

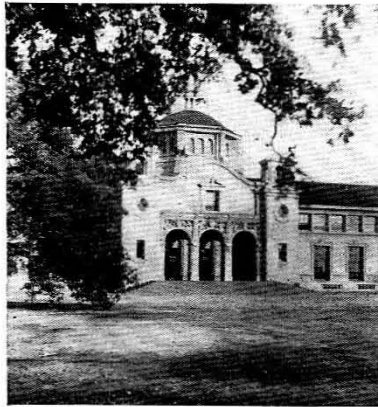
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THE BIG  
“T”

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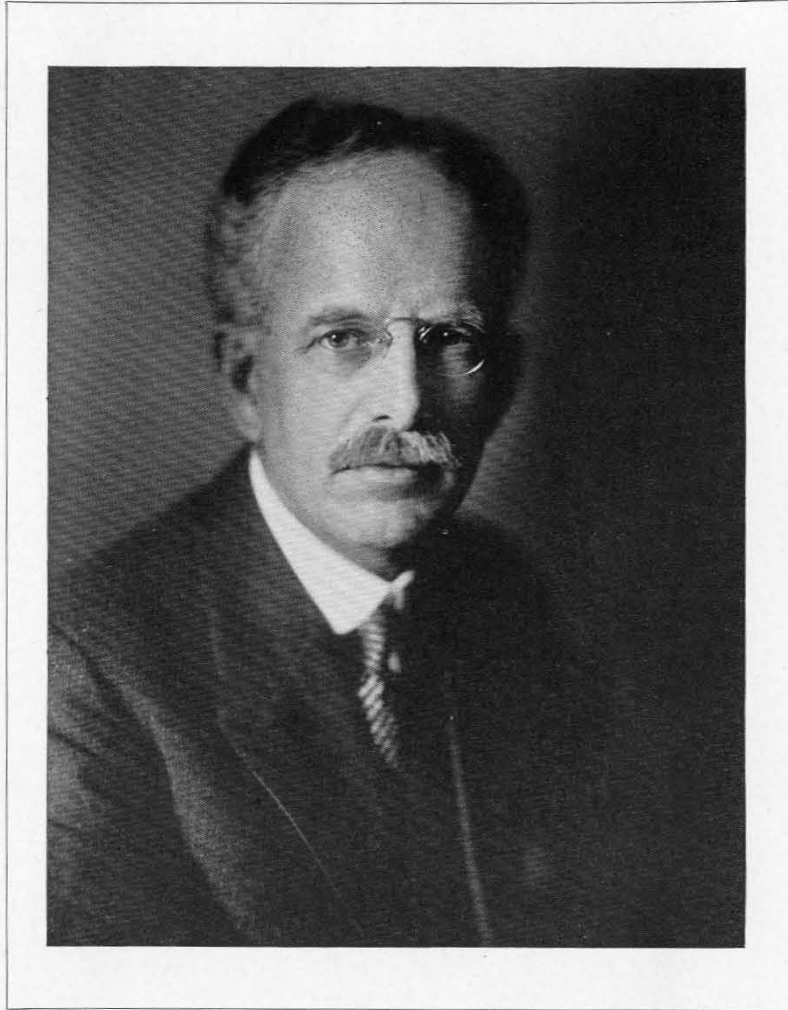
VOL. XIII

*Published by*  
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*of The*  
*California Institute of Technology*  
*Pasadena, California*  
*June, 1924*



*This Book is Dedicated*  
*to*  
*Dr. George E. Hale*  
*in Recognition of His Services to the*  
*Institute.*







**In Memory  
of  
William Jacob Auburn  
1867 - 1923**



# *Hail C. I. T.*

2

In Southern California  
With grace and splendor bound,  
Where the lofty mountain peaks  
Look out to lands beyond.

Proudly stands our Alma Mater,  
Glorious to see.  
We raise our voices hailing,  
Hailing, hailing thee:

Echoes ringing while we're singing,  
Over land and sea;  
The halls of fame resound thy name,  
Noble C. I. T.

---Manton M. Barnes, '21.





## The "T" Upon The Mount

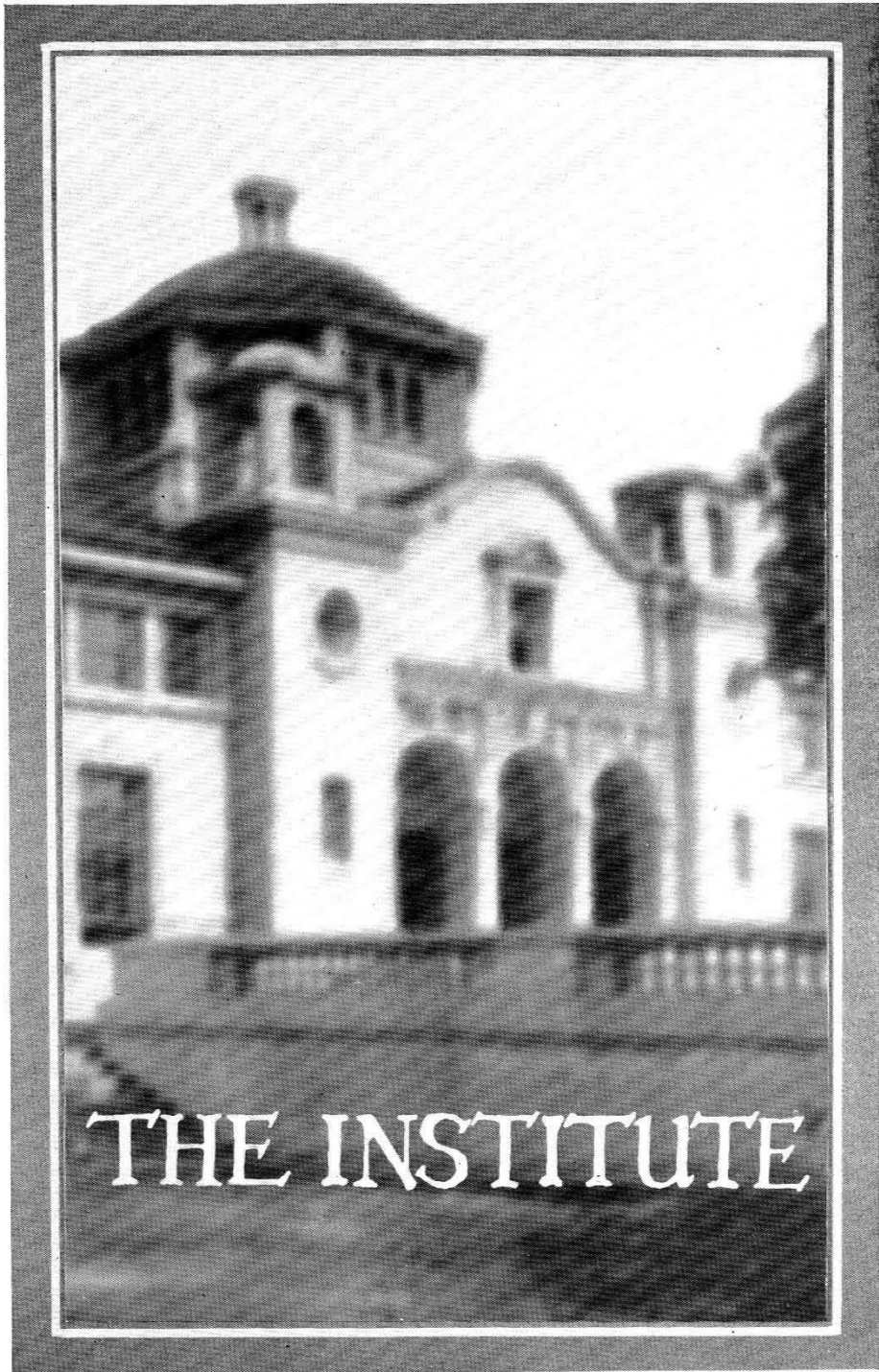
While this old earth was still a void,  
    A formless, barren waste,  
A counsel of the mighty gods  
    Was formed with urgent haste.  
They felt the need to build a world,  
    To make a race of men  
With stalwart hearts, who'd fight for truth  
    With sword, and tongue, and pen.

The gods decided on the place,—  
    They bade a mountain rise,—  
A fearful, flaming flash of fire  
    Then split the leaden skies,  
And with it came a raging wind,  
    A roaring rush of rain—  
Behold! a miracle had drawn  
    A mountain from the plain.

To mark this mount, the gods engraved  
    A cross upon its side,  
To show the world the chosen spot  
    Where valiant men abide.  
As ages passed the winds and rains  
    Demanded, claimed their fee,  
And cut and carved until the cross  
    Had changed into a "T."

The mountain stands,—the "T" is there,  
    That holy cross of old,  
Reminding men of Tech that they  
    Are those the gods foretold.  
The "T" means Triumph over foes,  
    And Thoughtful search for lore,  
And Trust that Tech will strive to stand  
    For Truth, forevermore.

—H. FRED PETERSON.





