high ideals. Tech may feel quite gratified to have an organization which places such men in a position where their influence within the Student Body is so effective.



Muff	C. Shields	Cramer	Olson	Exley	Lynn	Cravitz
M. Shields	Kingman	Mohr	Perry	Daly	Alderman	Bernhardi
Prichett	Hillman	Mauzy	Kleinbach	Crawford	Dickey	Tutschulte

MEMBERS

Frank E. Alderman
Wilbur W. Ayers
Wilbert W. Baustian
Tom G. Bernhardi
J. R. Lester Boyle
Frederick Cline
Alphonse Cramer
A. T. Crawford
Philip Cravitz
John W. Daly
Nicholas A. D'Arcy
Walter Linn Dickey
Harvey S. Eastman
Thomas H. Evans
Sidney T. Exley, Jr.
Beverly F. Fredendall
Lester L. Frick
Ernest C. Hillman
Roland F. Hodder
William F. Kelley
Kenneth E. Kingman
Reymond J. Kircher
Hugo O. Kleinbach
Truman H. Kuhn
George E. Leidholm
George S. Lufkin
Laurence E. Lynn
Harris K. Mauzy
William H. Mohr
William Morton
Elmer M. Muff
Hubert M. O'Haver
Donald K. Olson
Douglas B. Perry
Leland D. Pratt
Jack D. Pritchett
Homer C. Reed
Clyde E. Shields
Morton K. Shields
Maurice H. Sinram
Robert A. Stroud
Jack B. Sturgess
Alvin C. Tutschulte
Karl W. Westlund
Fred A. Wheeler



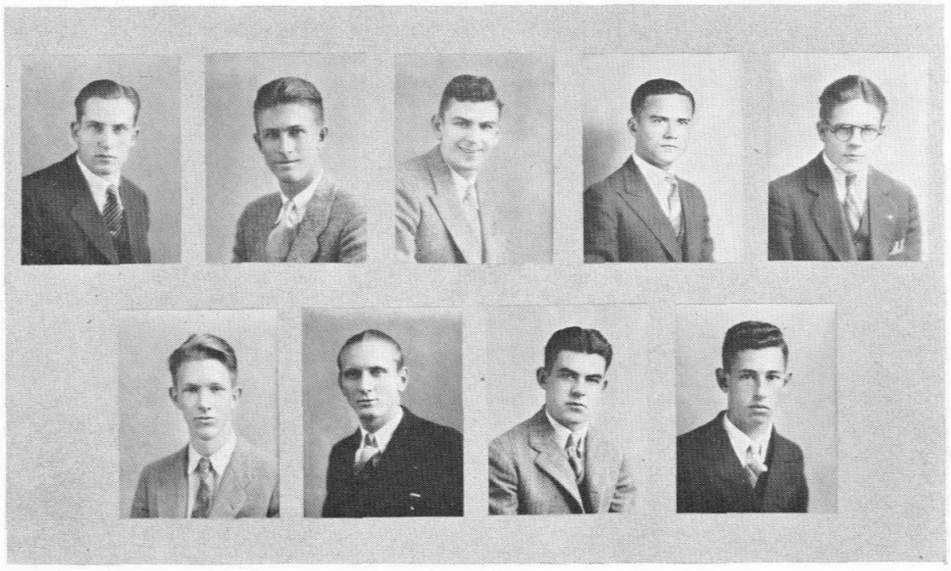
REED WHEELER AYERS | O'HAVER FREDENDALL HODDER | SINRAM EVANS LEIDHOLM | KEELEY BAUSTIAN STROUD | KIRCHER CLINE KUHN | LUFKIN BOYLE PRATT | D'ARCY STURGESS EASTMAN

DRAMA CLUB

The Drama Club is an example of the cultural interests of Tech students. The members not only present an annual play or plays to the public which have achieved an unusually fine reputation, but also have meetings and special events to further their knowledge and appreciation of this art. Membership itself is an honor, and is only conferred upon those individuals who have demonstrated their ability and interest by participation in a Tech production.

Mr. Gilmor Brown, director of the Pasadena Community Playhouse, has directed the productions here during the last four years. The success of the plays and of the Club has been largely due not only to his genius as a director, but also to his understanding of students who are not distinguished as actors. Nevertheless, all of the plays so far presented have met with the most sincere approval, proving that Tech Engineers are quite unlike those "rude mechanicals" who attempted a dramatic performance in Shakespeare's "A Midsummer Night's Dream." The number of experienced and talented men this year was exceptional, and was one reason why such difficult plays as those of George Bernard Shaw were presented. These plays, "The Shewing Up of Blanco Posnet" and the "Bolshevik Empress," were the most widely enjoyed and appreciated of any heretofore.

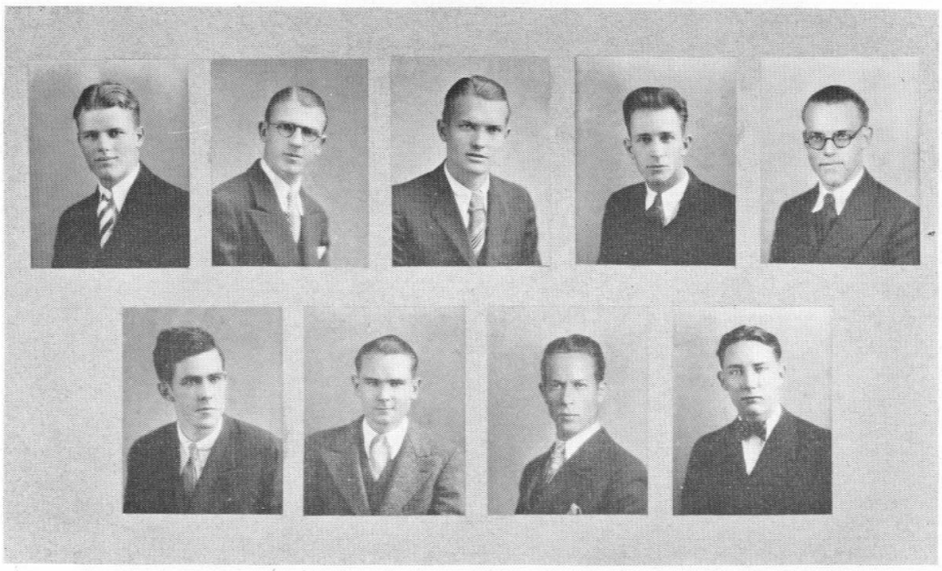
The officers of the organization were Sidney Zipser, Merrill Tucker, John Mehl, Larry Lynn and Bob Sherman, who were President, Vice-President, Secretary, Treasurer and Publicity Manager, respectively. Faculty members of the Club, including Professors MacMinn, Stanton and Eagleson, have by their wider experience and knowledge, contributed greatly to increasing the dramatic interests of the students.



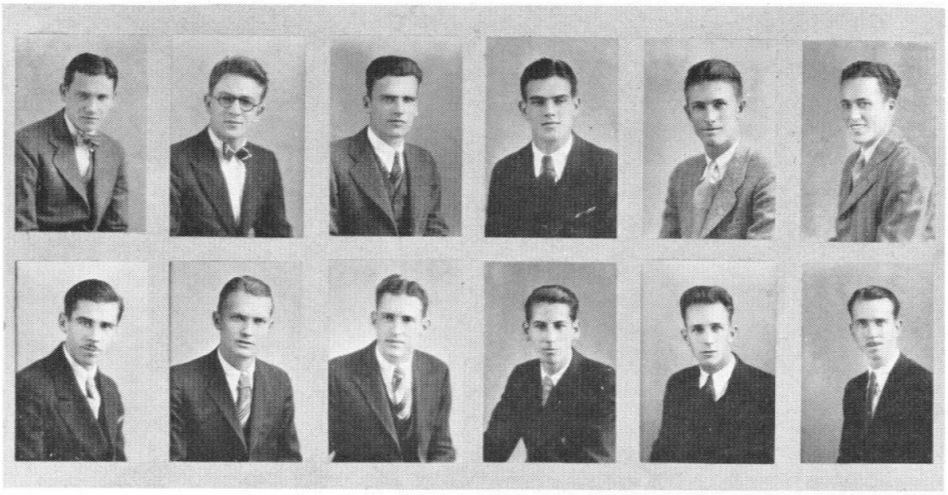
DALY EVANS KEELING FOLADARE MILES
FITCH HALL HORTON ROACH

DRAMA CLUB

Lloyd Everett West, '29
John Warlaumont Daly, '29
Thomas Hayhurst Evans, '29
Harry James Keeling, '29
Laurence Edwin Lynn, '29
Joe Foladare, '30
Merrill Douglas Tucker, '30
Sidney Zipser, '30
Elliot Bryant Fitch, '31
Marvin William Hall,'31
Warren Birch Horton, '31
John Wilbur Mehl, '31
Kenneth Leonard Miles, '31
Robert Lansing Sherman, '31
Edward Chester Keachie, '31
Duroc Albert Jecker, '31
John Murray Fox, '32
Harold Roach, '32



LYNN WEST TUCKER ZIPSER JECKER
FOX MEHL SHERMAN KEACHIE

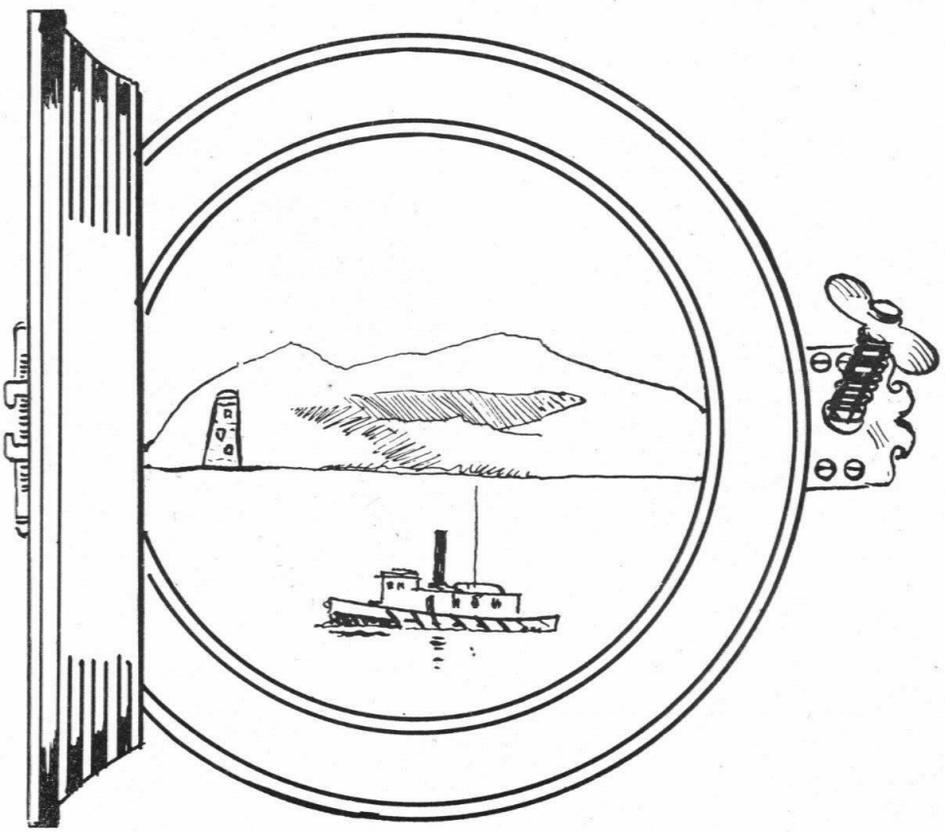


LANGSNER WHITE | BOOTH TUCKER | GANSSLE DOWNS | CRAMER CROMLEY | EVANS ZIPSER | WEISMANN THOMPSON

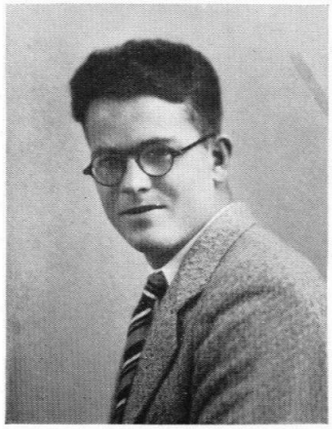
THROOPERS

William Booth, '29
Alphonse Cramer, '29
Thomas Evans, '29
Karl Ganssle, '29
George Langsner, '29
Frank Thompson, '29
George Weismann, '29
Robert White, '29
Raymond Cromley, '30
Roscoe Downs, '30
Merrill Tucker, '30
Sidney Zipser, '30

BIG T 1929



PROFESSIONAL SOCIETY

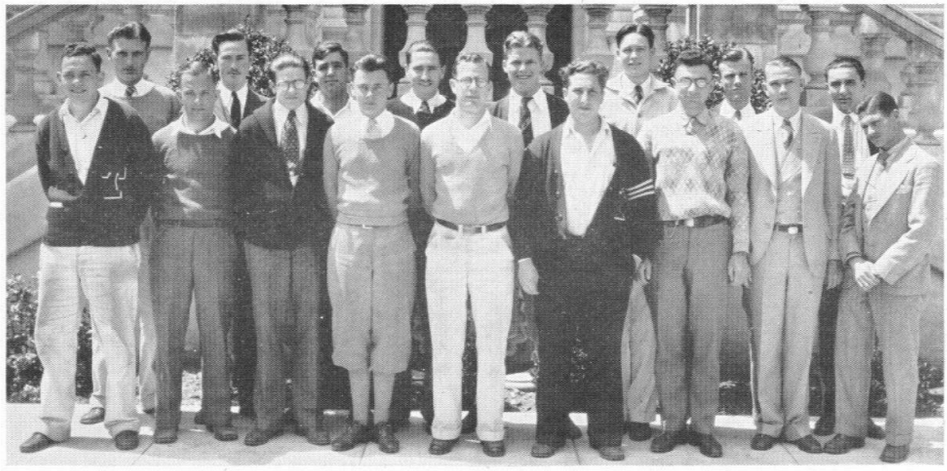


D'Arcy

AMERICAN SOCIETY OF CIVIL ENGINEERS

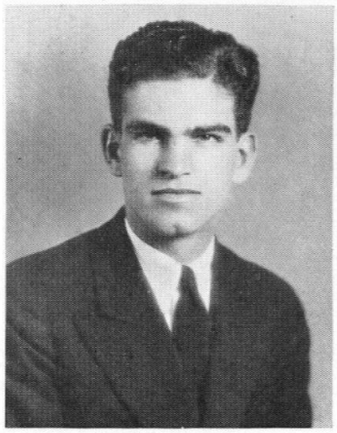
President, N. A. D'Arcy
Vice-President, F. R. Cline
Secretary, George Langsner
Treasurer, Philip Cravitz

Asquith, Harlan Robert
Baker, Howard Eugene
Cary, Henry Howard
Cline, Frederick
Cole, Dallas Ervie
Cravitz, Philip
D'Arcy, Nicholas Anthony
Dodge, Howard Grindal
Dunham, James Waring
Evans, Thomas Hayhurst
Everett, Monroe Miller
Exley, Sidney Thomas, Jr.
Grimes, Walter Bert
Hatch, William B., Jr.
Hugg, Ernest Branch
Langsner, George
Lynn, Laurence Edwin
Miles, Kenneth Leonard
Milliken, Donald Booth
Mohr, William Henry
Morton, William
Noland, Thomas Jefferson
Olman, Samuel
Schumacher, Karl Fritz
Shields, Clyde Emerson
Springsholz, Charles Adolph
Terry, Paul M.
Whitman, Nathan Davis



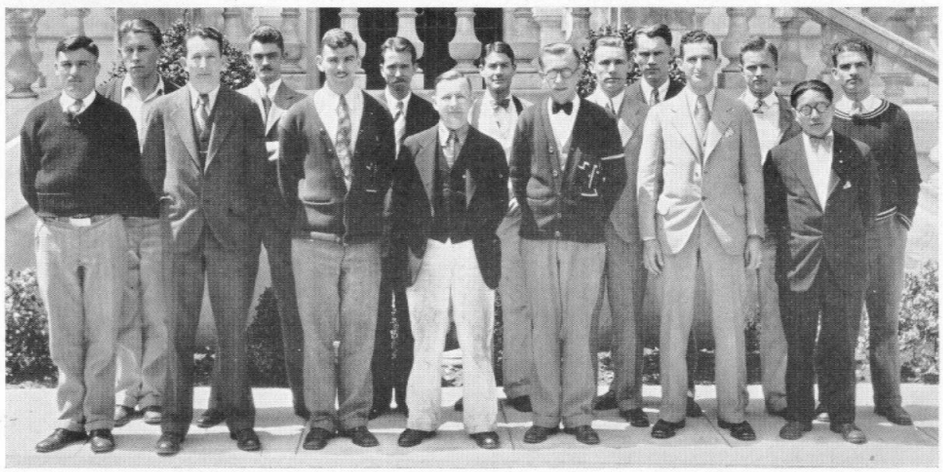
AMERICAN SOCIETY OF MECHANICAL ENGINEERS

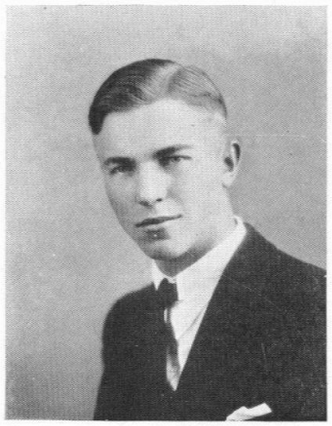
Chairman, L. J. Grunder
Vice-Chairman, W. W. Baustian
Secretary-Treasurer, H. J. Keeling



GRUNDER

W. W. Baustian
C. A. Bosserman
D. S. Clark
A. Cramer
A. M. Gilmore
L. J. Grunder
H. J. Keeling
A. J. Larrecq
L. V. Leonard
E. M. Muff
M. H. Nagashi
J. A. Niles
H. M. O'Haver
A. C. Reed
R. G. Rofelty
K. F. Russell
L. O. Scott
J. C. Scullin
M. K. Shields
F. W. Thompson
H. W. Waite
G. F. Weismann
K. W. Westlund
F. A. Wheeler
G. W. Butrovitch
F. H. Ford



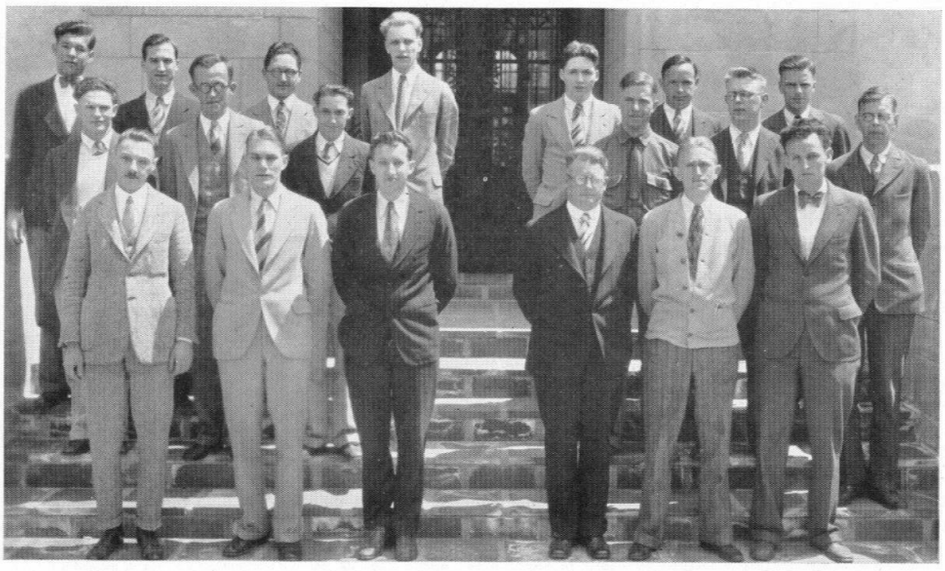


DUNN

AMERICAN SOCIETY OF ELECTRICAL ENGINEERS

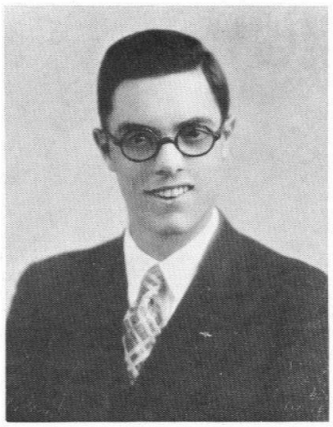
Chairman, G. R. Crane
Vice-Chairman, G. T. Harness
Secretary-Treasurer, A. W. Dunn

Atwater
Birge
Coupland
Crane
Dunn
Edson
Fredendall
Haeff
Harness
Kircher
Lee
Lindhurst
Mitchell
Rapp
Roberts
Sinram
Slocum
Towne
Widess
Wilson



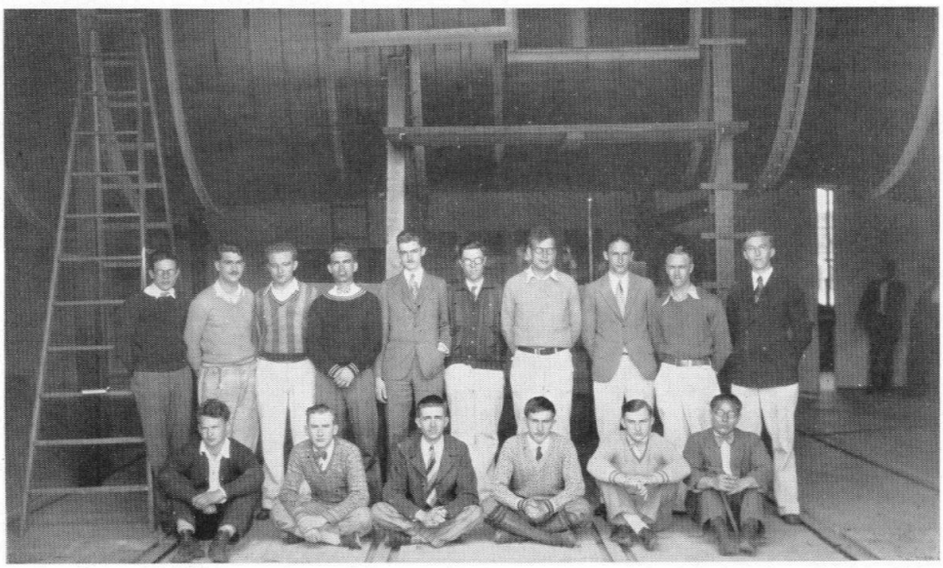
AERO CLUB

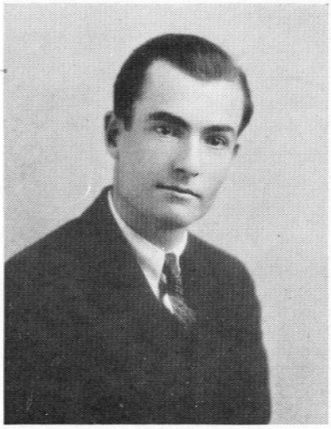
President, Charles Bosserman
Vice-President, Jack Grafman
Secretary-Treasurer, L. Sprague de Camp



BOSSERMAN

Bosserman, Charles
Burman, Paul
Deardoff, H. H.
de Camp, L. Sprague
Ferguson, L. L.
Gilmore, A.
Grafman, Jack
Humphreys, W. L.
Keeling, Harry
Kleinbach, Hugo
Mason, Harry, Jr.
Miles, Kenneth
Miller, B. F.
Musset, Roger
Nagashi, Howard
Pruden, Worrell
Shields, John
Skaredoff, N.
Tarbet, Thomas
Thompson, F. W.
Willis, Prentice





LOHMAN

GEOLOGY CLUB

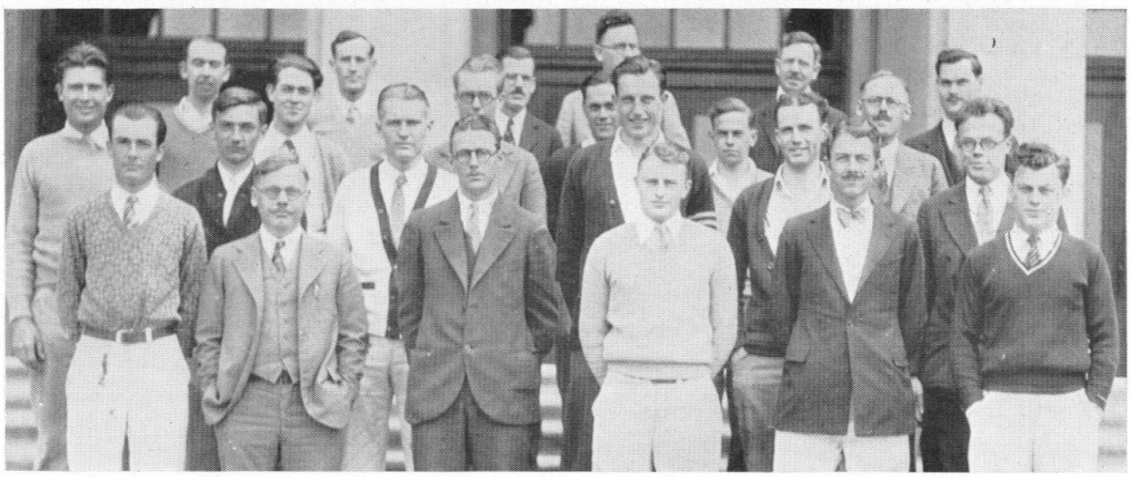
President, BERNARD MOORE
Sec'ty-Treas., K. E. LOHMAN

FACULTY

Beverly, Burt
Buwalda, John P.
Clark, Alex
Clements, Thomas
Eckis, Roland
Engel, Rene
Furlong, E. L.
Gazin, Louis
Hill, M.
Hookway, Lozell
Lupher, R. L.
MacMurphy, Franklin
Maxon, John H.
Nickel, Frank
Ransome, F. L.
Sandberg, Edward
Smith, Hampton
Stanton, Layton
Stock, Chester
Woodford, A. O.
Woodring, W. P.

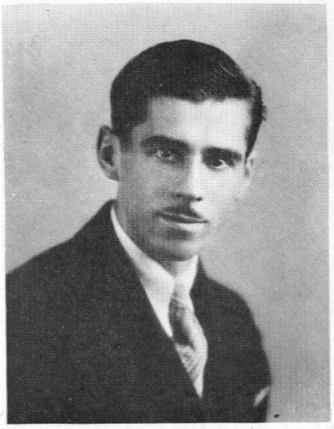
UNDERGRADUATES

Bode, Francis D.
Cromley, Ray
Daly, John W.
Findlay, Willard A.
Hodder, Roland
Kuhn, Truman
Lohman, Stanley W.
Lohman, Kenneth E.
Maitland, William
Sutherland, John Clark
Scharf, David
Sperling, Milton
Taylor, George
Tucker, Merrill
Van Beveren, Oscar
Wilson, Robert



CHEM CLUB

President, Robert J. White
First Vice-President, Kenneth Lohman
Second Vice-President, Ira C. Bechtold
Secretary, Al Newcomb
(First and Second Terms)
Secretary, Bob Stirton
(Third Term)
Treasurer, Francis N. Laird
Athletic Manager, Otto Reinen



WHITE

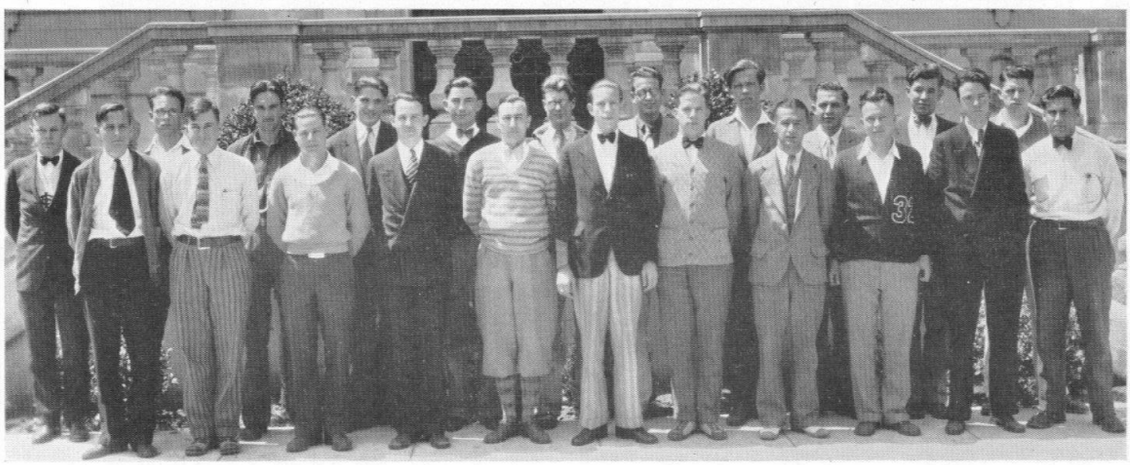
Allison
Arnold
Alden
Bergren
Brown
Bruderlin
Bates
Brewer
Bechtold
Bolles
Brasher
Blohm
Bowen
Carlson
Crossman
Crater
Doherty
Elconin
Gelber
Greiger

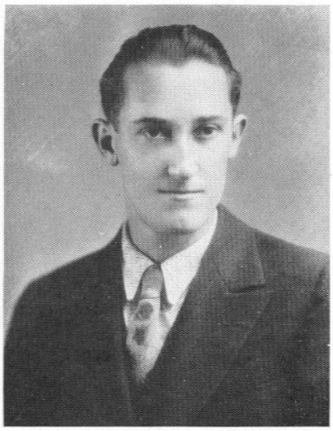
Gaylord
Geibler
Gunderson
Harmon
Hoeppel
Hatcher
Hoch
Hamilton
Imus
Laird
Lohman
Janssen
Kingman
Kircher
Lacey
Lind
Myers
Morris
McKinney
McMillan

Newcomb
Pohl
Parker
Robinson
Reinen
Roach
Retgel
Reynard
Stirton
Shull
Skoog
Schuhart
Trostel
Tickner
Thomas
Thornburg
Williams
White
Wilkinson
Wilmot

Gregory

Nye



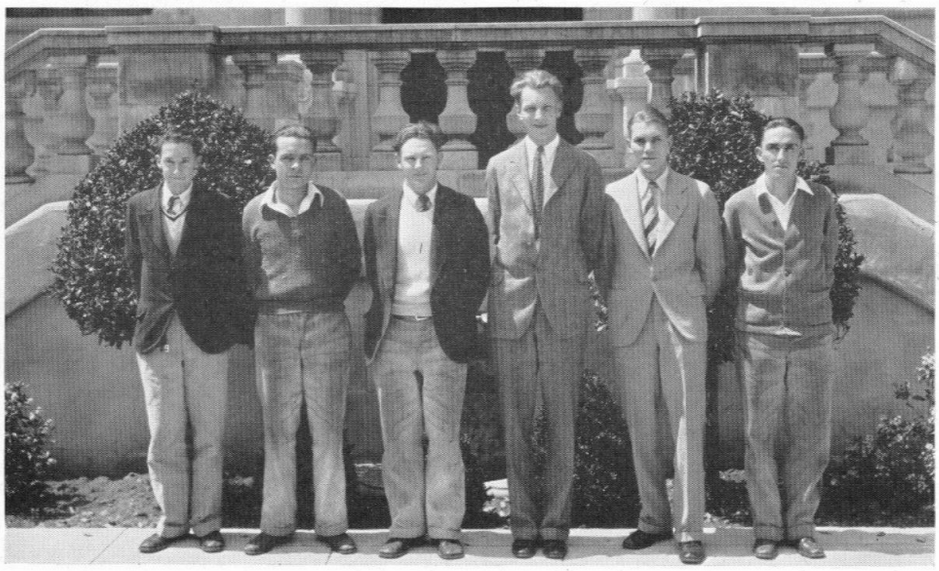


TOWNE

RADIO CLUB

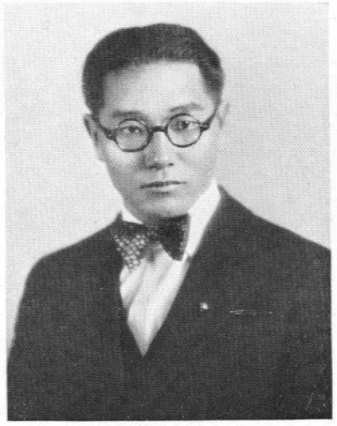
President, A. E. Towne
Vice-President, Lloyd Russel
Station Manager, Lloyd Russel
Secretary-Treasurer, J. C. Rapp

Buffum
Claussen
Fredendall
Hesse
Hoch
Lee
Myers
Rapp
Read
Russel
Sheffet
Towne
Wilson



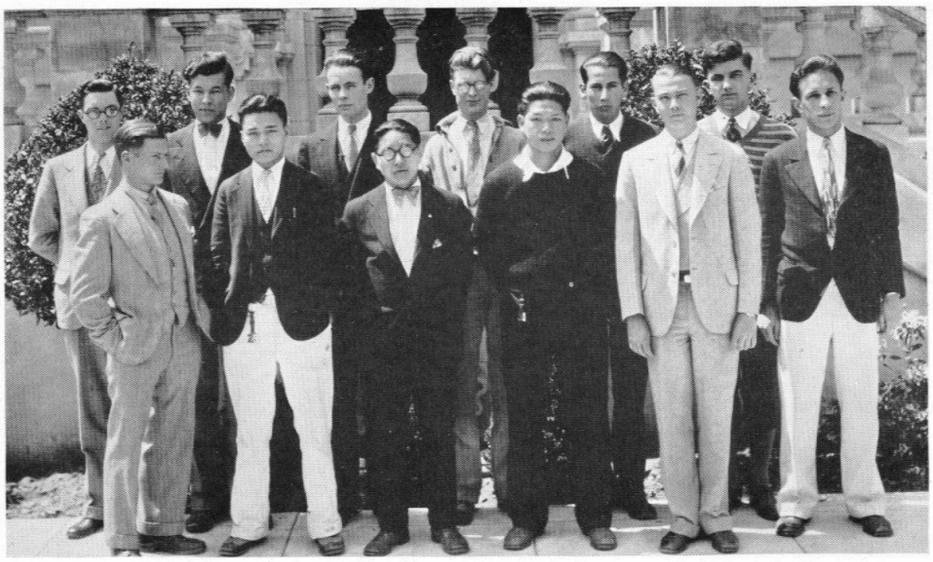
COSMOPOLITAN CLUB

President, Howard Nagashi
Vice-President, Charles Bosserman
Treasurer, Carl Overhage
Secretary, Philip Ung



NAGASHI

Rene Engel, Graduate
Haeff, Graduate
Kenneth Robinson, Graduate
J. E. Skafte, Graduate
C. A. Bosserman, '29
L. V. Leonard, '29
Kam Hu Lau, '29
H. M. Nagashi, '29
James Reilly, '29
Firth Pierce, '29
Thomas Noland, '29
Ray Cromley, '30
Francis Hutchinson, '30
Alex I. Ignatieff, '30
Carl Overhage, '30
Chester Carlson, '30
Fred Groch, '30
C. E. Geibler, '30
Carl Yoshioka, '30
Sidney Zipser, '30
Philip Ung, '31
George Shull, '31
Folke Skoog, '32
Masami Kanegae, '32
K. Skaredoff, '32



Y. M. C. A.

President, Clyde Shields
Vice-President, Karl Ganssle
Secretary, Beverly Fredendall
Treasurer, Donald Milliken

During the past year, the activities of the "Y" have had a most varied success. The several difficulties encountered have been surmounted by the fine spirit of co-operation that pervades the organization. Many valuable friendships have been created informally under the influence of the "Y" that have lasted long after the midnight oil has been forgotten.