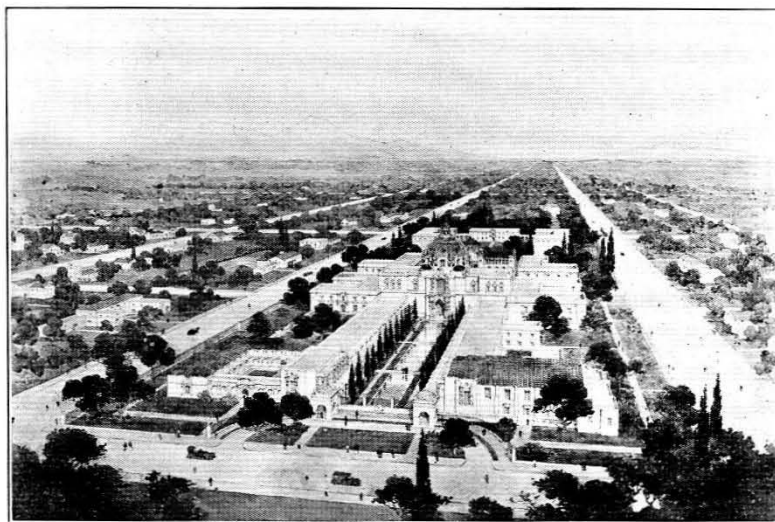


## Foreword

Men of the California Institute, you are sharing an opportunity that few students ever enjoy. Under the inspiring leadership of Dr. Millikan and Dr. Noyes, in an atmosphere permeated with the spirit of research, you are preparing for careers that may give you high places in science or engineering. In whatever you may do, the self-reliance and fearlessness of the scientist, which carry him through unmapped territories and stimulate him to override all obstacles, will serve you well. Cultivate also to the full the powers of your creative imagination, which are as necessary to the investigator and the engineer as they are to the artist who calls up the finest visions of the mind.

The great architect who gave us our plan for the future Institute, Bertram Grosvenor Goodhue, has gone. But he has conceived for us ideals from which we can never afford to depart. Around the dome of the superb home of research he has raised for science in Washington are inscribed these words, which might also be written above the California Institute: "To Science, Pilot of Industry, Conqueror of Disease, Multiplier of the Harvest, Explorer of the Universe, Revealer of Nature's Laws, Eternal Guide to Truth." In forming your own visions of science, remember clearly its many aspects, and seek most of all to reach the truth, its first and final goal.

GEORGE ELLERY HALE.



## The Future Campus

The picture shown above represents the proposed complete scholastic buildings of California Institute of Technology. The dormitories, not shown, will be located on the Hill Avenue part of the campus, recently acquired. Fifteen hundred, instead of five hundred, students will make use of this beautiful group of buildings, which has been planned by Bertram G. Goodhue, one of America's greatest architects.

Today, less than one-fifth of the buildings have been completed, but each year will find additions to the campus. The Trustees will build just as rapidly as sufficient funds can be secured. At present the pressing needs of the Institute are—a new Power House; a Mechanical Engineering Building; Hydraulic Engineering Building; additions to the Chemistry Building; Dormitories; and additions to the Electrical Engineering Buildings. If possible, the above buildings will be erected in the order named.

The Dormitory group, when completed, will be one of the most unique of any college in this country. Fifteen hundred students will live in the huge quadrangle, and eat in five dining halls. The Dormitory buildings will be on the Oxford plan. There will be no halls or corridors, but each two first floor suites will have an outside entrance, which will also serve for the suites on the second and third floors directly above—six suites in all. Each suite will accommodate two students with study, two sleeping rooms and bath.

The main Auditorium, to seat fifteen hundred people, is to be located on the corner of California Street and Wilson Avenue, and to which the present Auditorium will be an annex, serving smaller gatherings as it does now.

A Gymnasium will be built upon the athletic field, wherever that may be located.





## The Nobel Prize



DR. MILLIKAN RECEIVING THE CHECK

The Nobel prize for the scientist contributing most to the progress of Physics during 1923 was awarded to Dr. Robert A. Millikan, Director of the Norman Bridge Laboratory of Physics and Chairman of the Executive Council of the California Institute of Technology, the notification of the award reaching him November 13 of last year.

In discussing the probable reasons for which the Nobel Foundation saw fit to confer this high honor upon him, Dr. Millikan stated his belief that the following achievements represent the most outstanding of his experimental work in physical research: The isolation and measurement of the primordial electrical unit, the electron, the result of this experiment constituting a direct and convincing proof of the discrete or atomic character of electricity; the photo-electric determination of the fundamental unit of radiation; pushing the limit of explored frequencies in ultra-violet spectrum two octaves further down and thus completing the work of establishing the order of progression, or of evolution, of the elements; the determination of the motion of a particle falling toward earth after it enters the earth's atmosphere.

Dr. Millikan left the Institute in April bound for Sweden, where he presented a lecture on his various physical researches and formally accepted the Nobel Award for 1923, amounting to more than forty thousand dollars.



## Historical Sketch

The California Institute of Technology is four years old, although it has grown from a college which was founded in Pasadena thirty-three years ago. Amos G. Throop, affectionately called "Father Throop," founded Throop University in 1891. He was a retired business man from Chicago, and he wished to contribute his share to the education of young men and women in California.

Throop University became Throop Polytechnic Institute in 1892, with Charles A. Keyes as the first president. It gave courses of study from kindergarten to college grades, and specialized in the manual arts. The first school was conducted in the Wooster Block (the present site of the Hotel Pasadena) but in 1893 the site was changed to the vicinity of Chestnut and Fair Oaks Avenues, where the old Throop buildings stand today. During these days there were 620 students and 50 instructors, including both men and women.

In 1907 it was decided to discontinue the elementary grades, and the name was changed to Throop College of Technology. The present campus of twenty acres was presented to the Institute and in 1910 Throop Hall was erected and occupied. Dr. James A. B. Scherer served in the capacity of president from that time until his resignation in 1920.

A purchase of eight acres of land east of the campus was made in 1922 and with the adoption of a building plan supervised by Bertram Goodhue, one of the finest architects in the country, the campus is being built up each year.

Throop College of Technology was reorganized in 1920 and named the California Institute of Technology. Dr. Arthur A. Noyes, formerly of Massachusetts Institute of Technology, was named director of the Gates Chemical Laboratory in 1920. Dr. Robert Andrews Millikan, formerly of Chicago University, became the executive head of the Institute after being appointed chairman of the Executive Council in 1921. Serving in this capacity he is able to continue his work as director of the Norman Bridge Laboratory of Physics.

After the reorganization of the college many gifts and endowments made possible the extensive building plan which is now being carried on. These gifts include: The Gates Chemical Laboratory, presented by Messrs. C. W. and P. G. Gates; the Aeronautic Laboratory, presented by Mr. Tod Ford; and the Norman Bridge Laboratory of Physics, the second unit of which will be completed this year. The Southern California Edison Company has made possible the erection of a High Tension Electrical Laboratory, which will afford the best facilities in the country for the testing of high voltage transmission. This Laboratory will be used jointly by the college and by the Edison Company. A



wing of the Auditorium has been built which has served for the past two years as an attractive assembly hall. The larger Auditorium will be added later.

Mr. Arthur H. Fleming, President of the Board of Trustees, made a gift of over four million dollars to the Institute in 1923. This amount is divided into several funds, and none of it is to be used for the purchase of equipment or the erection of buildings.

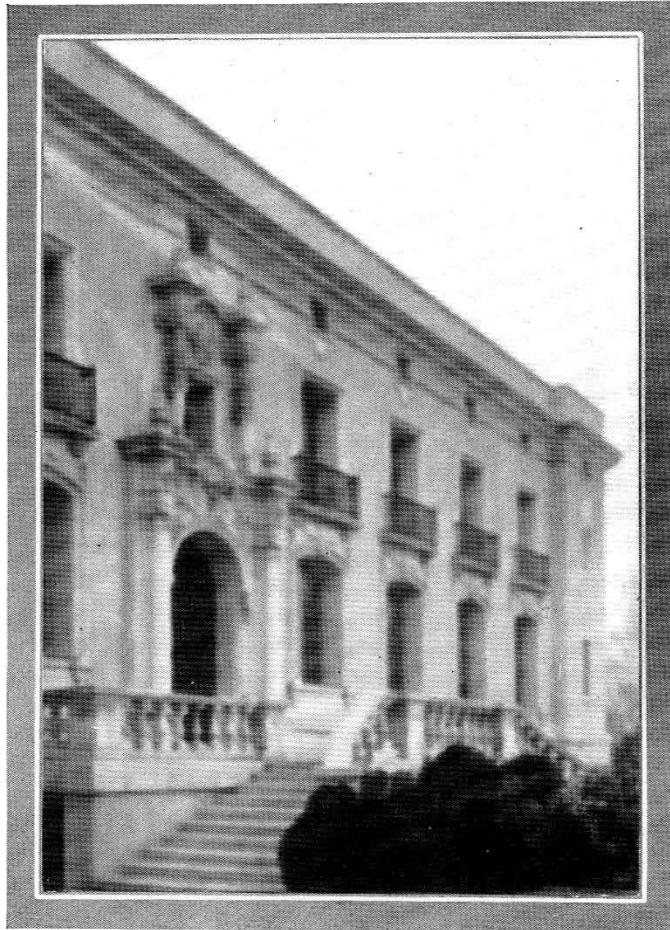
This year a Student Union Hall, or "Dugout" as it is called, was donated by Mr. and Mrs. R. R. Blacker. This building serves in connection with the cafeteria and as a student meeting place. An immense fireplace has been erected in the Dugout through the initiative of the students.