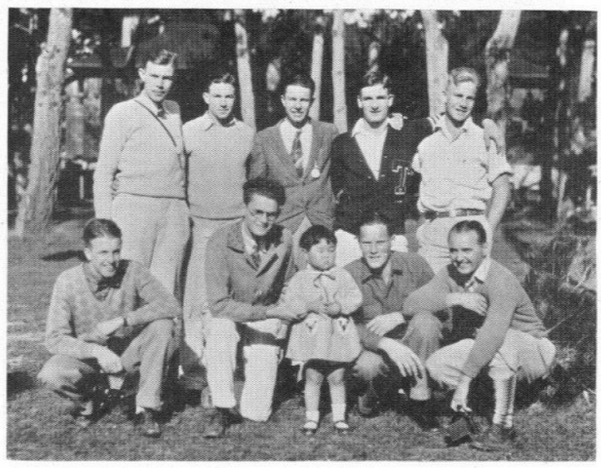
Campus friendships were started on the 18th, 19th and 20th of September, when forty-five Freshmen, accompanied by a few upperclassmen and faculty members, went to Camp Idylwild in the San Jacinto Mountains. These friendships were continued throughout the year, first through the "Y" mixers with the inseparable doughnuts and cider, and then under the constant and sympathetic guidance of Chuck Schwieso, a good friend as well as an able "Y" secretary. A number of "fellowship" luncheons were also given for the Freshman Class.

Asilomar, the annual "Y" Conference, again attracted several men at Christmas time, some of whom journeyed north to renew friendships they had made there on former occasions.

The Tech "Y" has served the student body in other ways. First, by arranging visits to the various HiYs in nearby towns to acquaint the members with Tech; secondly, by the handbook, which is published every year and which serves as a guide for Freshmen and as a reference book for upperclassmen.

COMMITTEE CHAIRMEN

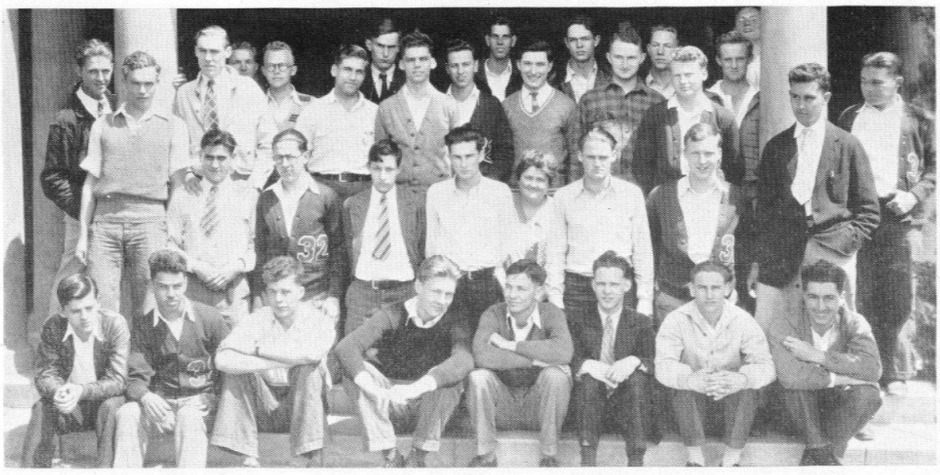
Freshmen, Karl Ganssle
Deputations, Franklin Crawford
Social, Donald Johnson
International, True Robinson
Membership, Oscar Newby
Meetings, Howard Baker
Publicity, Fred Wheeler
Handbook, Donald Milliken and John Gaylord
Asilomar, Art Brooks



DORM CLUB

President, Don Shaul
Vice-President, Cecil Killgore
Secretary, Randall Maass
Treasurer, William Kent

William Adams
John Ayers
Millard Barton
Gordon Bowler
James Bradburn
Gordon Brakesman
Clifford Cawley
John Chambers
Joe Cline
Arthur Dean
William Evans
Gerald Feely
Murray Gelber
Clark Goodman
William Groat
Nelson Harshman
Frank Hibbs
James Hill
Walter Huntley
Charles Jones
William Kent
Cecil Killgore
Leslie Lani
Randall Maass
John McKinley
James McLaughlin
William Moore
Richard Morgan
Walter Packer
Mott Prudames
Worrell Pruden
Lewis Rhyner
William Saylor
Jan Schaafsma
William O. Shultz
Donald Shaul
William Shuler
Arthur Simpkinson
Roy Stamps
Richard Thomas
Herbert Vander Goot
Halley Wolfe
Robert Woods
Herbert Zuckerman

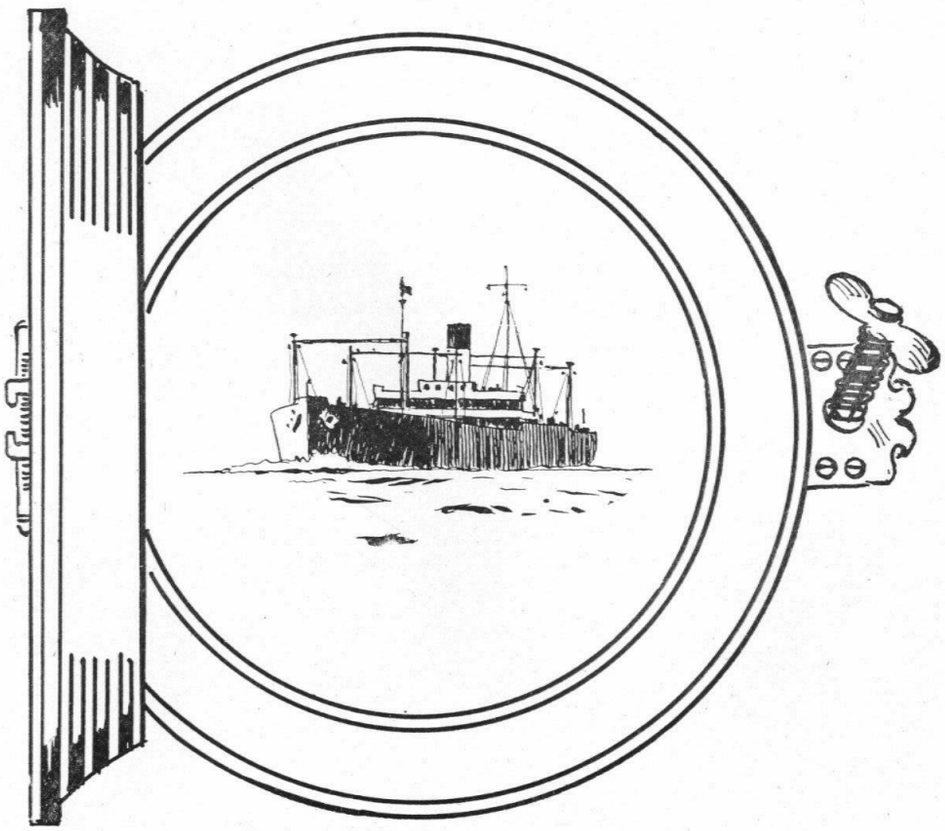


EUROPE CLUB

Perhaps the most interesting group of men on the campus is that composed of members of the Travel Club. The membership of this club is limited to those men who have had the good fortune of travel in some foreign country or are contemplating such a trip in the near future.

This year Travel Prizes were awarded to four members of the Junior Class by an anonymous donor, and were of sufficient size to permit a trip of some months in Europe. The fortunate ones were Philip Janssen, Frank Moyers, Lowell Green and Howard Cary. After an extensive competition which lasted during the first and second terms, these four were selected from the eight contestants. The men started for Europe in the middle of March, going directly to Naples and thence to Palermo in Sicily. From there they made an extensive tour through Italy and then up into France, Germany, England and Holland. The Travel Club is largely composed of men who have made this trip through the generosity of our unknown donor, but is greatly augmented by other men who have had similar good fortune without the medium of outside help.

One of the prime purposes of the Club is to make suggestions to the men who yearly are awarded this prize, and much lively discussion arises. Such subjects as bicycling through England are moot questions for discussion. Doctor Macarthur, a great traveler himself, leads the gathering, which meets bi-weekly in the Dugout at noon, and it is to him that much of the success of the Club is due.



GREEKS

GNOME CLUB

(Kappa Gamma)

Founded at the Institute — 1897

289 So. Madison St.

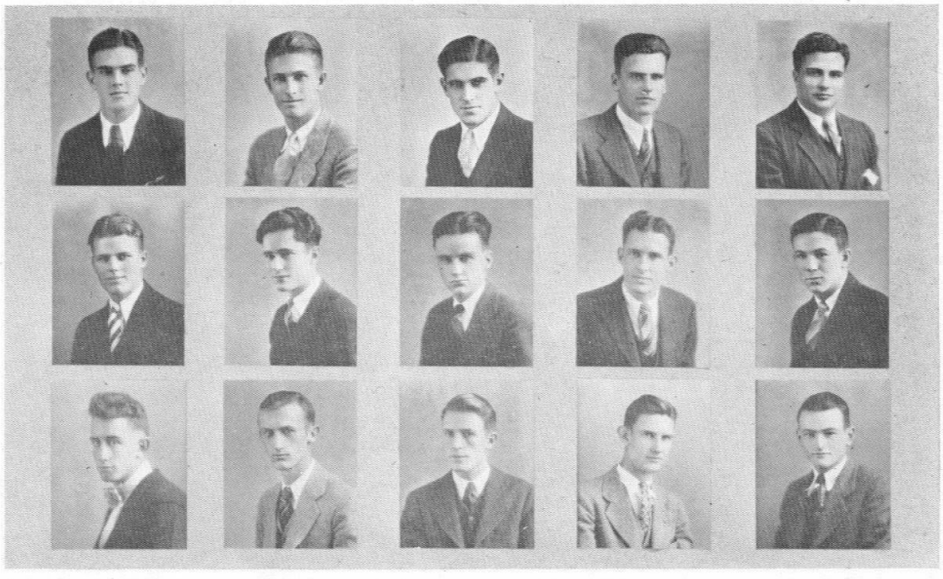
President, Karl Ganssle
Vice-President, Hubert O'Haver
Secretary, Merrill Tucker
Treasurer, Frank Crawford
Sergeant-at-Arms, William Mohr
Historian, Fred Wheeler

FACULTY

Mr. Edward C. Barrett
Dr. Stuart J. Bates
Mr. Gilmor Brown
Prof. W. Howard Clapp
Prof. Clinton K. Judy
Prof. Romeo R. Martel
Mr. Walter W. Ogier, Jr.
Prof. Royal W. Sorensen
Mr. Ray E. Untereiner
Prof. Harry C. Van Buskirk

GRADUATE

Guy L. Chilberg
Robley D. Evans
F. Gunner Gramatky
Albert E. Lombard, Jr.
Kenneth H. Robinson



CRAMER, LYNN, T. CRAWFORD — EVANS, AYERS, GRAFF — EXLEY, F. CRAWFORD, INGHAM — GANSSLE, DOWNS, LABORY — LUFKIN, BROOKS, SMITS

CLASS OF 1929

Alphonse Cramer
Thomas Evans
Sidney Exley
Karl Ganssle
Schild Lufkin
Laurence Lynn
William Mohr
Hubert M. O'Haver
Douglas Perry
Leslie Scott
Maurice Sinram
Fred Wheeler

CLASS OF 1930

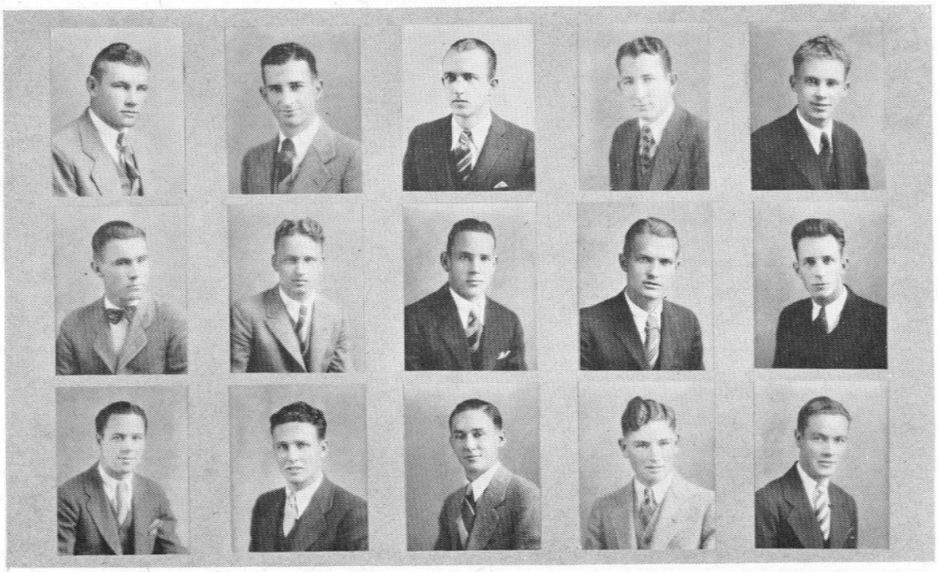
Walter Ayers
Frank Crawford
Roscoe Downs
George Liedholm
John McMillan
Robert Oaks
Merrill Tucker
Sidney Zipser

CLASS OF 1931

Arthur Brooks
Al Crawford
Don Graff
Aubrey Horn
Herbert Ingham
Raymond Labory
Robert Lehman
Jack McGarry
Leland Pratt
George Rice
Robert Smith
Howard Smits

CLASS OF 1932

John Ayres
Lewis Behlow
James Bradburn
Gordon Brakesman
Robert Carey
Clark Goodman
Carl Hegardt
Cecil Killgore
Edward Hayes
Ed Matthews
Don Shaul
Frank Wengren
Bob Woods



MOHR
WHEELER
LEHMAN

O'HAVER
LEIDHOLM
MCGARRY

PERRY
MCMILLAN
PRATT

SCOTT
TUCKER
RICE

SINRAM
ZIPSER
SMITH

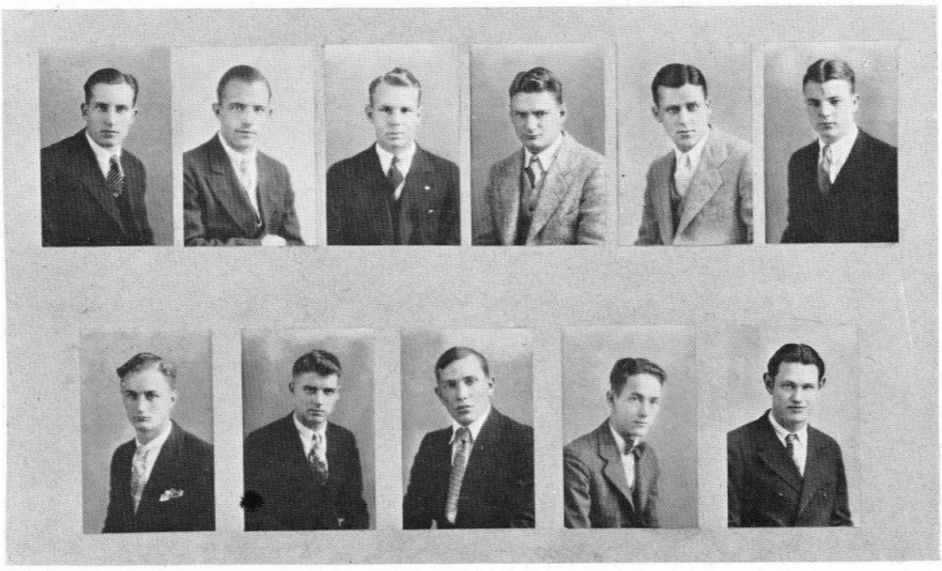
SIGMA ALPHA PI

Founded at the Institute — 1914
399 So. Mentor Ave.

President, Homer Reed
Vice-President, Jack Sturgess
Secretary, Edward Uecke
Treasurer, Joe Niles

FACULTY

William N. Lacey
Graham A. Laing
George R. MacMinn
Franklin Thomas
Stuart Campbell
Richard G. Folsom
Frank A. Nickell
William Layton Stanton, Jr.