Tournament Park and Paddock Field are at the service of the students, and it is hoped that a first class gymnasium will be erected on the campus in the near future.

The history of C. I. T. has just begun. The future holds a great deal in store for this growing college.







# ADMINISTRATION



THE BOARD OF TRUSTEES

ARTHUR H. FLEMING - - - - - *President*  
 HENRY M. ROBINSON - - - - - *First Vice-President*  
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ADMINISTRATIVE OFFICERS OF THE INSTITUTE

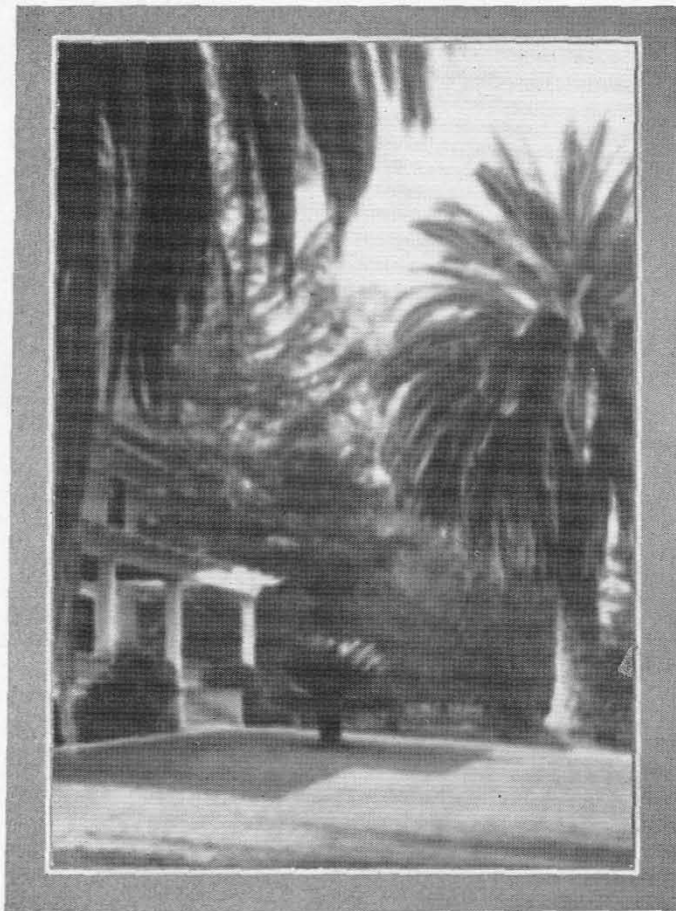
EXECUTIVE COUNCIL

ROBERT A. MILLIKAN - - - - - *Chairman*  
 ARTHUR H. FLEMING  
 GEORGE E. HALE  
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FREDERICK W. HINRICHS, JR. - - - *Dean of Upper Classmen*  
 JOHN R. MACARTHUR - - - *Dean of Freshmen*  
 EDWARD C. BARRETT - - - *Executive and Financial Secretary*  
 HARRY C. VAN BUSKIRK - - - *Registrar*

ADVISORY COUNCIL

John J. Carty, Vice-President, American Telephone and Telegraph Company.  
 Gano Dunn, President, J. G. White Corporation.  
 Frank B. Jewett, Vice-President, Western Electric Company.  
 John C. Merriam, President, Carnegie Institution of Washington.  
 Charles L. Reese, Chemical Director, E. I. du Pont de Nemours and Company.

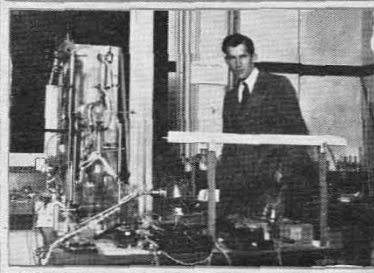
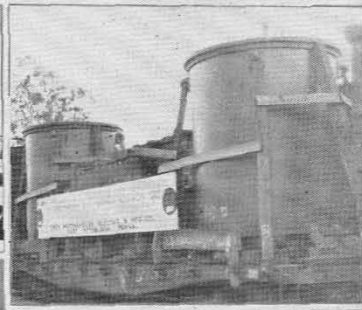
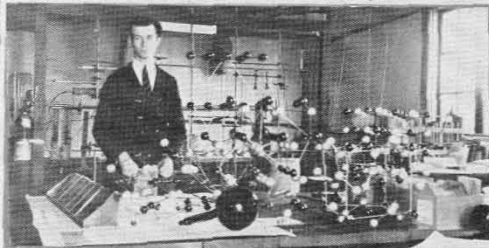
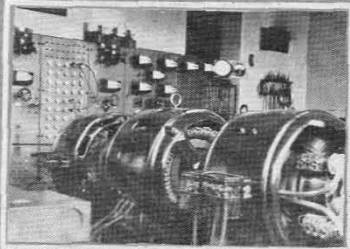
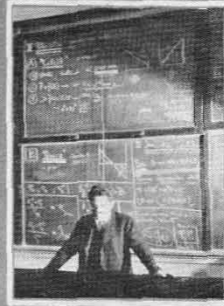


# FACULTY





BIG "T" 1924





## Deans



Frederic W. Hinrichs, Jr., A. B.  
*Dean of Upper Classmen*

Dean Hinrichs, or, as he is more familiarly known to the members of the student body and faculty, Captain Hinrichs, is a man well fitted in every way to act as counsellor and guide to the members of the three upper classes. Coming to the Institute in 1919 after having served as a lieutenant-colonel in the Ordnance Department of the United States Army, Captain Hinrichs, by his active interest in student affairs and his generous spirit of kindness and friendship, rapidly established a niche for himself in the hearts of the students.

He is one of the busiest in a college where none may find opportunity to loiter, combining the arduous duties of Dean with the scarcely less exacting demands which are made of him as Professor of Mechanics. He is also responsible for the scheduling of all student functions outside of the regular Institute routine and finds it necessary to spend a very considerable amount of time in adjusting conflicting dates arranged by various student organizations.

No matter how busy Dean Hinrichs may be, however, he always manages to spare a moment or two to assist in solving the problems, no matter how trivial, of any student who comes to him for advice. He is an inspiration and a guide to all and is known and honored as such by the members of the student body.



John Robertson Macarthur, Ph.D.  
*Dean of Freshmen*

Dr. Macarthur came to the California Institute of Technology four years ago to take up his work as a member of the English and Modern Language Departments, entering with the present senior class. The increasingly apparent need for a Freshman counsellor or dean led to his appointment to that office a few months ago, continuing at the same time with his duties as Professor of Modern Languages.

It is doubtful if any better man could have been found to act as a combined foster father, big brother, and father confessor to the incoming freshmen. Dr. Macarthur possesses a wide knowledge of human nature and a gentle spirit of understanding and unobtrusive friendliness which stands him in good stead in his capacity as Dean of Freshmen.

In addition to his regular duties, Dr. Macarthur is greatly interested in the various branches of forensic endeavor, having been for four years national president of Pi Kappa Delta, the largest honorary forensic fraternity in the world. He was directly responsible for the establishment of a chapter of the organization at the Institute and for the revival of interest in debating and oratory here. He is one of the most popular men on the campus and is loved and admired by all who come into contact with him.



## Department of Physics



ROBERT ANDREWS MILLIKAN, Ph.D., Sc.D., LL.D.—

*Director of Physical Research*

A.B., Oberlin College, 1891; A.M., 1893; Ph.D., Columbia University, 1895; Sc.D., (Hon.) Oberlin College, 1911; Sc.D., (Hon.) Northwestern University, 1913; Sc.D., (Hon.) University of Pennsylvania, 1915; Sc.D., (Hon.) Amherst College, 1917; Sc.D., (Hon.) Columbia University, 1917; LL.D., (Hon.) University of California, 1924.

HARRY BATEMAN, Ph.D.—*Professor of Theoretical Physics*

B.A., Cambridge University, 1903; M.A., 1906; Ph.D., Johns Hopkins University, 1913.

PAUL EHRENFEST, Ph.D.—*Professor of Physics* (Second term)

Ph.D., University of Vienna.

PAUL S. EPSTEIN, Ph.D.—*Professor of Theoretical Physics*

C.Sc., Moscow University, 1906; M.Sc., 1909; Ph.D., University of Munich, 1914.

LUCIEN HOWARD GILMORE, A.B.—*Professor of Physics*

A.B., Leland Stanford Junior University, 1894.

RICHARD CHACE TOLMAN, Ph.D.—*Professor of Mathematical Physics*

S.B., Massachusetts Institute of Technology, 1903; Ph.D., 1910.

EARNST CHARLES WATSON, Ph.B.—*Associate Professor of Physics*

Ph.B., Lafayette College, 1914.

WALTER TICKNOR WHITNEY, Ph.D.—*Assistant Professor of Physics*

B.S., Pomona College, 1910; M.S., 1912; Ph.D., University of Chicago, 1916.

IRA SPRAGUE BOWEN, A.B.—

*Instructor in Physics and Research Assistant to the Director of the Norman Bridge Laboratory of Physics*

A.B., Oberlin College, 1919.

JAMES B. FRIAUF, A.B.—*Instructor in Physics*

A.B., University of Montana, 1918.



## Department of Chemistry



ARTHUR AMOS NOYES, Ph.D., LL.D., Sc.D.—*Director of Chemical Research*  
S.B., Massachusetts Institute of Technology, 1886; S.M., 1887; Ph.D., University of Leipzig, 1890; LL.D., (Hon.) University of Maine, 1908; Clark University, 1909; University of Pittsburgh, 1915; Sc.D., (Hon.) Harvard University, 1909; Yale University, 1913.

STUART JEFFERY BATES, Ph.D.—*Professor of Physical Chemistry*  
B.A., McMaster University, Toronto, 1907; M.A., 1909; Ph.D., University of Illinois, 1913.

JAMES EDGAR BELL, Ph.D.—*Professor of Chemistry*  
S.B., University of Chicago, 1905; Ph.D., University of Illinois, 1913.

RICHARD CHACE TOLMAN, Ph.D.—*Professor of Physical Chemistry*  
S.B., Massachusetts Institute of Technology, 1903; Ph.D., 1910.

JAMES HAWES ELLIS, Ph.D.—*Associate Professor of Physical Chemical Research*  
B.S., Massachusetts Institute of Technology, 1912; Ph.D., 1916.

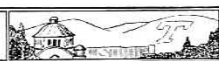
WILLIAM NOBLE LACEY, Ph.D.—*Associate Professor of Chemical Engineering*  
A.B., Leland Stanford Junior University 1911; Ch.E., 1912; M.S., 1913; Ph.D., University of California, 1915.

HOWARD JOHNSON LUCAS, M.A.—*Associate Professor of Organic Chemistry*  
B.A., Ohio State University, 1907; M.A., 1908.

ROSCOE GILKEY DICKINSON, Ph.D.—*Research Associate in Chemistry*  
S.B., Massachusetts Institute of Technology, 1915; Ph.D., California Institute of Technology, 1920.

ERNEST HAYWOOD SWIFT, M.S.—*Instructor in Analytical Chemistry*  
B.S., University of Virginia, 1918; M.S., California Institute of Technology, 1920.





## RESEARCH ASSOCIATES IN PHYSICS

- SAMUEL JACKSON BARNETT, Ph.D.—  
Research Associate of the Carnegie Institution of Washington.
- PAUL EHRENFEST, Ph.D.—  
Professor of Mathematical Physics, University of Leiden, Leiden, Holland.
- ROSSELL CLIFTON GIBBS, Ph.D.—  
Professor of Physics, Cornell University.
- STANISLAW LORIA, Ph.D.—  
Professor of Physics, John Casimir University, Poland.
- ALBERT ABRAHAM MICHELESON, Ph.D., LL.D., Sc.D.—  
Professor of Physics, University of Chicago.

## NATIONAL RESEARCH FELLOWS IN PHYSICS

- JOSEPH ADAM BECKER, Ph.D.—  
B.A., Cornell University, 1918; Ph.D., 1922.
- HERBERT KAHLER, Ph.D.—  
B.S., University of Washington, 1918; Ph.D., Cornell, 1921.
- EDWARD H. KURTH, D.Sc.—  
C.E., Princeton University, 1920; M.S., 1921; D.Sc., 1922.
- SAMUEL STUART MACKEOWN, Ph.D.—  
A.B., Cornell University, 1917; Ph.D., 1923.
- WILLIAM RALPH SMYTHE, Ph.D.—  
A.B., Colorado College, 1916; A.M., Dartmouth College, 1919; Ph.D., University of Chicago, 1921.

## RESEARCH FELLOWS IN PHYSICS

- ALBERT BJORKESON, Ph.D.—  
Fil. Mag., University of Upsala, Upsala, Sweden, 1915; Fil. Lic., 1919; Ph.D., 1923.
- JOHN CARROLL, B.A.—  
B.A., University of Cambridge, 1921.
- EDWIN LAWRENCE ROSE, S.M.—  
S.B., Massachusetts Institute of Technology, 1921; S.M., 1922.
- RUSSELL MORLEY OTIS, B.S.—  
B.S., California Institute of Technology, 1920.
- WLADIMIR M. ZAIKOWSKY—  
Graduate of Michel's Artillery Academy, Russia, 1911.

## ASSISTANTS IN PHYSICS

- G. HARVEY CAMERON, B.Sc.—  
B.Sc., University of Saskatchewan.
- HUGH KENNETH DUNN, A.B.—  
A.B., Miami University, 1918.
- R. MEYER LANGER, M.A.—  
B.S., College of the City of New York, 1920; M.A., Columbia University, 1921.
- DONALD HOLT LOUGHRIDGE, B.S.—  
B.S., California Institute of Technology, 1923.
- HALLAM EVANS MENDENHALL, B.S.—  
B.S., Whitman College, 1921.
- LEWIS MORTON MOTT-SMITH, B.S.—  
B.S., California Institute of Technology, 1923.
- HOWARD P. ROBERTSON, M.S.—  
B.S., University of Washington, 1922; M.S., 1923.
- RALPH EDGAR WINGER, A.B.—  
A.B., Baker University, 1914.
- WILLIS HOWARD WISE, M.A.—  
B.S., Montana State College, 1921; M.A., University of Oregon, 1923.  
B.S., California Institute of Technology.



MAURICE MUYLEAERT, C.M.E.—

*Fellow of the Commission for Relief of Belgium Educational Foundation.*  
C.M.E., University of Louvain, 1922.

ARMOND G. DENIS, B.A.—

*Fellow of the Commission for Relief of Belgium Educational Foundation.*  
B.A., Oxford, 1920.

#### TEACHING FELLOWS IN PHYSICS

DINSMORE ALTER, Ph.D.—

B.S., Westminster College, 1909; M.S., University of Pittsburgh, 1911; Ph.D., University of California, 1916.

ROBERT BIGHAM BRODE, B.S.—

B.S., Whitman College, 1921.

ROBERT CADY BURT, E.E.—

E.E., Cornell University, 1921.

ALEC LLOYD GREENLEES, M.A.—

M.A., Queen's University, 1920.

ARTHUR LOUIS KLEIN, B.S.—

B.S., California Institute of Technology, 1921.

SINCLAIR SMITH, B.S.—

B.S., California Institute of Technology, 1921.

ARTHUR HOWARD WARNER, B.S.—

A.B., University of Colorado, 1917; B.S., 1920.

#### RESEARCH FELLOWS IN CHEMISTRY

ARTHUR FERGUSON BENTON, Ph.D.—*National Research Fellow in Chemistry*

A.B., Princeton University, 1916; A.M., 1919; Ph.D., 1920.

PHILLIP S. DANNER, Ph.D.—*National Research Fellow in Chemistry*

A.B., Pomona College, 1918; M.S., University of California, 1920; Ph.D., 1922.

GEORGE GLOCKLER, Ph.D.—*National Research Fellow in Chemistry*

B.S., University of Washington, 1915; M.S., 1915; Ph.D., University of California, 1923.

MAURICE LOYAL HUGGINS, Ph.D.—*National Research Fellow in Chemistry*

A.B. and B.S., University of California, 1919; M.S., 1920; Ph.D., 1922.

ALBERT L. RAYMOND, M.S.—*Research Fellow in Chemistry*

B.S., California Institute of Technology, 1921; M.S., 1923.

GORDON ALBERT ALLES, B.S.—*DuPont Fellow in Chemistry*

B.S., California Institute of Technology, 1922.

#### TEACHING FELLOWS IN CHEMISTRY

RICHARD M. BADGER, B.S.—*Teaching Fellow in Chemistry*

B.S., California Institute of Technology, 1921.

ARNOLD ORVILLE BECKMAN, M.S.—*Teaching Fellow in Chemistry*

B.S., University of Illinois, 1922; M.S., 1923.

PAUL HUGH EMMETT, B.S.—*Teaching Fellow in Chemistry*

B.S., Oregon Agricultural College, 1922.

L. MERLE KIRKPATRICK, B.S.—*Teaching Fellow in Chemistry*

B.S., California Institute of Technology, 1923.

LINUS CARL PAULING, B.S.—*Teaching Fellow in Chemistry*

B.S., Oregon Agricultural College, 1922.

CHARLES HOLDEN PRESCOTT, A.B.—*Teaching Fellow in Chemistry*

A.B., Yale University, 1922.

REINHARDT SCHUHMAN, M.A.—*Teaching Fellow in Chemistry*

B.A., University of Texas, 1910; M.A., 1921.

OLIVER REYNOLDS WULF, M.S.—*Teaching Fellow in Chemistry*

B.S., Montana State College, 1921; M.A., University of Oregon, 1923.