DALY BERNHARDI DODGE BUNGAY JOHNSON BENNETT KEELEY CORDES MUFF ALDERMAN DICKEY

CLASS OF 1929

John Warlaumont Daly
Howard Grindal Dodge
Donald Hall Johnson
Joe Allen Niles
James Henry Keeley
Elmer Mason Muff
Homer Charles Reed
J. Conrad Scullin
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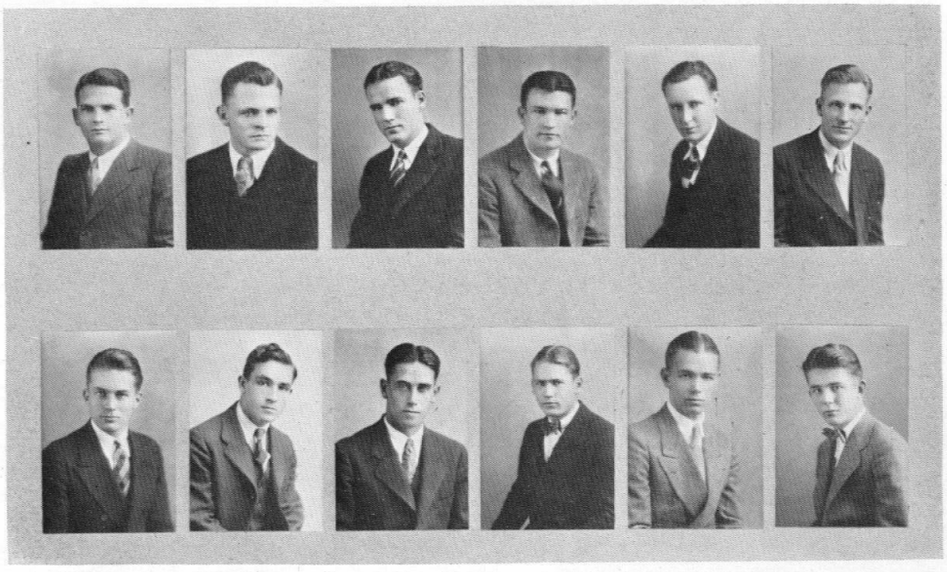

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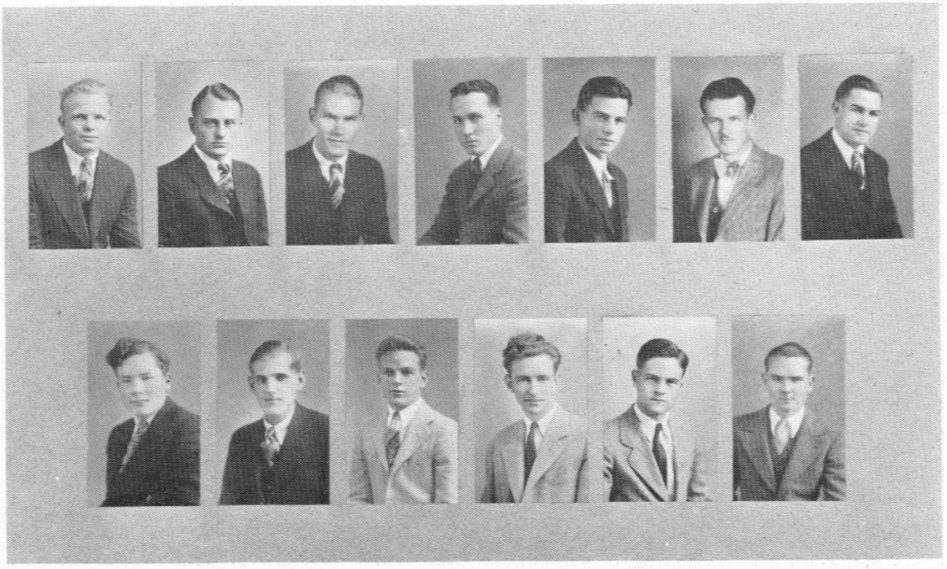

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John Chambers
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Robert Freeman
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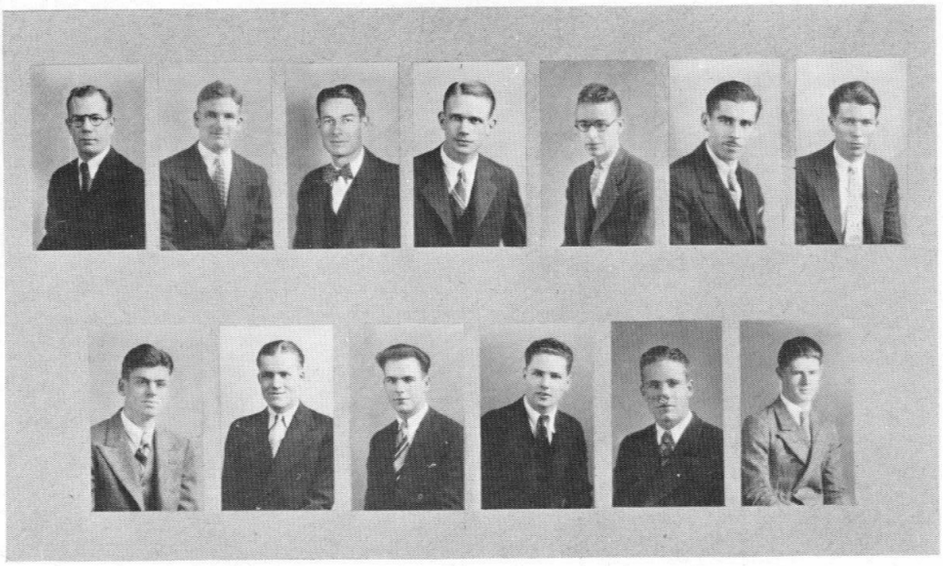

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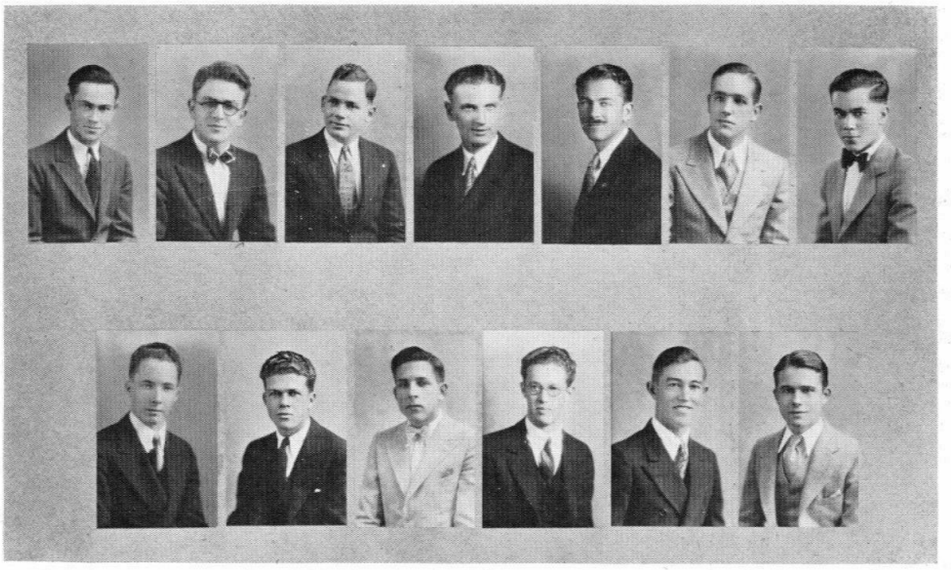

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Mr. Ralph W. Cutler
Mr. Fred Ewing
Mr. C. Louis Gazin

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G. F. Weismann
L. E. West

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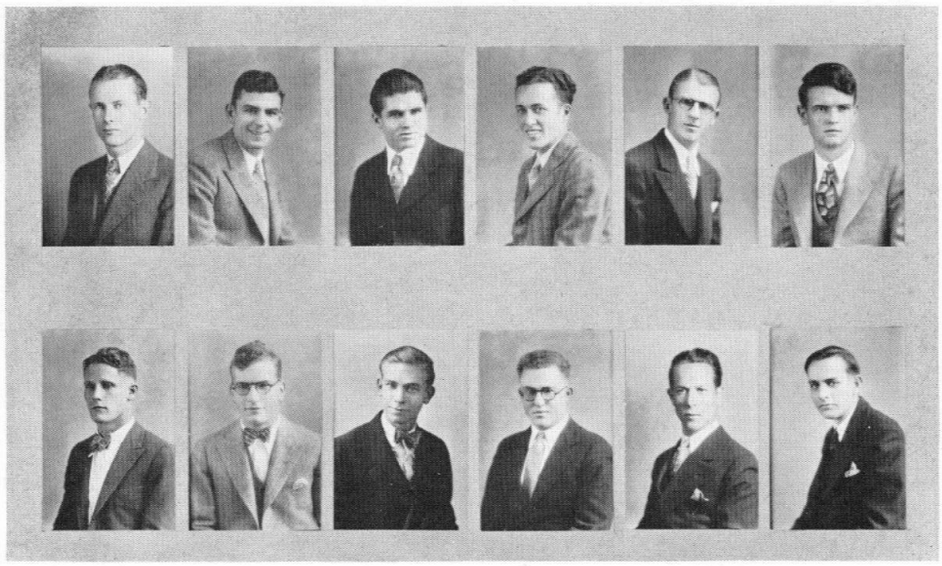

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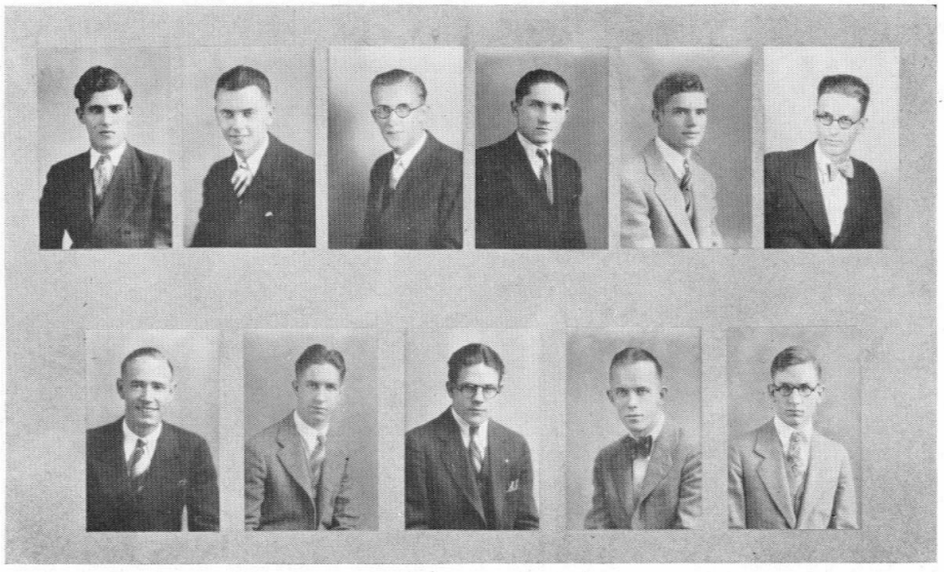

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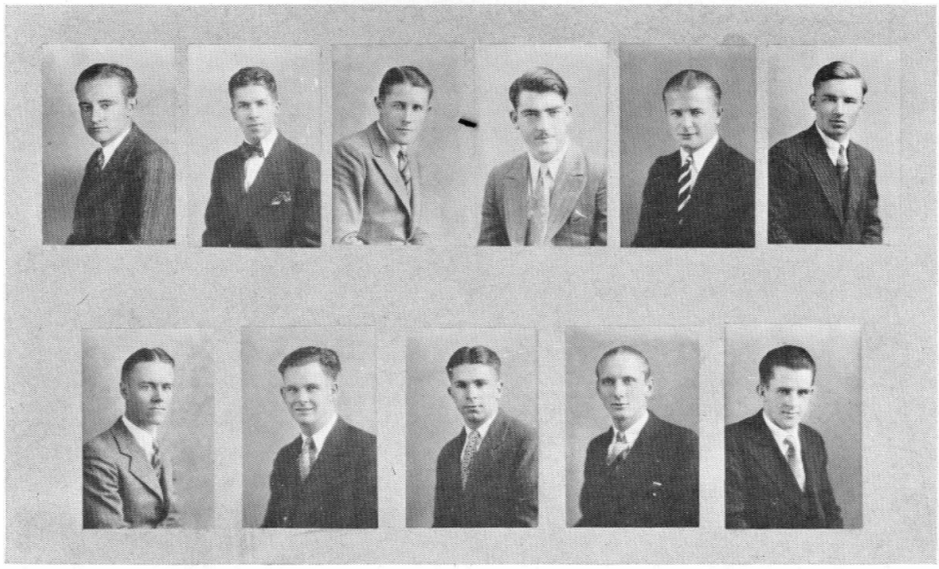
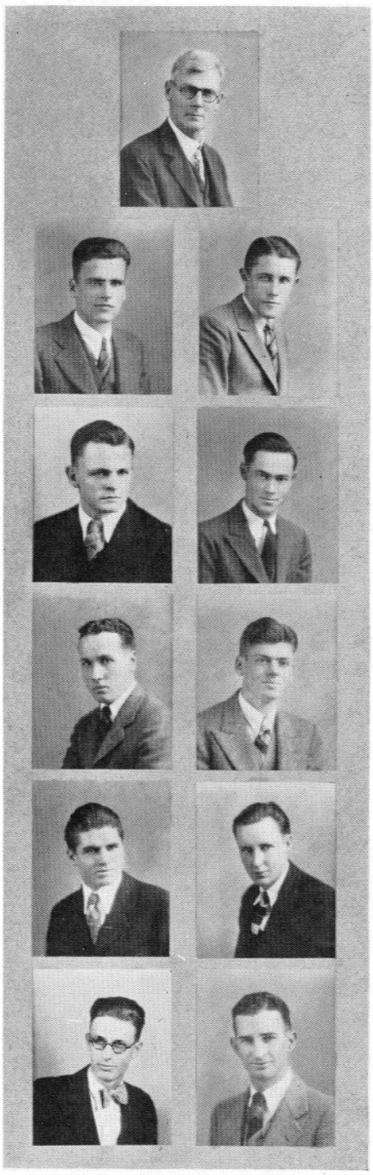


CAMPBELL WALTON WESTLUND HOPPER MOSS PRICHETT
SHIELDS STROUD TOWLER HALL THAYER

INTERFRATERNITY COUNCIL



HINRICHS

GANSSLE	WESTLUND
REED	ASQUITH
HATCH	STRONG
OLSON	HODDER
GRANT	O'HAVER

Perhaps the most active of the Greek letter organizations on the Tech campus is that body which represents the entire group of the social fraternities. The Interfraternity Council is composed of representatives from each of the five local Greek chapters, two members from each fraternity possessing an active vote in the meetings of the Council and one member from each of the houses acting as silent member of the Council. The original and chief function of the Council was the regulation of rushing on the campus, and a very efficient body of rules has resulted from the initial attempts toward preserving the dignity of the system as a whole. From the original small and relatively impotent group, the Council has grown to be an important factor in many respects other than the mere regulation of the rushing of men from the Freshman class; the promotion of the annual Interfraternity Ball is now handled by a committee subordinate to the central Council, and policies of general interest to the respective fraternities are given their initial form by the members of the central body. The fact that the rushing seasons are now handled with unruffled smoothness and dignity may be placed directly to the credit of the Interfraternity Council, the World Court of the campus fraternities.