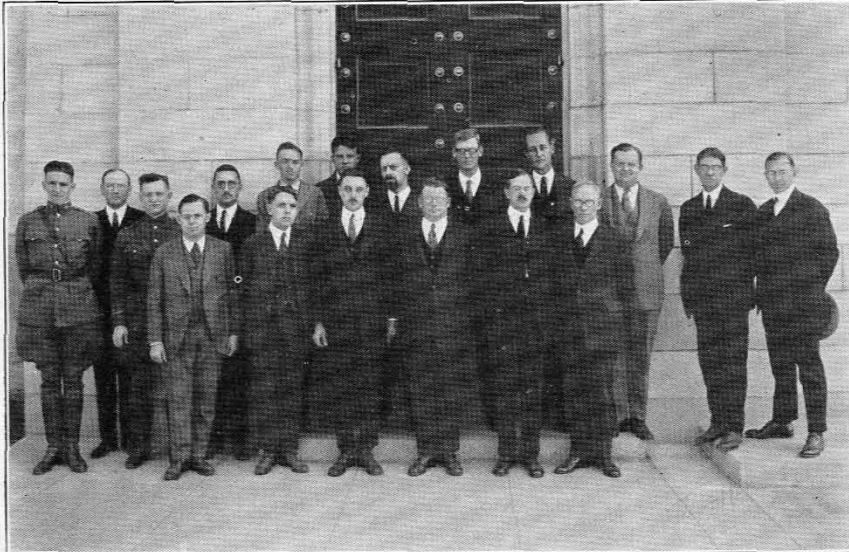
#### RESEARCH ASSISTANT IN CHEMISTRY

ERNEST C. WHITE, M.S.—*Research Assistant in Chemistry*

A.B., Randolph Macon College, 1910; M.S., Washington University, 1922.



Departments of  
Civil, Mechanical and Electrical Engineering  
and Military Science and Aeronautics



FRANKLIN THOMAS, C.E.—*Professor of Civil Engineering*

B.E., University of Iowa, 1908; C.E., 1913.

ROMEO RAOUL MARTEL, S.B.—*Associate Professor of Civil Engineering*

S.B., Brown University, 1912.

WILLIAM WHIPPLE MICHAEL, B.S.—*Associate Professor of Civil Engineering*

B.S., Tufts College, 1909.

ROBERT L. DAUGHERTY, M.E.—

*Professor of Mechanical and Hydraulic Engineering*

A.B., Leland Stanford Junior University, 1909; M.E., 1914.

W. HOWARD CLAPP, E.M.—*Professor of Mechanism and Machine Design*

E.M., University of Minnesota, 1901.

FREDERICK W. HINRICHS, JR., A.B.—*Professor of Mechanics*

A.B., Columbia University, 1902; Graduate of the U. S. Military Academy, West Point, 1902.

ROYAL WASSON SORENSEN, B.S.—*Professor of Electrical Engineering*

B.S., University of Colorado, 1905.

HANS KRAMER, First Lieutenant, Corps of Engineers, U. S. Army—

*Professor of Military Science and Tactics*

Graduate of U. S. Military Academy, West Point, with rank of Second Lieutenant, Corps of Engineers, 1918.

HARRY BATEMAN, Ph.D.—*Professor of Aeronautics*

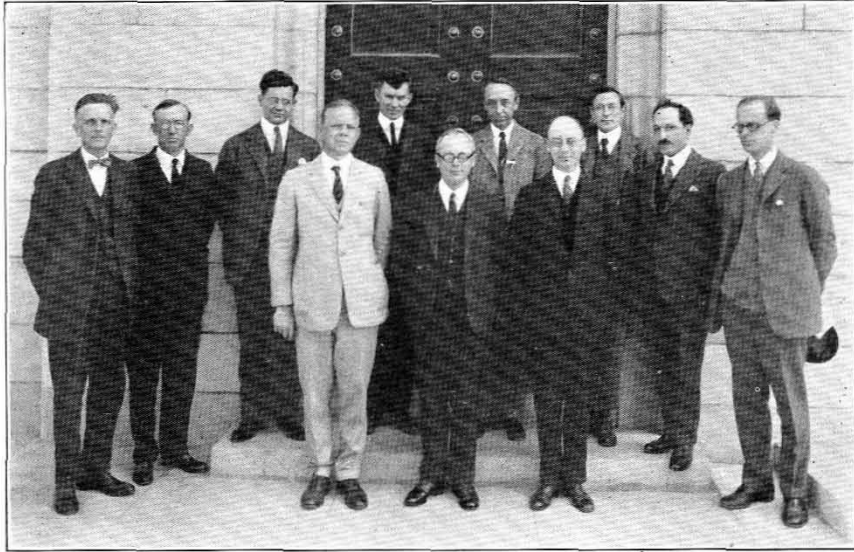
B.A., Cambridge University, 1903; M.A., 1906; Ph.D., Johns Hopkins University, 1913.

WILLIAM LAYTON STANTON, B.A.—*Physical Director*

B.A., Dickinson College, 1903.



Departments of  
Mathematics, English, Economics and Modern  
Languages

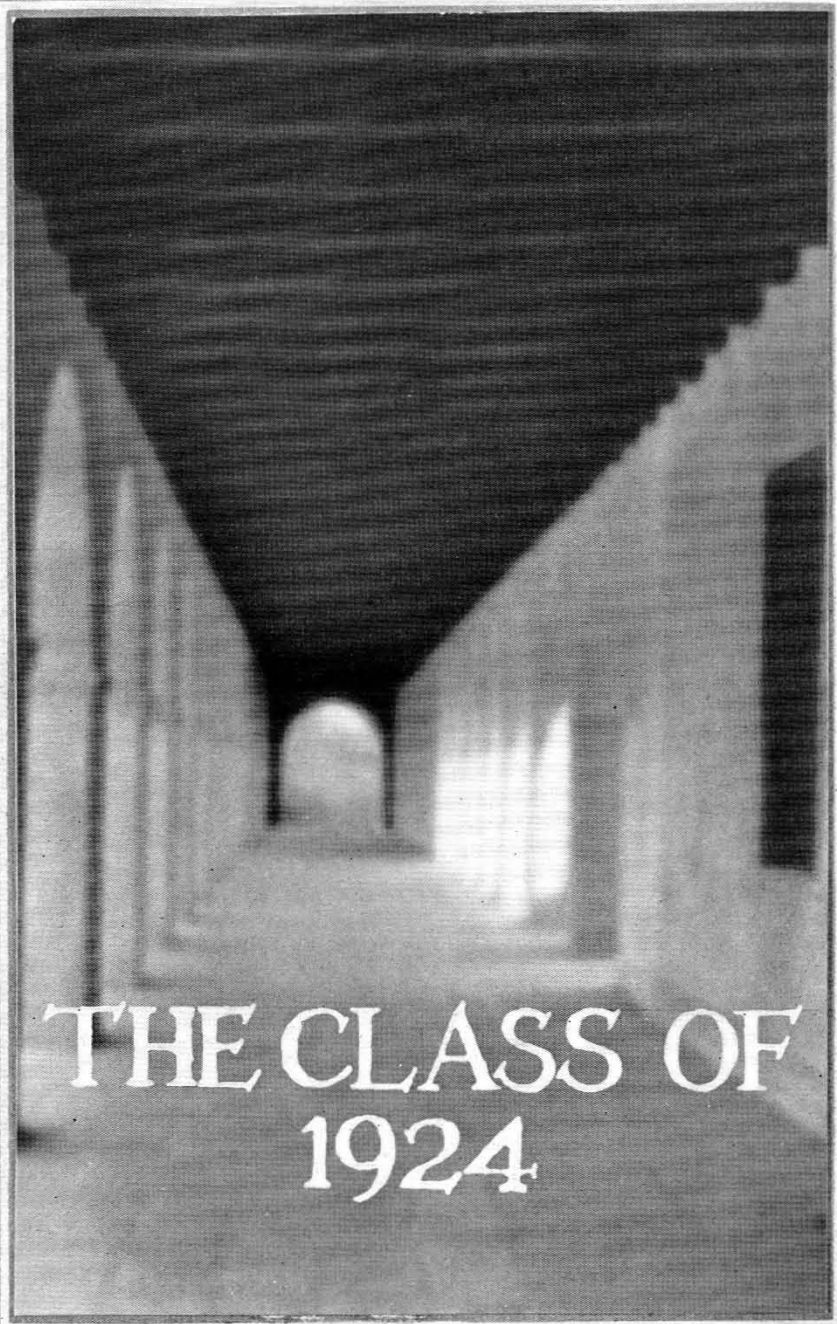


- HARRY CLARK VAN BUSKIRK, Ph.B.—*Professor of Mathematics*  
Ph.B., Cornell University, 1897.
- HARRY BATEMAN, Ph.D.—*Professor of Mathematics*  
B.A., Cambridge University, 1903; M.A., 1906; Ph.D., Johns Hopkins University, 1913.
- LUTHER EWING WEAR, Ph.D.—*Associate Professor of Mathematics*  
A.B., Cumberland University, 1902; Ph.D., Johns Hopkins University, 1913.
- JOHN ROBERTSON MACARTHUR, Ph.D.—*Professor of Modern Languages*  
B.A., University of Manitoba, 1892; Ph.D., University of Chicago, 1903.
- CLINTON KELLY JUDY, M.A.—*Professor of English Language and Literature*  
A.B., University of California, 1903; M.A., 1907; B.A., Oxford University, 1909; M.A., 1913; M.A., Harvard University, 1917.
- GEORGE RUPERT MCMINN, A.B.—  
*Associate Professor of English Language and Literature*  
A.B., Brown University, 1905.
- PAUL PERIGORD, Ph.D.—*Professor of Economics and European History*  
B.A., University of France, 1901; B.Ph., 1902; M.A., University of Chicago, 1911; M.A., Columbia University, 1913; Ph.D., University of Minnesota, 1923.
- GRAHAM ALLAN LAING, M.A.—*Professor of Business Administration*  
B.A., University of Liverpool, 1908; M.A., 1909.
- WILLIAM DWIGHT CRANE, A.B.—  
*Instructor in English Language and Literature*  
A.B., Harvard University, 1916.
- STANLEY McCRORY PARGELLIS, B.A.—  
*Instructor in English Language and Literature*  
B.A., University of Nevada, 1918; B.A., Oxford University, 1922.





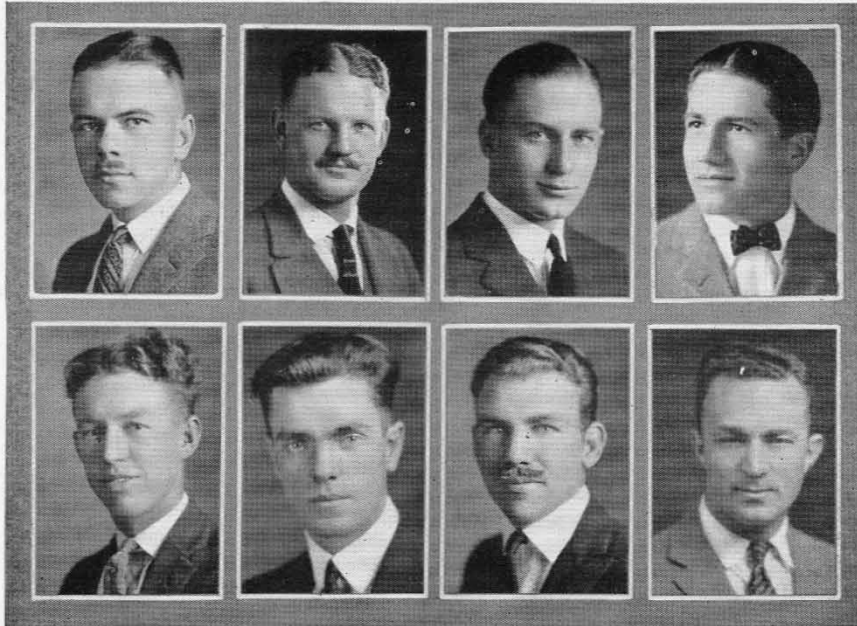
- GEORGE FORSTER, E.E.—*Assistant Professor of Electrical Engineering*  
E.E., Lehigh University, 1914.
- FRANCIS WILLIAM MAXSTADT, M.E. (E.E.)—  
*Instructor in Electrical Engineering*  
M.E., Cornell University, 1916; Certificate of E.E., 1916.
- RUSSELL MORLEY OTIS, B.S.—*Assistant in Electrical Engineering*  
B.S., California Institute of Technology, 1920.
- ROBERT CADY BURT, E.E.—*Assistant in Electrical Engineering*  
E.E., Cornell University, 1921.
- DONALD HOLT LOUGHRIDGE, B.S.—*Assistant in Electrical Engineering*  
B.S., California Institute of Technology, 1923.
- HALLAM EVANS MENDENHALL, B.S.—*Assistant in Electrical Engineering*  
B.S., Whitman College, 1921.
- ARTHUR HOWARD WARNER, B.S.—*Assistant in Electrical Engineering*  
A.B., University of Colorado, 1917; B.S., 1920.
- ROBERT TALBOT KNAPP, B. S.—*Instructor in Mechanical Engineering*  
B.S., Massachusetts Institute of Technology, 1920.
- WALTER WILLIAMS OGIER, JR., B.S.—*Instructor in Mechanical Engineering*  
B.S., Throop College of Technology, 1919.
- GEORGE BICKFORD BRIGHAM, JR.—*Instructor in Engineering Drawing*
- HENRY GODFREY CORDES, E.E.—*Instructor in Engineering Drawing*  
B.S., University of Washington, 1906; E.E., 1920.
- CLARENCE VINCENT ELLIOTT, M.E.—*Instructor in Engineering Drawing*  
M.E., Cornell University, 1911.
- CLYDE WOLFE, Ph.D.—*Assistant Professor of Mathematics*  
B.S., Occidental College, 1906; M.S., 1907; A.M., Harvard University, 1908;  
Ph.D., University of California, 1919.
- WILLIAM NOEL BIRCHBY, M.A.—*Instructor in Mathematics*  
A.B., Hope College, 1899; M.A., Colorado College, 1905.
- FRED J. CONVERSE, B.S.—*Instructor in Civil Engineering*  
B.S., University of Rochester, 1914.
- GEORGE THOMAS MCKEE, B.S.—*Teaching Fellow in Civil Engineering*  
B.S. California Institute of Technology, 1923.
- DOSWELL GULLAT, First Lieutenant, Corps of Engineers, U. S. Army—  
*Assistant Professor of Military Science and Tactics*  
Graduate of U. S. Military Academy, West Point, with rank of Second Lieutenant,  
Corps of Engineers, 1918.
- LOUIS H. BAILEY, Staff Sergeant, D. E. M. L., U. S. Army—  
*Assistant, Department of Military Science and Tactics*
- MARIEN H. DEGRAFF, Master Sergeant, U. S. Army, Retired—  
*Supply Sergeant, Department of Military Science and Tactics*
- JOSEPH LARACY, Master Sergeant, Engineers, U. S. Army, Retired—  
*Assistant, Department of Military Science and Tactics*
- HAROLD Z. MUSSELMAN, A.B.—*Instructor in Physical Education*  
A.B., Cornell College, 1920.
- LEROY B. SHERRY, M.D.—*Examining Physician*
- FLOYD L. HANES, D.O.—*Physician to Football Team*
- ALBERT ADAMS MERRILL—*Instructor in Accounting*



THE CLASS OF  
1924



# Class of 1924



HOLLADAY

BECK

LAYTON

GOLDSMITH

LIDDELL

MALTBY

BEESON

KILHAM

## Officers

- HAROLD R. BECK - - - - - *'President*
- EDGAR N. LAYTON - - - - - *Vice-President*
- WILLIAM L. HOLLADAY - - - - - *Secretary*
- MORRIS GOLDSMITH - - - - - *Treasurer*
- ORVAL E. LIDDELL - - - - - *Athletic Manager*

## BOARD OF CONTROL

- MARTIN L. BEESON
- ROY O. ELMORE, *ex officio*
- CLIFFORD W. MALTBY
- OLIVER W. KILHAM



### Past Officers

#### JUNIOR YEAR (1922-23)

DONALD F. MORRELL	- - - - -	<i>President</i>
MARTIN L. BEESON	- - - - -	<i>Vice-President</i>
EDGAR N. LAYTON	- - - - -	<i>Secretary</i>
EDGAR M. DEREMER	- - - - -	<i>Treasurer</i>
OLIVER W. KILHAM	- - - - -	<i>Athletic Manager</i>

#### BOARD OF CONTROL

FRED J. GROAT, <i>A. S. B. Vice-President</i>	F. DOUGLAS TELLWRIGHT, <i>ex officio</i>
MORRIS GOLDSMITH	E. HAROLD GANDY

#### SOPHOMORE YEAR (1921-22)

F. DOUGLAS TELLWRIGHT	- - - - -	<i>President</i>
DONALD F. MORRELL	- - - - -	<i>Vice-President</i>
ROBERT E. PEFFER	- - - - -	<i>Sec.-Treasurer</i>

#### BOARD OF CONTROL

FRED J. GROAT	ALFRED A. NEWTON
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#### FRESHMAN YEAR (1920-21)

FRED J. GROAT	- - - - -	<i>President</i>
MORRIS GOLDSMITH	- - - - -	<i>Vice-President</i>
HERBERT H. MITCHELL	- - - - -	<i>Sec.-Treasurer</i>

#### BOARD OF CONTROL

DANFORTH WHITE

### Varsity Lettermen

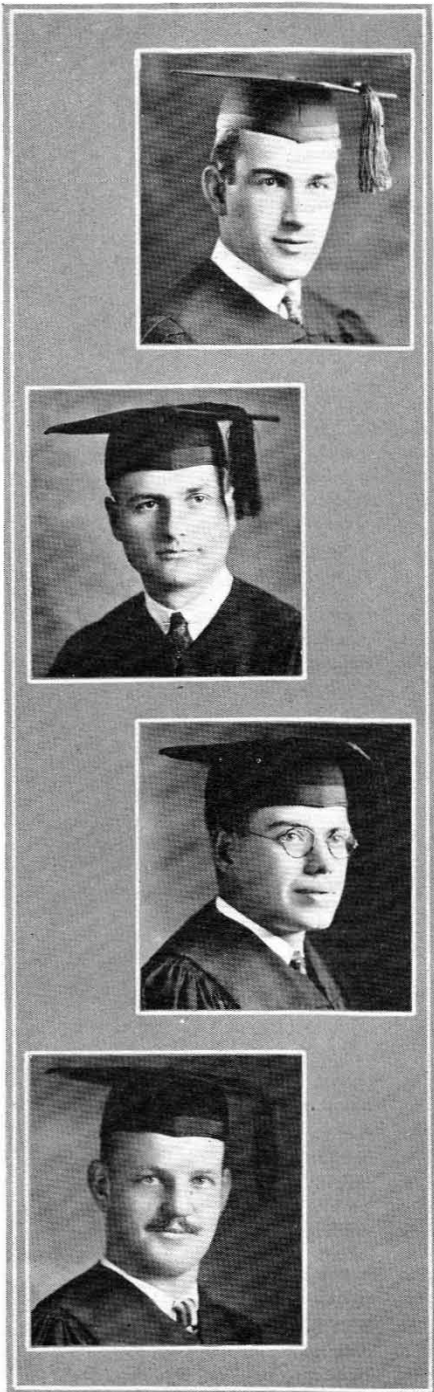
Harold R. Beck	Edward D. Lownes
Martin L. Beeson	Clifford W. Maltby
Morris Goldsmith	Joseph E. Mayer
Fred J. Groat	Hollis W. Moyse
Robert C. Hastings	Eugene W. Smith
Warren B. Leavitt	Rolland S. Thomas
Orval E. Liddell	Elmer J. Weitekamp