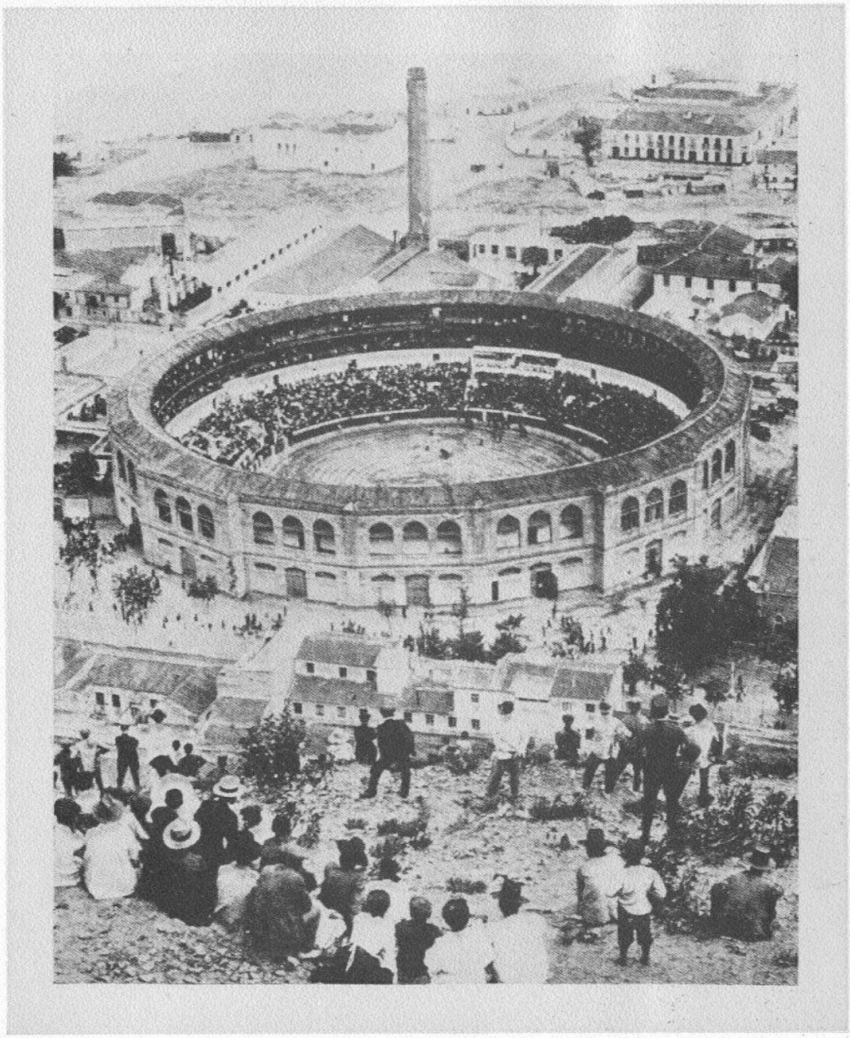
GNOMES
Hubert M. O'Haver
Karl A. Ganssle
Franklin G. Crawford

SIGMA ALPHA PI
Homer C. Reed
Roland F. Hodder
Jack Sturgess

PHAROS
William B. Hatch, Jr.
Morton K. Shields
Austin Strong

PI ALPHA TAU
Harlan R. Asquith
Donald K. Olson
W. Fred Arndt

GAMMA SIGMA
Karl W. Westlund
Horace A. Campbell
Edmund G. Grant



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I SAY—WHEN IN OXY, DO AS OXEN—THAT'S NO BULL!
BIG FEATURE
"13-7" OR "HOW WE MUFFED THE OXY GAME"
starring—
the TECH VARSITY SQUAD
ELEVEN OF 'EM—COUNT 'EM!
SURE—AN' WHEN IN TECH, DO AZTEC, SAY I!
The RAH-RAH! Page!
BY HARDIE GRAMATKY 1929
PLEASE DO NOT PARK HERE!
AH—AT LAST! A PLACE TO PARK!
EVERYTHING KNOCKS BUT OPPORTUNITY!
POLLY WITH A PEST!
O.K. EMMA HECKS
DETOUR
Let's make whoopee! FANNY!
2
HEY, YOU! THE "TECH" WANTS YOU FOR ITS EDITOR!
H—*, NO! I WANT TO GRADUATE THIS YEAR!
*Note: The "H—" means "Heavens," but was not inserted lest it cause undue comment on the part of the more meticulous students!
HO! HUM! WHY COULDN'T APOLLO HAVE BEEN A GIRL, OR SOMETHIN'?
SO THIS IS THE DABNEY LOUNGE!
IT'D BE MORE COMFORTABLE IF IT HAD A PILLOW ON IT!
HE—" WANTA HEAR A GOOD JOKE?" HE-HE—" NO! I'M SCOTCH, AND MY FATHER'S A TRAVELING SALESMAN!"
1¢
PLEASE
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Gypsy: "I tella your fortune, mister."

Stude: "How much?"

Gypsy: "Twenty-five cents."

Stude: "Correct. Howdja guess it?"—OKLA. WHIRLWIND.

"That burglar held me up and demanded my money, but he only took five dollars on account."

"What do you mean, on account?"

"On account of that was all I had."—BROWN JUG.

An egotist is a fellow who goes around the campus telling people he is losing his mind.—BLUE GATOR.

When the dean catches you spitting tobacco juice on the library floor, be nonchalant—light out!—BLACK & BLUE JAY.

Gladiator on Top: "I must stab you. The emperor has his thumbs down."

Gladiator on the Bottom: "Well, go ahead. What are you waiting for?"

G. O. T.: "It's my shirt you've got on."—CORNELL WIDOW.

She (after a quarrel): "Leave this house. I never want to see you again. Go this instant."

He: "I have one last request to make before I go."

She (sweetly, oh, very sweetly): "Well, what is it?"

He (brutally): "Before I leave forever, would you mind getting off my lap?"—DODO.

Man with Pyorrhea: "They tell me you're quite a tennis player, Doc."

Dentist (bashfully): "Yes, I took a set from Bill Tilden once."—GHOST.

This morning the body of an unidentified sailor was found cut to pieces and sewed up in a sack. Detectives from headquarters express the belief that the man committed suicide.—RED CAT.

Puns Are Terrible

London Curio Dealer: "Yes, sir, this is the very handkerchief used by the father of William Penn."

Tourist: "Hm, the original pen wiper."—PUNCH BOWL.

"Who was Homer?"

"Homer ain't a who. It's the what that made Babe Ruth famous."

White Shadows

A missionary wrote home: "The natives here are starving and are badly in need of food — send more missionaries."—VOO DOO.

Versatile

"Polly want a cracker?"

"No, old dear," replied the parrot. "I have dined copiously. Got a cigarette about you?"—BROWN BULL.

"Who is the tightest man in the world?"

"The Scotchman who fell in front of a steam roller and turned sideways so it wouldn't take the crease out of his trousers."—OKLA. WHIRLWIND.

Jim: "Did you go out last night?"

Lem: "No, I knew what I was doing all the time."—AMERICAN HUMOR.

"My Scotch boy friend sent his picture."

"How does it look?"

"I don't know, I haven't had it developed yet."—WAMPUS.

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"You are the most beautiful girl I've ever seen! I long to hold you in my arms, to caress you, to kiss your eyes, your hair, your lips—to whisper in your ear, 'I love you!' "

"Well, I guess it can be arranged." —TAWNEY KAT.

A successful grad, my son, can always be recognized by the seat of his pants. The successful grad's pants are shiny from sitting down. — PITT PANTHER.

Whoopee!

We Check Your Baggage Direct from Your Home to Destination at *No Extra Cost.*

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The overweight woman was being watched by two boys as she stepped on the scales. The machine registered seventy-five pounds.

"Gosh, Bill, she's hollow!"—AMES GREEN GANDER.

St. Peter: "Who's there?"

Voice Without: "It is I."

Peter (peeved): "Get outa here; we don't want any more school teachers." —NORTHWESTERN PURPLE PARROT.

An Alarming Idea

Aunt Hilda, after a brief survey of the college comic, looked up at her nephew with a horrified expression of wonder.

"Aren't you afraid," she asked, "that young ladies will read these papers?" —JACK O' LANTERN.

Little Boy: "We have a new baby at our house."

Big Boy: "What is it, a boy or a girl?"

L. B.: "Aw, it's a girl; I saw them put powder on it." — U. S. NAVAL ACADEMY LOG.

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CLEANERS AND DYERS

Sigma Delta: "I asked that coed if I could see her home."

Alpha Mu: "And what did she do?"

Sigma Delta: "She sent me a picture of the Tri Delt house."—DREXERD.

Lady Traveler: "And, my dear, I gained twelve pounds while in London."

Bored: "Yes, travel does broaden one."—SHI-U-MAH.

"What's all the cuspidors doing around here?"

"Dunno — shows poor taste."—CYNIC.

"You'd never think this car was a second-hand one, would you?"

"No, it looks as if you had made it yourself."—WASH. & LEE MINK.

Trade Mark

"How do you know he's a college man?"

"He doesn't stop drinking long enough to get a hang-over."—N. Y. MEDLEY.

"How do you get rid of these cooties?"

"That's easy. Take a bath in sand and rub down in alcohol. The cooties get drunk and kill each other throwing rocks."—WILLIAMS PURPLE COW.

Helen is surely speedy. She makes at least forty males an hour.—SCARLET SAINT.

Shoot to Kill!

"Where does glue come from?"

"The river Styx."

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$35

A dainty wrist watch with 15 jewel Elgin movement. 14 karat white gold filled case, delicately engraved. Raised figure dial . . .

$45

Numerous other smart Elgin watches for men and women, priced on a graduated scale from $19 to $650

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Jeweler

345 E. Colorado Pasadena

Disguised

Young Lady: "Were you pleased with the new school today, Tommy?"

Little Tommy: "Naw. Dey made me wash me face an' when I got home de dorg bit me 'cause he didn't know me."—GOBLIN.

Judge: "Do not deny it any more —three people have testified that they saw you steal."

Accused: "What are three people? I can bring millions who did not see me."—NEBELSPALTER, ZUIRCH.

"Have a drink?"

"No, thanksh, just had one."

"Have another."

"Just had another."

"Well, start in wherever you stopped."

"Can't. Haven't shtopped yet." — HAMILTON ROYAL GABOON.

Studious: "You know, I like math when it isn't over my head."

Naturalist: "Yea. That's just the way I feel about pigeons." — YALE RECORD.

So He Left Her Flat

Olaf had a date last week with one of the girls in a night club chorus. After footing the bills all night our snoose-eating cow valet thought he ought to have something in return, so when he took her home he asked:

"How's for a kiss, Honey?"

"Come around Friday," replied the sweet mama, "that's amateur night."

Daring Daphne opines that a worm is a caterpillar that played strip poker and lost.

Fanny: "Did I ever show you where I cut my hip?"

Sheik: "No, I wish you would."

Fanny: "All right. We'll drive over that way now."

That's Another Story

Friends

Professor: "This lecture is apt to prove embarrassing. If any men or women care to leave they may."

Voice from the Rear: "Sir, can I invite some friends?"—PUNCH BOWL.

Point: "How do you suppose the inventor of the huddle system in football got his idea?"

Blank: "Oh, probably from riding in a crowded street car!"—PENNSYLVANIA PUNCH BOWL.

Lordy!

As they glided over the dance floor and the band waxed red hot the sheik remarked: "Listen to that banjo break."

"Did it?" she sighed. "That's too bad."—YELLOW CRAB.

Shots that Pass in the Night

"What's Chicago's latest song hit?"
"My Heart Stood Still."
—MIAMPUS.

LA RAMADA INN

LUNCHEON -:- DINNER
TEA

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Corner: Huntington Drive and
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TERRACE 9260

Shakespeare
didn't own a
Clothing Store
but . . .

POLONIUS advised his son Laertes, (in "Hamlet") "costly thy habit as thy purse affords ...for apparel oft proclaims the man!" Polonius was really voicing a wonderfully wise man's opinion on the value of Good Appearance!

Desmond's
LOS ANGELES

Off Side

TKA: "Betcha the Michigan team kicks off!"

Theta: "I didn't even know they were sick."

This Was A Lawyer

Lecturer: "Ladies and Gentlemen—"

Student (in rear of hall): "Will you put that in writing?"—MASQUERADER.

Who?

That reminds us of the professor who gave his fingernails an examination and then cut his class.—YELLOW CRAB.

Siebrecht's
House of Flowers

483-485 East Colorado St.
Pasadena, Calif.

Howdy

Professor: "And are you sure that this story is original?"

Student: "Certainly it is."

Professor: "Great Heavens! I didn't think that I would live to see the day when I would meet Rudyard Kipling."—JACK O'LANTERN.

Cash

Economical Student: "Do you take anything off for cash?"

Saleslady: "Sir!"—PUNCH BOWL.

Can It?

Father: "Don't talk to me! When I was young we never parked on any dark roads like you youngsters do today!"

Son: "Absolutely right, old man! But don't forget that a horse can steer itself!"—STONE MILL.

Tourist: "Those cows run around as though they were drunk."

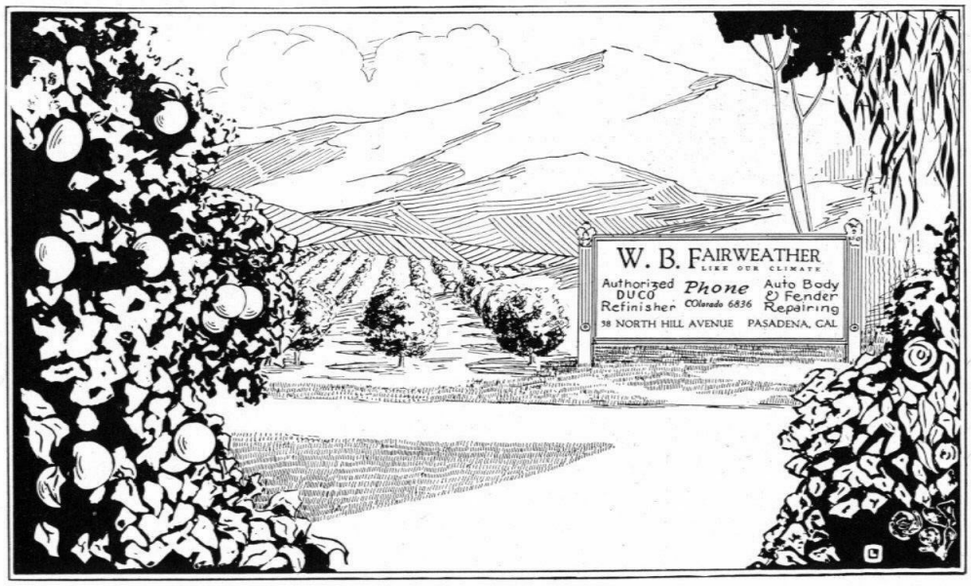
Cowboy: "Yas'm; them's what we make corned beef out of."—YALE RECORD.

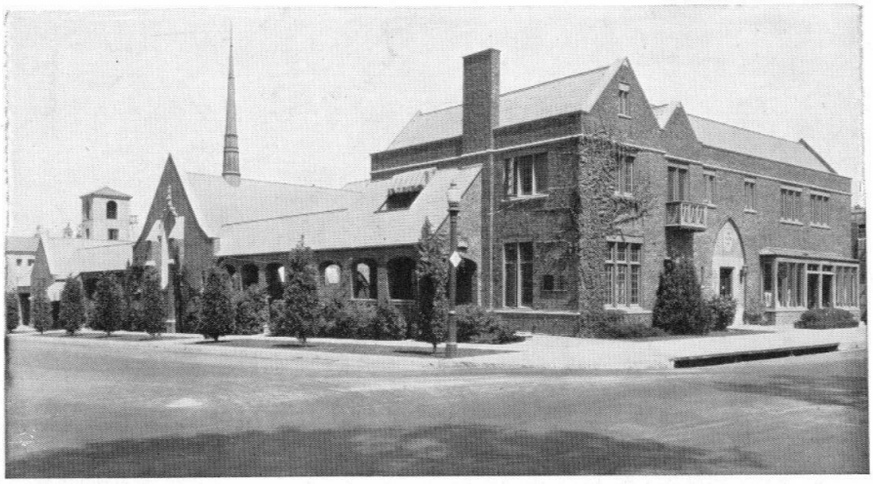
Monday Night Blues

"Mine is no idle tale," said the freshman as he leaned over for another whack.—BLACK AND BLUE JAY.

She Had A Loafy Time!

We will now sing, "She was only a baker's daughter in search of a little 'ovin.'"—BISON.





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"How's for a kiss, Honey?"

"Come around Friday," replied the sweet mama, "that's amateur night."

Captain to Private: "Your name?"

Private: "Jones, sir."

Captain: "Your age?"

Jones: "Twenty-four."

Captain: "Your rank?"

Jones: "I know it."—PENN. STATE FROTH.

"How d'ya like my baby?"

"Sweet, looks just like you."

"How dare you!"

"Dare what?"

"I was merely jesting, it's my neighbor's."—N. Y. MEDLEY.

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TELEPHONE TERRACE 4736

CLARK'S TOP AND BODY WORKS

Everything in Tops, Seat Covers
Plate Glass, Tonneau Shields
Fenders, Painting, Etc.

33-37 W. GREEN ST.
G. W. CLARK PASADENA

Fanny: "Did I ever show you where I cut my hip?"

Sheik: "No, I wish you would."

Fanny: "All right. We'll drive over that way now."

Machine Gun Blues

Esther: "Where did you get that pretty lace dress?"

Madelyn: "That isn't lace; I have been to Chicago."

Believe It or Not

Mr. G. F. Starr of Timken, Kans., wrote the following to Creed Joyce, our Kansas Division manager:

"I have a three dollar racket that is twenty-five years old and which has never been restrung. It is still in first class condition."

It just goes to prove that sheep do not have the guts they used to have.

She: "If you don't leave this room immediately, I'll call the whole police department to put you out."

The Brute: "My love, it would take the whole fire department to put me out."—ORANGE PEEL.

Pledge (at dinner table): "Must I eat this egg?"

Brother: "Yer damn right!"

Silence ————————.

Pledge: "The beak, too?" — ARIZONA KITTY-KAT.

THE ORCHID

FLORIST

PHONE TERRACE 4709 GREEN AT MADISON

Do You Study in Comfort?
If not, see
ALLEN B. COLE
OPTOMETRIST
SUITE 204, THE ARCADE
690 EAST COLORADO ST.
TELEPHONE
WAKEFIELD 6356

Barber: "Is there any particular way you'd like your hair cut?"

Freshman: "Yeah. Off." — CORNELL WIDOW.

Boss (to stenographer): "How about going on a business trip with me next week?"

Steno: "Say, I may be your typewriter, but don't get the idea that I'm portable."—GHOST.

"Gilda Gray could never play football."

"Why?"

"She'd be continually getting her team penalized for backfield in motion."—WASH. & LEE MINK.

Friend: "Is Antony coming from Rome voluntarily or are you going to make him?"

Cleopatra: "Both." — CORNELL WIDOW.

Compliments of
GREEN—HILL
Service Station
Complete Auto Service
Corner Green and Hill
A. E. NEWMAN, *Prop.*

The Old Main: "Has the canary had its bath yet?"

The Main: "Yes, he has, ma'm. You can come in now." — V. P. I. SKIPPER.

Beaming Father: "Yes, I named my three daughters Faith, Hope, and Charity."

Young Man (stuck for the evening with the heavy weight): "And the greatest of these is Charity."—COLGATE BANTER.

TAVERN COFFEE SHOP
Where Tech Men Eat
at
BILL WILLIAMS, *Prop.*, 38 E. Colorado
WAkefield 8530

YOUR HATTER **GLB** AND HABERDASHER

GEORGE L. BERGER

Shop for Men

159 East Colorado Street

TErrace 9204 PASADENA, CAL.