### Honor Key Winners

K. B. Anderson	William L. Holladay
Harold R. Beck	Grant V. Jenkins
Martin L. Beeson	Oliver W. Kilham
Carlton H. Eckermann	Edgar N. Layton
Roy O. Elmore	Orval E. Liddell
Elmer H. Gandy	Donald F. Morrell
Fred J. Groat	Hollis W. Moyse
Morris Goldsmith	F. Douglas Tellwright

#### TRAVEL PRIZE WINNERS

Junior Travel Prize—Howard W. Goodhue  
 Freshman Travel Prize—Lawrence H. Acres



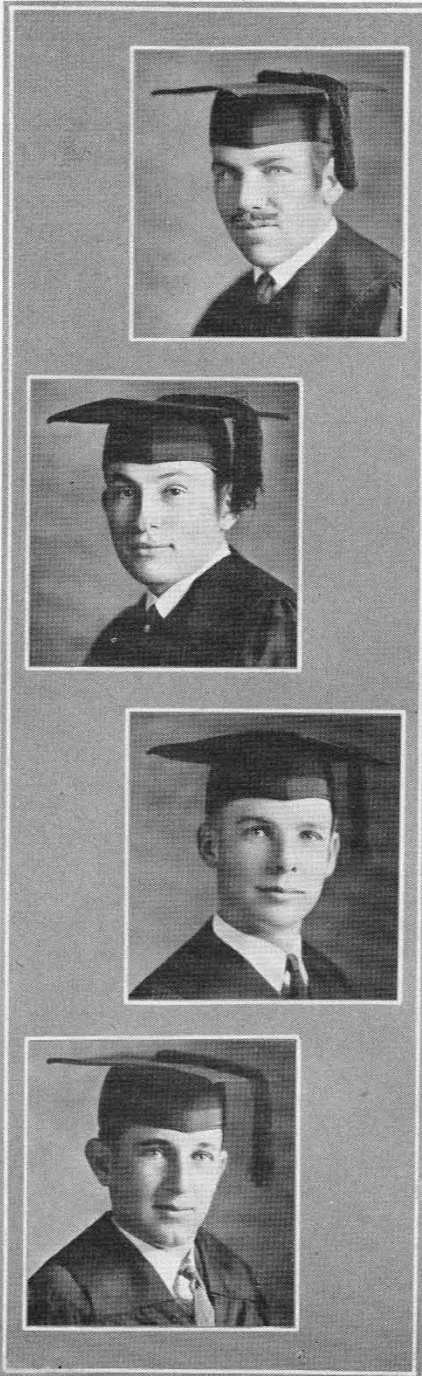
KENNETH BRIGGS ANDERSON—"K. B."  
*Pharos.*  
 Coronado, California.  
 Born October 21, 1902; Mechanical Engineering; Prepared at Queen Anne High School (Seattle, Washington); Entered Fall 1920; Honor Key (4); Football (3, 4); Track (3, 4); Swimming (2, 3, 4); Board of Control (3); Annual Staff (4); Chorus president (4); Band Major (2); A.S.M.E. (2, 3), President (4); S.A.E. (2, 3, 4); Rifle Team (4); R. O. T. C. Sergeant (3), First Lieutenant (4).  
*"When we were first acquaint,  
 Your locks were like the raven,  
 Your boony brow was bent."*

EVERETT DALE BARCUS—"DALE"  
 Maywood, California.  
 Born October 17, 1902; Electrical Engineering; Prepared at Huntington Park High School; Entered Fall 1920; A. I. E. E. (4); Radio Club (1, 4).  
*"Full wise is he that can himselfen knowe."*

WARREN PHELPS BAXTER—"WARREN P."  
 Pasadena, California.  
 Born March 27, 1901; Chemistry; Prepared at Westmount High School (Canada); Attended McGill University; Entered Tech Fall 1920; Chem Club (2, 3, 4).  
*"His air, his manners, all who saw  
 admired;  
 Courteous, though shy, and gentle  
 though retired."*

HAROLD RUDOLPH BECK—"HAL"  
*Pi Kappa Delta, Gnome Club.*  
 Oxnard, California.  
 Born January 20, 1901; Physics and Engineering; Prepared at Oxnard High School; Entered Fall 1920; Honor Key (3, 4); Football (1); Letterman (2, 3, 4); Varsity Club (2, 3, 4); Representative at Large (3); A. S. B. Vice-President (4); Chairman, Board of Control (4); Class President (4); Annual Staff (4); Debating (1, 2, 3, 4) Representative at Pi Kappa Delta National Convention (4); Extemporaneous Oratorical Contest (3); "Philoctetes" Cast; Chem Club (2).  
*"Hearts of oak are our ships,  
 Hearts of oak are our men."*





MARTIN LYNN BEESON—"SHORTY"

*Tau Beta Pi, Gnome Club.*  
Pasadena, California.

Born July 21, 1902; Electrical Engineering; Prepared at Pasadena High School; Entered Fall 1920; Honor Key (4); Football Letterman (2, 4); Varsity Club (2, 3, 4); A. S. B. Treasurer (4) (last half); Judge, Court of Traditions (4); Board of Control (4); Class Vice-president (3); Tech Staff (4); Annual (4); A. I. E. E. (3), Secretary-Treasurer (4).

*"The charge is prepar'd, the deputies  
are met,  
The judge is all ranged,—a terrible  
show!"*

JOHN CARR—"JOHNNY"

*Tau Beta Pi, Press Club.*  
South Pasadena, California.

Born December 27, 1900; Physics and Engineering; Prepared at Odessa 7th, (Odessa, Russia); Attended Odessa Institute of Technology; Entered Tech Fall 1920; Annual Staff (3); Orchestra (3); A. I. E. E. (3).

*"Behold! In Liberty's unclouded blaze  
We lift our heads—a race of other  
days."*

JULE HUBERT COFFEY—"JULE"

*Tau Beta Pi, Pharos.*  
San Gabriel, California.

Born December 25, 1899; Electrical Engineering; Prepared at El Monte High School; Attended Pomona College; Entered Tech Fall 1922; A. I. E. E. (3, 4).

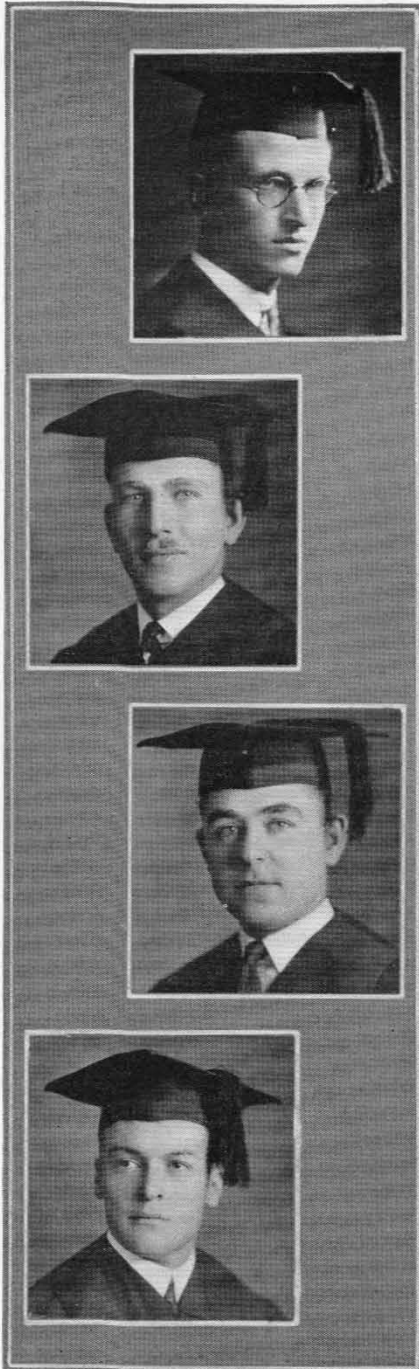
*"Lord! I wonder what fool it was  
that first invented kissing."*

WILLIAM CONKLIN DREYER—"BILL"

*Tau Beta Pi.*  
Glendale, California.

Born April 10, 1898; Electrical Engineering; Prepared at Glendale High School; Entered Fall 1920; A. I. E. E. (3, 4).

*"I dare do all that may become a  
man;  
Who dares do more is none."*



SYDNEY FORD DUNCAN—"DUNC"

*Pi Kappa Delta*  
Pasadena, California.