Her father was a railroad man, so she used a green lipstick.—NEBRASKA AWGWAN.

"Does your dog chase cows?"

"No, he's a bulldog."—WILLIAMS PURPLE COW.

There might not be so many triangular love affairs if there were more square meals.

What's sauce for the goose is not necessarily gooseberry sauce.—ANNAPOLIS LOG.

Judge: "My man, I've seen you here twice before and I find it my duty to send you for a third term."

Prisoner: "A third term, Yer Honor? Haven't you ever heard of the Washington precedent?" — WILLIAMS PURPLE COW.

Beware of no man more than yourself.

"So that boy is working for the printer?"

"Yes, the little devil." — SEWANEE MOUNTAIN GOAT.

"Just as two burglars were entering my house the other night, the clock struck one," old Si Chestnut started telling the crowd on the corner. "Which one did it hit?" asked a bystander. Old Si nearly swallowed his chewing tobacco.—CLIPPED.

He was an engineering student, and left blue prints on her neck.—DETROIT JABBERWOCK.

J. F. WINEGART J. A. PALLOCK

Compliments of the

WINEGART DRUG CO.

"Two Stores to Serve You Better"

Lake Ave. and California St. Lake Ave. and Green St.

Phone TErrace 7515

Right

Fresh: "I lost my check book yesterday."

Fresher: "That so?"

Fresh Again: "Yea. But it won't do anybody any good. I had my name written on all the checks."—SOUR OWL.

No. 1: "What I like about a woman is the way she wears her clothes."

No. 2: "Well, I like a woman's innocent outlook on life, and her sweet little smiles."

No. 3: "I admire a woman's artistic touch and the beauty of her hair."

Voice from the Other End of the Bar: "Why don't you guys stop lying to each other?"

Fables

Frosh: "No. I refuse your bid. Your fraternity is only 75 years old. Your house is terrible and the plans for your new one are a lot of hokum. The furniture looks as old as the fraternity and there isn't a decent arm chair in the house. The food is rotten and I don't like your pins."

The Frosh was buried the next day. —BISON.

Cash

Economical Student: "Do you take anything off for cash?"

Saleslady: "Sir!"—PUNCH BOWL.

When You Think Printing
Think

MISSION PRESS

T. S. HESKETT, Mgr.

28½ So. Fair Oaks TErrace 4247

She Had A Loafy Time!

We will now sing, "She was only a baker's daughter in search of a little 'ovin'."—BISON.

Shots that Pass in the Night

"What's Chicago's latest song hit?"

"My Heart Stood Still."

—MIAMPUS.

Bull Sessions

Frosh: "I was out on a party last night with a girl and she asked me to kiss her."

Senior: "What did you do?"

Frosh: "I told her no and brought her home. What would you have done?"

Senior: "I would have done the same thing you did, but I wouldn't lie about it."—KITTY KAT.

The WILLIAM WILSON CO.
"Over 35 Years of Service"
Real Estate Insurance Mortgages

We refer to any local Bank or Trust Company

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BIG T 1929

QUALITY SUPREME

A firms prestige is made by the work they produce. This year we offer for your approval the different panels of the many classes and organizations which appear throughout the book as a distinctive representation of high standard which we maintain for our year-book work.

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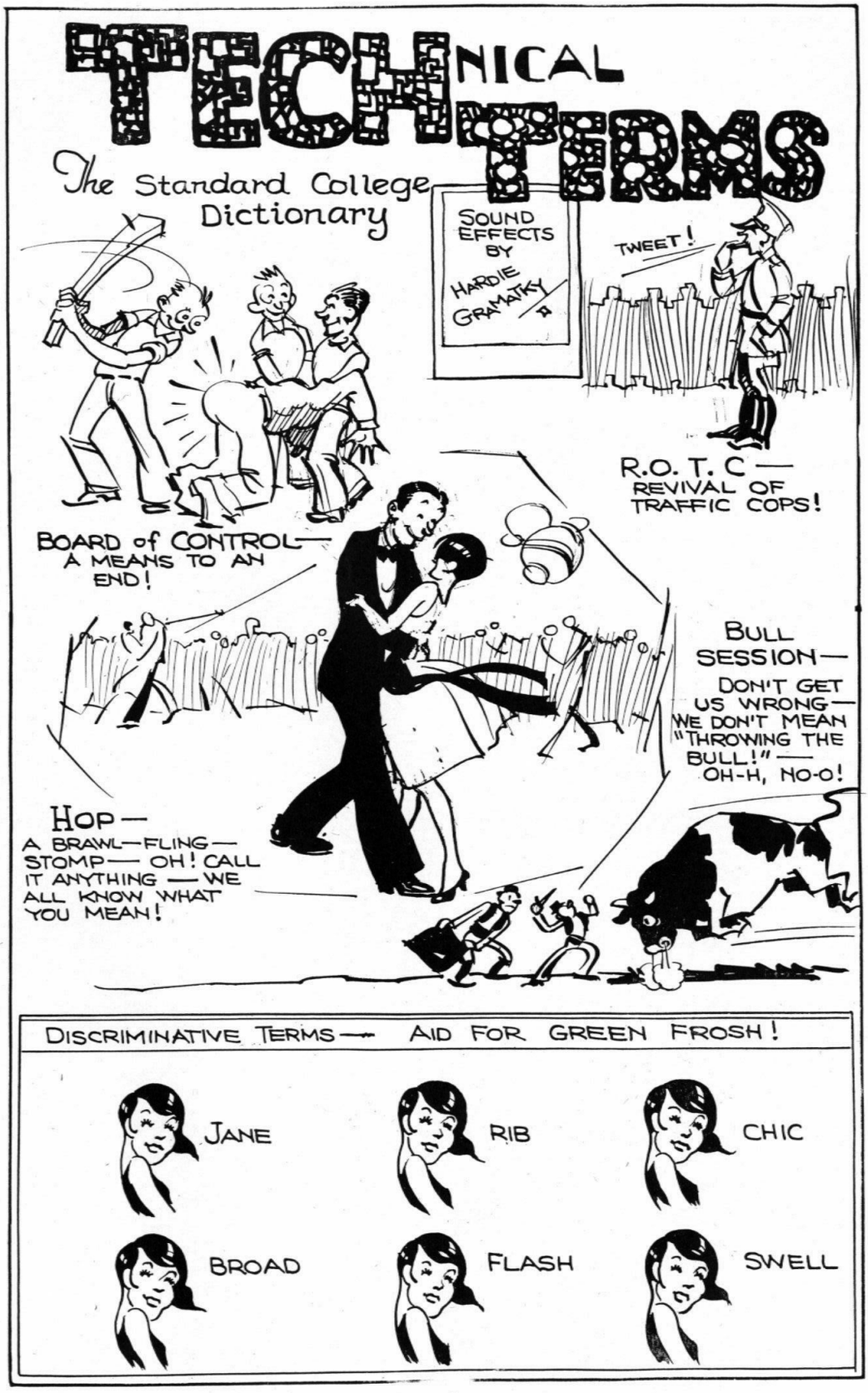
Long Beach · Pasadena · Glendale
Santa Ana


TECHNICAL TERMS
The Standard College Dictionary
SOUND EFFECTS BY HARDIE GRAMATKY
TWEET!
R.O.T.C — REVIVAL OF TRAFFIC COPS!
BOARD of CONTROL — A MEANS TO AN END!
BULL SESSION — DON'T GET US WRONG — WE DON'T MEAN "THROWING THE BULL!" — OH-H, NO-O!
HOP — A BRAWL — FLING — STOMP — OH! CALL IT ANYTHING — WE ALL KNOW WHAT YOU MEAN!
DISCRIMINATIVE TERMS — AID FOR GREEN FROSH!
JANE
RIB
CHIC
BROAD
FLASH
SWELL

Authorized Dealer

R. C. A. RADIOLAS, VICTROLAS AND RECORDS

Tubes, Batteries, Accessories and Service

The Radio Store

564 E. Colorado St. Established July, 1920 TErrace 3281

No. 1: "What I like about a woman is the way she wears her clothes."

No. 2: "Well, I like a woman's innocent outlook on life, and her sweet little smiles."

No. 3: "I admire a woman's artistic touch and the beauty of her hair."

Voice from the Other End of the Bar: "Why don't you guys stop lying to each other?"

As You Were

Mother (severely): "Jane! Didn't I see you holding both of George's hands tonight?"

Jane: "Gee, Ma, a girl's got to protect herself, hasn't she?"—SNIPER.

When the dean catches you spitting tobacco juice on the library floor, be nonchalant—light out!—BLACK AND BLUE JAY.

Service Z. V. SHAW *Quality*

JOB PRINTING, ENGRAVING, EMBOSSING

21 East Holly St. TErrace 7310 Pasadena, Calif.

REED & MILLER

SPORTING GOODS

404 East Colorado St. TErrace 0550 Pasadena, Calif.

STEAMSHIP RESERVATIONS AND TICKETS

For All Lines, Cruises and Tours

COMPLIMENTS
OF
A FRIEND

It is altogether fitting and proper

Tourist: "Those cows run around as though they were drunk."

Cowboy: "Yas'm; them's what we make corned beef out of." — YALE RECORD.

Lordy!

As they glided over the dance floor and the band waxed red hot the sheik remarked: "Listen to that banjo break."

"Did it?" she sighed. "That's too bad."—YELLOW CRAB.

As You Were

Mother (severely): "Jane! Didn't I see you holding both of George's hands tonight?"

Jane: "Gee, Ma, a girl's got to protect herself, hasn't she?"—SNIPER.

"I"

"I'm not the happiest person in the world, but I'm next to the happiest"—murmured the supreme egoist as he took the sweet young thing into his arms.—SUN DIAL.

P. A. PETERSON
MERCHANT TAILOR
1190 EAST COLORADO ST.
COR. MICHIGAN AVE.
PHONE WAKEFIELD 7703
PASADENA, CALIF.

C. HAL JOHN W.
REYNOLDS & EBERLY MORTUARY
825 EAST ORANGE GROVE NEAR LAKE AVENUE
An Institution for Community Service
ORGAN RECITALS
SUNDAYS, 3 P.M.
PASADENA
TELEPHONE
STERLING 1123

Compliments

OF

THE
MODEL GROCERY CO.

PASADENA

COLORADO 2611 ELIOT 3537

Kay: "Must be high tide now."
Nu: "How so?"
Kay: "'Cause the canoe's deeper in the water."

Harris Breth (on the phone in the basement): "Hello, is this the Salvation Army?"
Voice on the Other End of the Wire: "Yes."
Harris: "Do you save wild women?"
Surprised Voice: "Yes."
Harris: "Well, save me three for Saturday night, will you?"

"Pardon me, I'm on my second carload now."
(APOLOGIES TO OLD GOLD)

Off Side

TKA: "Betcha the Michigan team kicks off!"
Theta: "I didn't even know they were sick."

This Was a Lawyer

Lecturer: "Ladies and Gentlemen—"
Student (in rear of hall): "Will you put that in writing?"—MASQUERADER.

Well?

"I had a date with a college boy last night."
"What did you do?"
"Migosh, Maurine, haven't you ever been out with a college boy?"—RICE OWL.

Who?

That reminds us of the professor who gave his fingernails an examination and then cut his class. — YELLOW CRAB.

EAST SIDE HARDWARE COMPANY

SPORTING GOODS, PAINTS, OILS AND GLASS

722 E. COLORADO ST. CORNER OAK KNOLL & COLORADO TERRACE 1047

COMPLIMENTS

OF

A

FRIEND

A well-groomed appearance isn't just a matter of form.

Your form may even be improved upon with one of these shapely and shape-retaining Brenwood suits at $35 to $65.

?

Brenner and Wood
RESPONSIBLE FOR ALL BRENWOODWEAR
155 EAST COLORADO ST.

Daring Daphne opines that a worm is a caterpillar that played strip poker and lost.

Fond Mama: "Don't you know you shouldn't play strip poker?"

Sweet Young Thing: "Oh, it's perfectly all right. It's not really gambling."

"What!"

"No; you see we get our clothes back."

Said the fat lady when her bathing suit ripped:

"I hope I'm not protruding!"

Sweet Young Thing: "Have a cigarette?"

Elderly Lady: "What! Smoke a cigarette! Why, I'd rather kiss the first man that came along!"

Sweet Young Thing: "So would I. But have a cigarette while you're waiting."—PITT PANTHER.

CAMERAS
KODAKS
SUPPLIES

"CINE-KODAKS"
F. W. REED & CO.
176 East Colorado St.

DEVELOPING
PRINTING
ENLARGING

Wm. C. Crowell

BUILDER

495 SO. BROADWAY

PASADENA, CALIFORNIA

St. Peter was interviewing a fair damsel at the pearly gate.

"Did you ever engage in any necking, petting, smoking or drinking while you were on earth?" he asked.

"Never," she replied.

"You should have reported here before," said Pete. "You've been dead a long while."

Salesman: "Listen, girlie, how come you're so wild?"

Little Nell: "Say, mister, I'm tough. I went to an immoral school."

Salesman: "Whaddaya mean, immoral?"

Nell: "We didn't have any principal."

"He's a young man of great promise."

"Yeah—I understand four women are suing him about some."

"Does your husband still walk in his sleep?"

"I'll say he does! Last night I caught him hanging on the window shade. He thought he was riding the blinds."

Old-Fashioned Girl: "I'll put on those short skirts all right, but I won't powder my face."

Modern One: "Oh, dust this once."

Drill Sergeant: "Do you know how to execute squads right?"

Recruit: "Sure. Stand 'em up against a wall and shoot."

Sir Launcelot: "Why don't you bring Guinevere to the Round Table?"

King Arthur: "A man doesn't like to take his wife to these all knight parties."

A young lady school teacher had been greatly annoyed by some of her pupils ascending the stairs puffing and panting as though completely tired out. She determined to put a stop to this, and one day met them as they came into the room, and thus admonished them:

"See here, girls, you are making altogether too much noise, and hereafter when you come into the class room I want you to leave your puffs and pants downstairs."

Well?

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"What did you do?"

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"Did she wink at you?"

"No, but she just crossed her legs."

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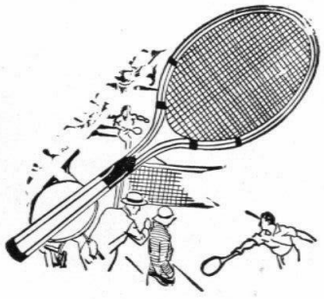

SPORTING GOODS

Sports Equipment for Golf, Tennis, Baseball, Football, Basketball, Cinder Track, Play Ground, Lawn Sports, Bathing, and All Games.

F. C. NASH & CO.

COLORADO, BROADWAY AND UNION

PASADENA

Right

Fresh: "I lost my check book yesterday."

Fresher: "That so?"

Fresh Again: "Yea. But it won't do anybody any good. I had my name written on all the checks."—SOUR OWL.

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Senior: "What did you do?"

Frosh: "I told her no and brought her home. What would you have done?"

Senior: "I would have done the same thing you did, but I wouldn't lie about it."—KITTY KAT.

"Who is the tightest man in the world?"

"The Scotchman who fell in front of a steam roller and turned sideways so it wouldn't take the crease out of his trousers."—OKLA. WHIRLWIND.

Gladiator on Top: "I must stab you. The emperor has his thumbs down."

Gladiator on the Bottom: "Well, go ahead. What are you waiting for?"

G. O. T.: "It's my shirt you've got on."—CORNELL WIDOW.

Shocking Poetry

The naked hills lie wanton to the breeze,
The fields are nude, the groves unfrocked,
Bare are the shivering limbs of shameless trees—
What wonder is it that the corn is shocked! —DIRGE.

OVER 35 YEARS IN BUSINESS
PHONE TERRACE 2667
C. L. WALLMAN & SON
Jewelers and Optometrists
Swiss and American Watchmakers
EYES TESTED
GLASSES FITTED
847 E. COLORADO ST.
PASADENA, CALIF.

Specialty on Corsages for the boys
Man on Duty All Night Push Bell on Door
WHITFORD FLOWER SHOP
Across from the Strand Theatre
343 E. COLORADO ST. FREE DELIVERY PHONE TERRACE 3214
Florist Telegraph Delivery Association Representative

MARYLAND HOTEL
San Diego Home of Tech
ATHLETIC TEAMS AND THEIR FRIENDS AND FAMILIES
6TH, 7TH, AND F STS. SAN DIEGO

She (after a quarrel): "Leave this house. I never want to see you again. Go this instant."

He: "I have one last request to make before I go."

She (sweetly, oh, very sweetly): "Well, what is it?"

He (brutally): "Before I leave forever, would you mind getting off my lap?"—DODO.

Disguised

Young Lady: "Were you pleased with the new school today, Tommy?"

Little Tommy: "Naw. Dey made me wash me face an' when I got home de dorg bit me 'cause he didn't know me."—GOBLIN.

Versatile

"Polly want a cracker?"

"No, old dear," replied the parrot. "I have dined copiously. Got a cigarette about you?"—BROWN BULL.

This morning the body of an unidentified sailor was found cut to pieces and sewed cut in a sack. Detectives from headquarters express the belief that the man committed suicide.—RED CAT.

Lady traveler: "And, my dear, I gained twelve pounds while in London."

Bored: "Yes, travel does broaden one."—SKI-U-MAH.

Seventh at Olive

B. H. Dyas Co.

FAber 8181

Football

DYAS football equipment is very complete—from whistles to helmets. Your task of selecting the correct equipment can be made very easy. Let DYAS help you make your touchdowns.

Lower Street Floor

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KODAK HEADQUARTERS
59 E. Colorado Street
MOTION PICTURE CAMERAS
PROJECTORS ACCESSORIES
SERVICE
Kodak Finishing, Enlarging, Copying
"At the Sign of the Spool"

Puns Are Terrible

London Curio Dealer: "Yes, sir, this is the very handkerchief used by the father of William Penn."

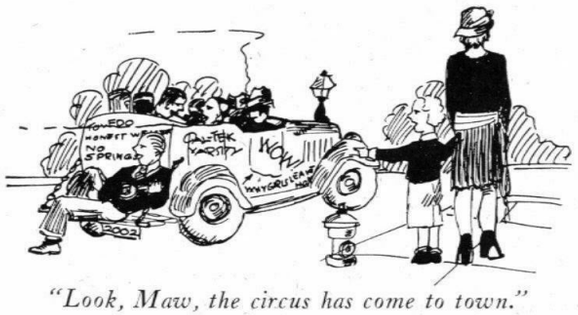
Tourist: "Hum, the original pen wiper."—PUNCH BOWL.

Old Gentleman (indignantly): "Look at that girl wearing knickers—and her hair cut just like a man's. Why, it's a disgrace!"

"Sir, that's my daughter!"

"Oh, I beg your pardon; I didn't realize you were her father."

"Father! Say, I'm her mother."—WISCONSIN OCTOPUS.



"Look, Maw, the circus has come to town."

Another Geology Prof

Wife: "Do you know you haven't been home for four nights?"

Absent-Minded Prof.: "Ye gods! Where have I been going?"—YELLOW JACKET.

Warden: "What made you beat up your cellmate the way you did?"

Convict: "Aw, dat guy gits wise wit me."

Warden: "What's he done to you now?"

Convict: "Tore de leaf off'n de calendar, and it was my toin."—BURR.

"Who was Homer?"

"Homer ain't a who. It's the what that made Babe Ruth famous."

START THE DAY RIGHT
With a Clean Shirt — Properly Processed by
"THE HOUSE OF SERVICE"
and
"THE STUDENT'S FRIEND"
MISSION LAUNDRY

COMPLIMENTS
OF
A FRIEND

Open All Night *Private Booths*

PHONES WAKEFIELD 8534
AND TERRACE 5374

GOOD FELLOW'S GRILL
CAFE

12 EAST COLORADO STREET
PASADENA, CALIFORNIA

Sea food our specialty *We do our own baking*

Sigma Delta: "I asked that co-ed if I could see her home."

Alpha Mu: "And what did she do?"

Sigma Delta: "She sent me a picture of the Tri Delt house."—DREXERD.

Man with Pyorrhea: "They tell me you're quite a tennis player, Doc."

Dentist (bashfully): "Yes, I took a set from Bill Tilden once."—GHOST.

"What's all the cuspidors doing around here?"

"Dunno—shows poor taste."—CYNIC.

White Shadows

Judge: "Do not deny it any more—three people have testified that they saw you steal."

Accused: "What are three people? I can bring millions who did not see me."—NEBELSPALTER ZURICH.

Little Boy: "We have a new baby at our house."

Big Boy: "What is it, a boy or a girl?"

L. B.: "Aw, it's a girl; I saw them put powder on it."—U. S. NAVAL ACADEMY LOG.

FINE BOOKLETS : AND ENGRAVING GENERAL : COMMERCIAL : PRINTING

THE BICKLEY PRINT SHOP

PHONE, WAKEFIELD 6594

67 NORTH RAYMOND AVENUE PASADENA, CALIFORNIA

Newest Interpretations by
America's Foremost Stylists

DOBBS FINE HATS

HICKEY•FREEMAN
CUSTOMIZED CLOTHES

MULLEN & BLUETT

In LOS ANGELES
In HOLLYWOOD

In PASADENA
In BEVERLY HILLS

Jim: "Did you go out last night?"

Lem: "No, I knew what I was doing all the time."—AMERICAN HUMOR.

An Alarming Idea

Aunt Hilda, after a brief survey of the college comic, looked up at her nephew with a horrified expression of wonder.

"Aren't you afraid," she asked, "that young ladies will read these papers?"
—JACK O' LANTERN.

"My Scotch boy friend sent his picture."

"How does it look?"

"I don't know, I haven't had it developed yet."—WAMPUS.

Trade Mark

"How do you know he's a college man?"

"He doesn't stop drinking long enough to get a hang-over."—N. Y. MEDLEY.

"You'd never think this car was a second-hand one, would you?"

"No, it looks as if you had made it yourself."—WASH. & LEE MINK.

"Have a drink?"

"No, thanksh, just had one."

"Have another."

"Just had another."

"Well, start in wherever you stopped."

"Can't. Haven't shtopped yet."—HAMILTON ROYAL GABOON.

Judge: "My man, I've seen you here twice before and I find it my duty to send you up for a third term."

Prisoner: "A third term, Yer Honor? Haven't you ever heard of the Washington precedent?" — WILLIAMS PURPLE COW.

Pledge (at dinner table): "Must I eat this egg?"

Brother: "Yer damn right!"

Silence ————————.

Pledge: "The beak too?" — ARIZONA KITTY-KAT.

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"Gilda Gray could never play football."

"Why?"

"She'd be continually getting her team penalized for backfield in motion."—WASH. & LEE MINK.

Friend: "Is Antony coming from Rome voluntarily or are you going to make him?"

Cleopatra: "Both." — CORNELL WIDOW.

Boss (to stenographer): "How about going on a business trip with me next week?"

Steno: "Say, I may be your typewriter, but don't get the idea that I'm portable."—GHOST.

Beware of no man more than yourself.

O. L. BRADDOCK F. B. BRADDOCK
Throop '02

BRADDOCK'S PHARMACY
738 EAST COLORADO ST.
COR. OAK KNOLL AVE.

PHONE TERRACE 5060 PASADENA, CALIF.

Sweet Young Thing: "Have a cigarette?"

Elderly Lady: "What! Smoke a cigarette! Why, I'd rather kiss the first man that came along!"

Sweet Young Thing: "So would I. But have a cigarette while you're waiting."—PITT PANTHER.

Captain to Private: "Your name?"
Private: "Jones, sir."
Captain: "Your age?"
Jones: "Twenty-four."
Captain: "Your rank?"
Jones: "I know it."—PENN. STATE FROTH.

He was an engineering student, and left blue prints on her neck.—DETROIT JABBERWOCK.

Believe It or Not

Mr. G. F. Starr of Timken, Kans., wrote the following to Creed Joyce, our Kansas Division manager:

"I have a three dollar racket that is twenty-five years old and which has never been restrung. It is still in first class condition."

It just goes to prove that sheep do not have the guts they used to have.

"How d'ya like my baby?"
"Sweet, looks just like you."
"How dare you!"
"Dare what?"
"I was merely jesting, it's my neighbor's."—N. Y. MEDLEY.

Machine Gun Blues

Esther: "Where did you get that pretty lace dress?"

Madelyn: "That isn't lace; I have been to Chicago."

She: "If you don't leave this room immediately, I'll call the whole police department to put you out."

The Brute: "My love, it would take the whole fire department to put me out."—ORANGE PEEL.

What's sauce for the goose is not necessarily gooseberry sauce.—ANNAPOLIS LOG.

Eyes Examined *Lenses Duplicated*

BINLEY'S OPTICAL
AND JEWELRY STORE

DR. CHAS. J. BINLEY
OPTOMETRIST

835 EAST COLORADO ST.
PASADENA, CALIF.

Thirty-five dollar suits are not startingly new—we admit it.

But here is what is new. Hart Schaffner & Marx tailoring, rich fabrics—fine style—all at $35.

Up to the minute in style—up to the mark in quality and way above par in value.

LEDDY'S, *Inc.*
170 East Colorado Street

The Old Maid: "Has the canary had its bath yet?"

The Maid: "Yes, he has, ma'm. You can come in now."—V. P. I. Skipper.

Beaming Father: "Yes, I named my three daughters Faith, Hope, and Charity."

Young Man (stuck for the evening with the heavyweight): "And the greatest of these is Charity."—Colgate Banter.

Her father was a railroad man, so she used a green lipstick.—Nebraska Awgwan.

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Convict: "Aw, dat guy gits wise wit' me."

Warden: "What's he done to you now?"

Convict: "Tore de leaf off'n de calendar, and it was my toin."—Burr.

Barber: "Is there any particular way you'd like your hair cut?"

Freshman: "Yeah. Off."—Cornell Widow.

There might not be so many triangular love affairs if there were more square meals.

"So that boy is working for the printer?"

"Yes, the little devil."—Sewanee Mountain Goat.

SATISFACTION

College men who take pride in their dress will find here a complete and unusual clothing service.

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OR TAILORED TO ORDER

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Little Boy (to father who has just returned from hospital after operation for appendicitis): "Well, where's the baby?"—CORNELL WIDOW.

Did you hear about the Scotch athlete who hated to loosen up his muscles?—DENNISON FLAMINGO.

Compliments

of a

Friend

"May I have the next dance with you?"

"If you press me."

"Wait until we start dancing."—V. M. I. SNIPER.

"The warden said they weren't going to let me out of here until I've learned the carpenter trade."

"I've got to be a conductor before I get out."

"A conductor of what?"

"Electricity."—OLLAPOD.

Old Gentleman (indignantly): "Look at that girl wearing knickers—and her hair cut just like a man's. Why, it's a disgrace!"

"Sir, that's my daughter!"

"Oh, I beg your pardon; I didn't realize you were her father."

"Father! Say, I'm her mother."—WISCONSIN OCTOPUS.

Can It?

Father: "Don't talk to me! When I was young we never parked on any dark roads like you youngsters do today!"

Son: "Absolutely right, old man! But don't forget that a horse can steer itself!"—STONE MILL.

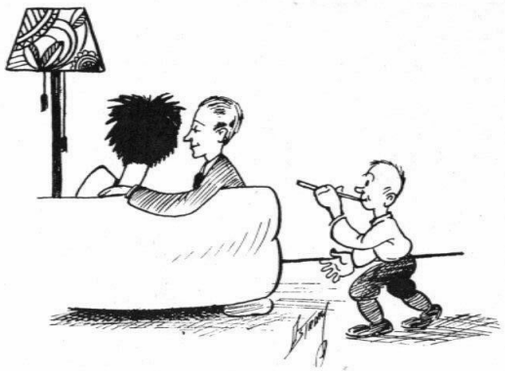
Point: "How do you suppose the inventor of the huddle system in football got his idea?"

Blank: "Oh, probably from riding in a crowded street car!"—PENNSYLVANIA PUNCH BOWL.

Friends

Professor: "This lecture is apt to prove embarrassing. If any men or women care to leave they may."

Voice from the Rear: "Sir, can I invite some friends?"—PUNCH BOWL.



A Little Fresh Heir Enters The Room

Shocking Poetry

The naked hills lie wanton to the breeze,
The fields are nude, the groves unfrocked,
Bare are the shivering limbs of shameless trees—
What wonder is it that the corn is shocked! —DIRGE.

Your Eyes

Should Be Examined Periodically

BY ONE WHO HAS THESE ESSENTIAL QUALIFICATIONS:

Medical Education, Specialized Eye Training, Adequate Experience and Unquestionable Ethics

In other words YOUR EYES SHOULD BE EXAMINED by a Competent Eye Physician

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St. Peter was interviewing a fair damsel at the pearly gate.

"Did you ever engage in any necking, petting, smoking or drinking while you were on earth?" he asked.

"Never," she replied.

"You should have reported here before," said Pete. "You've been dead a long while."

Old-Fashioned Girl: "I'll put on those short skirts all right, but I won't powder my face."

Modern One: "Oh, dust this once."

"Does your husband still walk in his sleep?"

"I'll say he does! Last night I caught him hanging on the window shade. He thought he was riding the blinds."

"He's a young man of great promise."

"Yeah—I understand four women are suing him about some."

Drill Sergeant: "Do you know how to execute squads right?"

Recruit: "Sure. Stand 'em up against a wall and shoot."

Salesman: "Listen, girlie, how come you're so wild?"

Little Nell: "Say, mister, I'm tough. I went to an immoral school."

Salesman: "Whaddaya mean, immoral?"

Nell: "We didn't have any principal."

Daring Daphne opines that a worm is a caterpillar that played strip poker and lost.

Howdy

Professor: "And are you sure that this story is original?"

Student: "Certainly it is."

Professor: "Great heavens! I didn't think that I would ever live to see the day when I would meet Rudyard Kipling."—JACK O'LANTERN.

Monday Night Blues

"Mine is no idle tale," said the freshman as he leaned over for another whack.—BLACK AND BLUE JAY.

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So He Left Her Flat

Olaf had a date last week with one of the girls in a night club chorus. After footing the bills all night our snoose-eating cow valet thought he ought to have something in return, so when he took her home he asked:

"How's for a kiss, Honey?"

"Come around Friday," replied the sweet mama, "that's amateur night."

Sir Launcelot: "Why don't you bring Guinevere to the Round Table?"

King Arthur: "A man doesn't like to take his wife to these all knight parties."

A young lady school teacher had been greatly annoyed by some of her pupils ascending the stairs puffing and panting as though completely tired out. She determined to put a stop to this, and one day met them as they came into the room, and thus admonished them:

"See here, girls, you are making altogether too much noise, and hereafter when you come into the class room I want you to leave your puffs and pants downstairs."

Said the fat lady when her bathing suit ripped:

"I hope I'm not protruding!"

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Fond Mama: "Don't you know you shouldn't play strip poker?"

Sweet Young Thing: "Oh, it's perfectly all right. It's not really gambling."

"What!"

"No; you see we get our clothes back."

Fanny: "Did I ever show you where I cut my hip?"

Sheik: "No, I wish you would."

Fanny: "All right. We'll drive over that way now."

Mother: "But surely you didn't tell him straight out that you loved him?"

Daughter: "No, mother, he simply had to squeeze it out of me."

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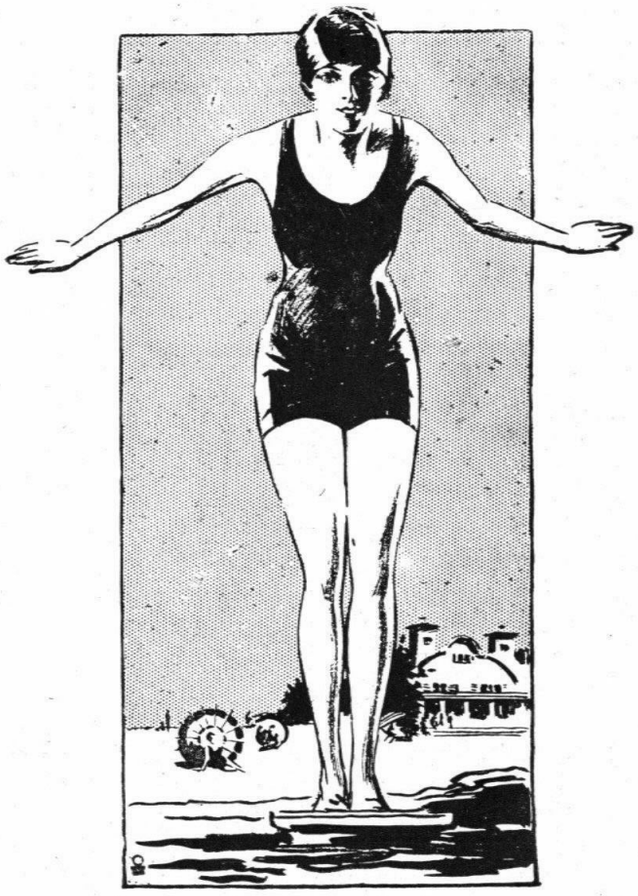

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SPRINTS THE 440 IN 40 SEC. FLAT—
2
I HAD A FLAT TIRE, TONIGHT!
DID YOU TAKE HER HOME EARLY?
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WHAT'S THE SEAL ON THAT BOX OF CIGARS?
IT'S JUST AN "OLD SPANISH CUSTOM!"
3
—AND THE MILE IN 3 MIN. 40.3 SEC. EASY—
EXTREMELY BUSY
HOW FAR TO BATES STREET?
4
—FINISHING WITH A BROAD JUMP OF 33 FT. 7¾ INCHES—
WE PASSED IT TEN BLOCKS BACK!
5
—ONLY TO MEET WITH ANOTHER OF THOSE LITTLE DISCOURAGEMENTS SO TYPICAL OF THE GAME!
OVERHEARD IN THE HIGH-TENSION LAB— "GOLLY! WHAT A KEEN SPARK THAT WOULD MAKE FOR MY FORD!"

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YOUR FAVORITE FLAVORS OF ICE CREAM AND SYRUPS

Studious: "You know, I like math when it isn't over my head."

Naturalist: "Yea. That's just the way I feel about pigeons."—YALE RECORD.

"How do you get rid of these cooties?"

"That's easy. Take a bath in sand and rub down in alcohol. The cooties get drunk and kill each other throwing rocks."—WILLIAMS PURPLE COW.

Helen is surely speedy. She makes at least forty males an hour.—SCARLET SAINT.

He's a young man of great promise."

"Yeah—I understand four women are suing him about some."

"Does your husband still walk in his sleep?"

"I'll say he does! Last night I caught him hanging on the window shade. He thought he was riding the blinds."

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HOLLYWOOD SAN DIEGO SAN FRANCISCO

Drill Sergeant: "Do you know how to execute squads right?"

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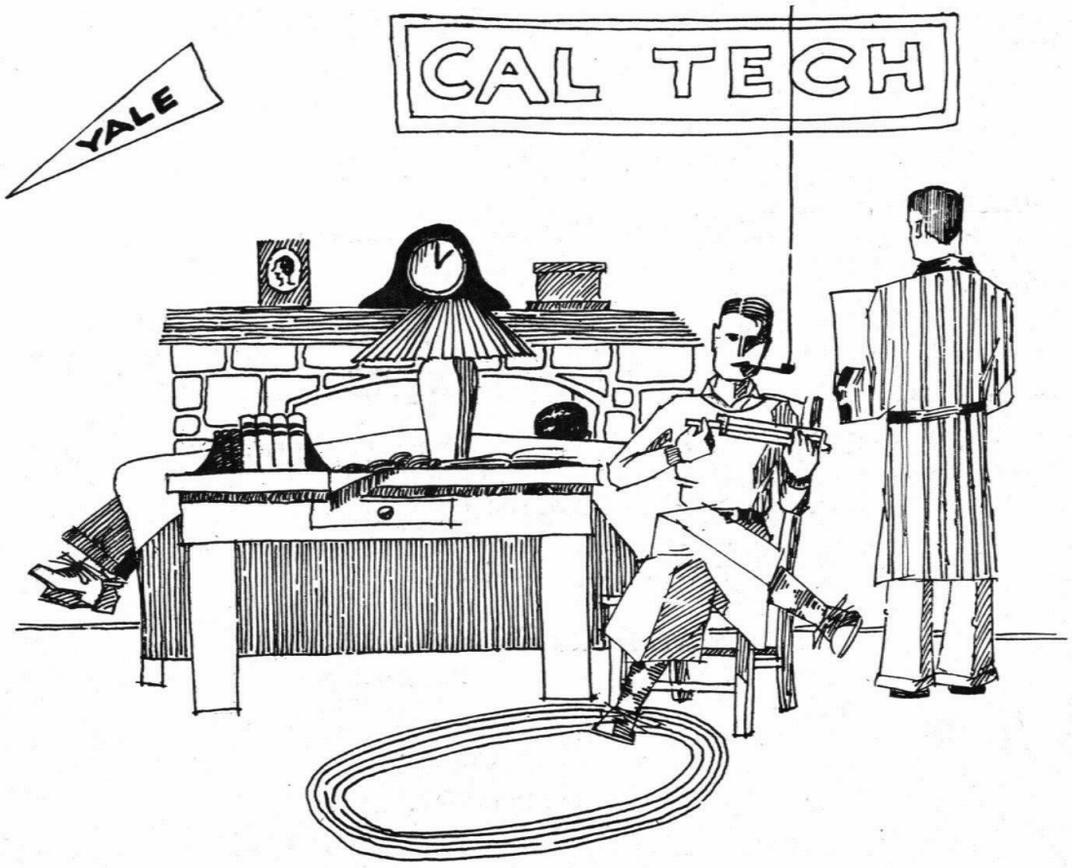
Sweet Young Thing: "Have a sigarette?"

Elderly Lady: "What! Smoke a cigarette! Why, I'd rather kiss the first man that came along!"

Sweet Young Thing: "So would I. But have a cigarette while you're waiting."—PITT PANTHER.



Men At Work

Sir Launcelot: "Why don't you bring Guinevere to the Round Table?"

King Arthur: "A man doesn't like to take his wife to these all knight parties."

Machine Gun Blues

Esther: "Where did you get that pretty lace dress?"

Madelyn: "That isn't lace; I have been to Chicago."

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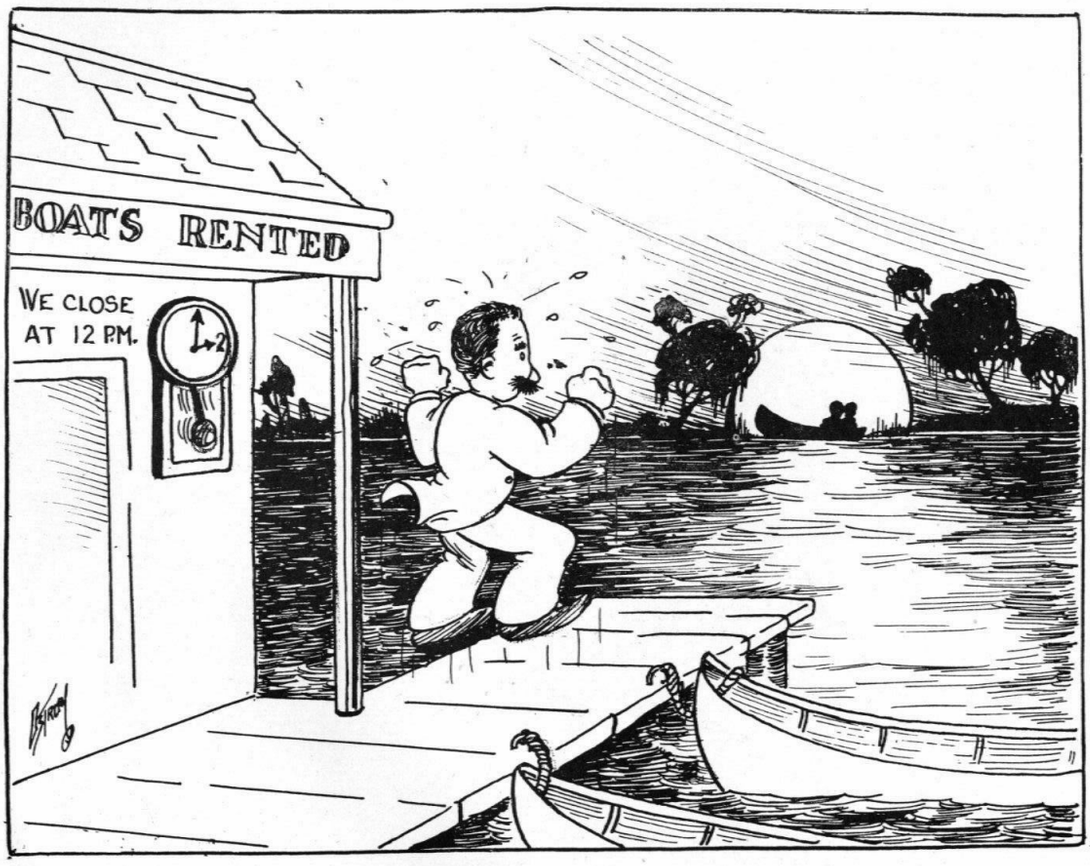
PARTS AND REPAIRS UNTIL 1 A. M.

"After we sell, we serve"



Waiting for His Ship to Come In

Tourist: "Those cows run around as though they were drunk."

Cowboy: "Yas'm; them's what we make corned beef out of." — YALE RECORD.

The Old Maid: "Has the canary had its bath yet?"

The Maid: "Yes, he has, ma'm. You can come in now." — V. P. I. SKIPPER.

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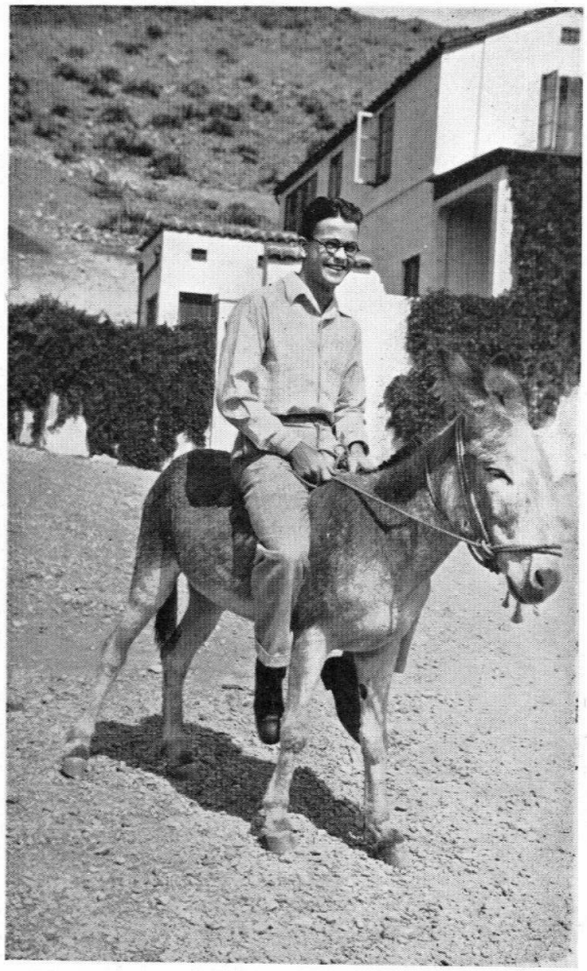

A Jassack Riding the Editor

He was an engineering student, and left blue prints on her neck.—DETROIT JABBERWOCK.

Said the fat lady when her bathing suit ripped:

"I hope I'm not protruding!"

Captain to Private: "Your name?"
Private: "Jones, sir."
Captain: "Your age?"
Jones: "Twenty-four."
Captain: "Your rank?"
Jones: "I know it."—PENN. STATE FROTH.

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Friends

Professor: "This lecture is apt to prove embarrassing. If any men or women care to leave they may."

Voice from the Rear: "Sir, can I invite some friends?"—PUNCH BOWL.

Monday Night Blues

"Mine is no idle tale," said the freshman as he leaned over for another whack.—BLACK AND BLUE JAY.

Barber: "Is there any particular way you'd like your hair cut?"

Freshman: "Yeah. Off." — CORNELL WIDOW.

Boss (to stenographer): "How about going on a business trip with me next week?"

Steno: "Say, I may be your typewriter, but don't get the idea that I'm portable."—GHOST.

HOTALING'S
Now!
Two Stores to Serve You

Hotaling's have just opened a complete store for men and young men at 921 East Colorado St. . . . Just east of Lake Avenue.

. . . Ready with Vacation and Graduation Clothes.

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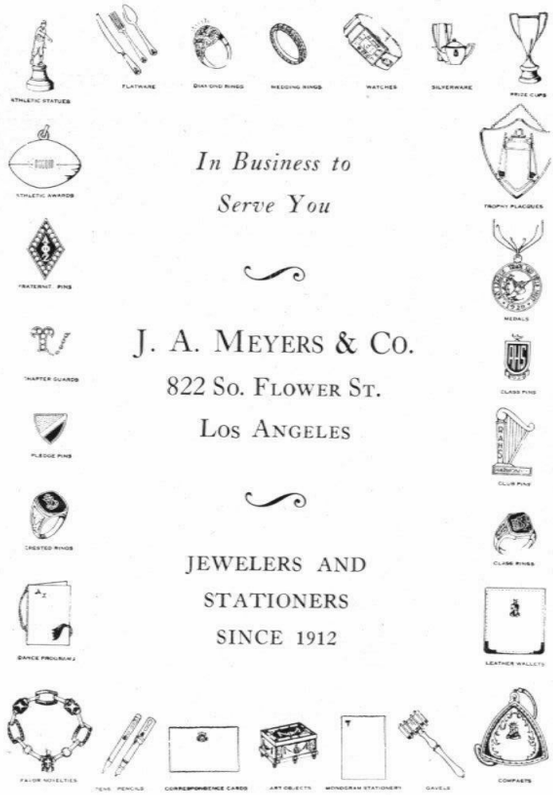

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A SPECIALTY STEAK AND CHOP HOUSE
Where Dining Is an Art and Pleasure
A Cordial Greeting — A Place to Feel at Home
Other special foods and salads, too!
"OSCAR KNOWS HOW"

Howdy

Professor: "And are you sure that this story is original?"

Student: "Certainly it is."

Professor: "Great Heavens! I didn't think that I would live to see the day when I would meet Rudyard Kipling."
—Jack O'Lantern.

Can It?

Father: "Don't talk to me! When I was young we never parked on any dark roads like you youngsters do today!"

Son: "Absolutely right, old man! But don't forget that a horse can steer itself!"—Stone Mill.

Point: "How do you suppose the inventor of the huddle system in football got his idea?"

Blank: "Oh, probably from riding in a crowded street car!"—Pennsylvania Punch Bowl.

Believe It or Not

Mr. G. F. Starr of Timken, Kans., wrote the following to Creed Joyce, our Kansas Division manager:

"I have a three dollar racket that is twenty-five years old and which has never been restrung. It is still in first class condition."

It just goes to prove that sheep do not have the guts they used to have.

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$1.00 to $3.85

Sport Oxfords
Two-Tone Leather and Crepe Sole
$3.95 and $4.85

SHAPIRO SHOE STORE

18 N. Fair Oaks — 50 Feet from Colorado

"How d'ya like my baby?"
"Sweet, looks just like you."
"How dare you!"
"Dare what?"
"I was merely jesting, it's my neighbor's."—N. Y. Medley.

What's sauce for the goose is not necessarily gooseberry sauce.—Annapolis Log.

She: "If you don't leave this room immediately, I'll call the whole police department to put you out."

The Brute: "My love, it would take the whole fire department to put me out."—Orange Peel.

Pledge (at dinner table): "Must I eat this egg?"
Brother: "Yer damn right!"
Silence ————————.
Pledge: "The beak, too?"—Arizona Kitty-Kat.

"Gilda Gray could never play football."
"Why?"
"She'd be continually getting her team penalized for backfield in motion."

Friend: "Is Antony coming from Rome voluntarily or are you going to make him?"

Cleopatra: "Both."—Cornell Widow.

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Yellow Cab

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OPEN ALL SUMMER

Mixed Class

Wednesday
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Nights—

All Collegiate
Dancing

Beaming Father: "Yes, I named my three daughters Faith, Hope, and Charity."

Young Man (stuck for the evening with the heavy weight): "And the greatest of these is Charity."—COLGATE BANTER.

Her father was a railroad man, so she used a green lipstick.—NEBRASKA AWGWAN.

We Know

"That girl over there is trying to flirt with me."

"Did she wink at you?"

"No, but she just crossed her legs."

"Does your dog chase cows?"

"No, he's a bulldog."—WILLIAMS PURPLE COW.

Judge: "My man, I've seen you here twice before and I find it my duty to send you for a third term."

Prisoner: "A third term, Yer Honor? Haven't you ever heard of the Washington precedent?"—WILLIAMS PURPLE COW.

There might not be so many triangular love affairs if there were more square meals.

Beware of no man more than yourself.

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Salesman: "Listen, girlie, how come you're so wild?"

Little Nell: "Say, mister, I'm tough. I went to an immoral school."

Salesman: "Whaddaya mean, immoral?"

Nell: "We didn't have any principal."

Fond Mama: "Don't you know you shouldn't play strip poker?"

Sweet Young Thing: "Oh, it's perfectly all right. It's not really gambling."

"What!"

"No; you see we get our clothes back."

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APPRECIATION

In publishing this volume, we have run into a great many difficulties, most of which have arisen because of the exigencies of time, and the necessity of keeping up in one's scholastic requirements while attending the Institute. Nevertheless, we of the staff feel that, though we have been the victims of circumstance to a greater or lesser degree, we have been instrumental in the publishing of a good book. We point with pride to the fact that Cal Tech is the only institution in the Southern California Conference that is publishing an annual with a nine by twelve size page, which allows the use of larger and more distinct pictures. We are also proud of our having told the story of the year in pictures and of the quality of the action pictures in the athletic section.

To Ralph Cutler, editor of the 1928 "Big T," we are very grateful for the assistance he has so kindly given us. When low scholarship and the faculty axe cut so deeply into the staff, Cutler came to our aid and it is largely as a result of his experienced advice that this issue of the "Big T" is now in your hands.

To G. E. Orme, of the Western Lithograph and the Coast Envelope and Leather Products Companies of Los Angeles, we owe a great deal for his tireless efforts to advise us and his never-ending willingness to conceive shortcuts which enabled us to include features in this book that would otherwise have been beyond the reach of our pocketbooks.

To B. H. Hooper, of the Bryan-Brandenburg Company, a very considerable debt is owed for his whole-hearted co-operation during the entire preparation of the book. Mr. Hooper was ready to drop everything at any time, day or night, to come to the aid of the staff. He, as well as Mr. Orme, was continually suggesting the small savings we have made in publishing this book, in order to allow us to spend our money for the new features, many of which have never before appeared in a Southern California Conference College Annual.

To J. E. Haskell, of the Austin Studios, we must give credit for the efficient handling of the photography, and for the high quality of the work turned out by his firm.

To the advertisers in this book, we owe a great deal, for it is only with their help that we are able to afford such an edition as this.

The photography of this book was done by the Austin Studios, the engravings by the Bryan-Brandenburg Co., the printing and binding by Western Lithograph, and the covers made by the Coast Envelope and Leather Products Co. We believe that each of these firms has done the highest quality work possible, and if asked, we should not hesitate to recommend either the workmanship or the integrity of any of the four firms. It is with the deepest of feelings that we extend our heartiest appreciation to all those associated with any of these companies for the fine workmanship and willing co-operation they have evidenced.

STAFF OF THE "BIG T" OF 1929.
FRED CLINE, Editor and Manager.

AUTOGRAPHS

"IT'S OVER!"

NO LESS than the thrill of the winning touchdown of the Big Game, the perpetuation in pictorial form of the bright memories of college days in this yearbook depended on teamwork. As the engravers of this volume, we have been happy to work shoulder to shoulder with the staff in the teamwork so necessary to put *"it over."*

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