Born February 18, 1904; Mechanical Engineering; Prepared at Hollywood High School; Entered Fall 1920; Glee Club (3, 4); Glee Club Librarian (4); Debate (4); A. S. M. E. (4); Y. M. C. A. Cabinet (4).

*"I am as sober as a judge."*

CARLTON HERMAN ECKERMAN—"ECK"

*Pi Kappa Delta.*  
Covina, California.

Born December 8, 1901; General Science; Prepared at Covina High School; Entered Fall 1920; Honor Key (3); Tech Staff, Managing Editor (3), Associate Editor (4); Band (1, 2, 3); A. I. E. E. (1); A. S. M. E. (3, 4); Representative at Pi Kappa Delta National Convention (4); Representative Oratorical Conference (1, 2, 3, 4); Conger Peace Prize (1); Dorm Club (1, 2, 3, 4).

*"His many talents well employed."*

ROY OVID ELMORE—"OVID"

*Tau Beta Pi, Sigma Alpha Pi.*  
Santa Monica, California.

Born April 23, 1896; Electrical Engineering; Prepared at Manual Arts High School; Entered Mid-year 1920; Honor Key (4); A. S. B. Secretary (4); Board of Control (4); Executive Committee (4); Tech Staff (4); Annual Staff (4); A. I. E. E. (2, 3), Chairman (4).

*"The mind's the standard of the man."*

HAROLD HURST FARNHAM—"FUZZIE"

South Pasadena, California.

Born August 3, 1901; Chemical Engineering; Prepared at San Bernardino High School; Entered Fall 1920; Chem Club (2, 3, 4).

*"Meet me by the moonlight alone,  
And then I will tell you a tale."*



CHARLES LEONARD FORBES—"LEONARD"  
*Pi Alpha Tau.*  
 Glendale, California.  
 Born September 11, 1900; Mechanical  
 Engineering; Prepared at Fullerton  
 High School; Further preparation at  
 Los Angeles Polytechnic High School;  
 Entered Fall 1919; A. S. M. E. (4).  
*"It is a very good world to live in,  
 To lend, or to spend, or to give in."*



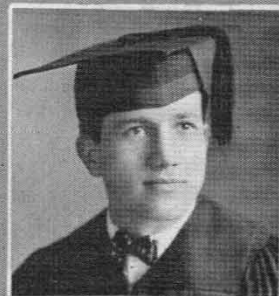
HUGH BARTON FREEMAN—"HUGH"  
 Glendale, California.  
 Born March 6, 1897; Physics and  
 Engineering; Prepared at Polytech-  
 nic High School; Attended Occi-  
 dental College; Entered Tech Fall  
 1919; Football (1); Glee Club (1,  
 2).  
*"Old friends, old times, old man-  
 ners, old books"*



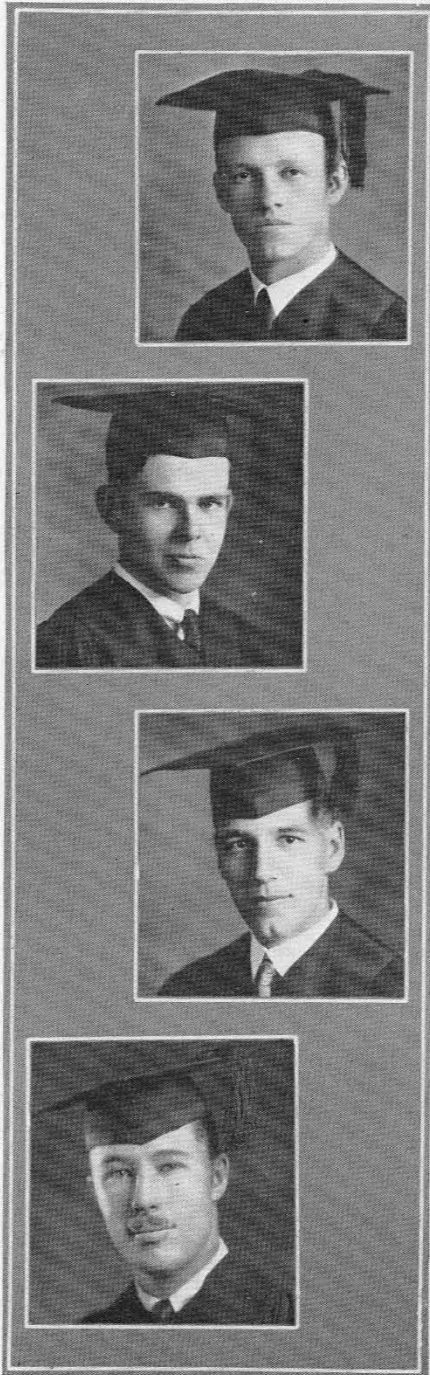
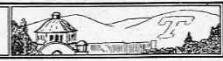
ELMER HAROLD GANDY—"HAROLD"  
 Pasadena, California.  
 Born June 24, 1901; Engineering and  
 Economics; Prepared at Long Beach  
 High School; Entered Fall 1920; Honor  
 Key (3); Basketball (3,4); Court of  
 Traditions (3); Board of Control (3);  
 Tech Advertising Manager (3); An-  
 nual Staff (3, 4); A. I. E. E. (3, 4);  
 Economics Club (4); Y. M. C. A.  
 Treasurer (3), President (4).  
*"Their cause I plead,—plead it in  
 heart and mind;  
 A fellow feeling makes one won-  
 drous kind."*



MORRIS GOLDSMITH—"MORRY"  
*Pi Alpha Tau.*  
 Los Angeles, California.  
 Born December 6, 1902; Civil Engi-  
 neering; Prepared at Hollywood  
 High School; Entered Fall 1920;  
 Honor Key (4); Football Letter-  
 man (2, 3, 4); Varsity Club (2, 3,  
 4); Board of Control (3); Class  
 Vice-president (1); Class Treas-  
 urer (4); Annual Staff (4); Glee  
 Club (3, 4); Men's Chorus (4);  
 A. S. C. E. (1, 2, 3, 4); Dorm Club  
 (1, 2), Vice-president (3), Presi-  
 dent (4).  
*"I am a part of all that I have  
 met."*







BORIS ARKADIEVITCH GOLIKOFF—"GOLLY"  
Pasadena, California.  
Born November 16, 1898; Electrical Engineering; Prepared at Harbin Russian Middle School; Attended University of California; Entered Tech Winter 1922; Russian Scholarship in the Institute (2, 3, 4); A. I. E. E. (3, 4).  
*"Asleep in the lap of customs old."*

HOWARD WILLIAM GOODHUE—"HOWARD"  
Hemet, California.  
Born October 21, 1902; Civil Engineering; Prepared at Hemet High School; Entered Fall 1920; Junior Travel Prize (3); A. S. C. E. (2, 3, 4).  
*"He reads much;  
He is a great observer, and he looks  
Quite through the deeds of men."*

ALBERT SUMNER GOULD—"AL"  
*Tau Beta Pi, Pharos.*  
Pasadena, California.  
Born April 6, 1903; Electrical Engineering; Prepared at Pasadena High School; Entered Fall 1920; Football (2); Band (1, 4), Librarian (2), Manager (3); Orchestra (2, 3); A. I. E. E. (3, 4).  
*"None but himself can be his  
parallel."*

HORACE VELSEY GRIDLEY—"GRID"  
Pasadena, California.  
Born September 27, 1903; Civil Engineering; Prepared at Hollywood High School; Attended Hollywood Junior College, U. C. L. A.; Entered Tech Fall 1920; A. S. C. E. (2, 3, 4).  
*"He that boxes with us strengthens our  
nerves and sharpens our skill."*



LOYS GRISWOLD—"LOYS"

*Tau Beta Pi, Pi Alpha Tau.*  
Glendale, California.

Born October 17, 1902; Electrical Engineering; Prepared at Glendale High School; Attended U. C. L. A.; Entered Tech Fall 1922; Football (4); A. I. E. E. (3, 4).

*"I know no way of judging of the future  
But by the past."*

FRED JEREMIAH GROAT—"FREDDIE"

*Pi Kappa Delta, Gnome Club.*  
Whittier, California.

Born February 26, 1902; Electrical Engineering; Prepared at Whittier High School; Entered Fall 1920; Honor Key (2, 3, 4); Football (2), Letterman (3, 4); Basketball Letterman (3); Track (1, 2), Letterman (4); Baseball (1), Letterman (2, 3, 4); Varsity Club (2, 3, 4); A. S. B. Vice-president (3); President (4); President Southern California Inter-Collegiate Student Body Association (4); Board of Control (2, 4), Chairman (3); Class President (1); Annual Staff (2, 3); Debating Team (1, 2); Debate Manager (1); President Freshman Debating Society (1); A. I. E. E. (3, 4); R. O. T. C. First Sergeant (3), Major (4).

*"A man so various, that he seem'd  
to be  
Not one, but all mankind's epitome."*

LAWRENCE WILLIAM HALL—

"LAWRENCE"

*Pi Kappa Delta.*  
Pasadena, California.

Born August 21, 1899; Electrical Engineering; Prepared at Pasadena High School; Attended Potts Business College; Entered Tech Fall 1920; Debating (1); "Philoctetes" Cast.

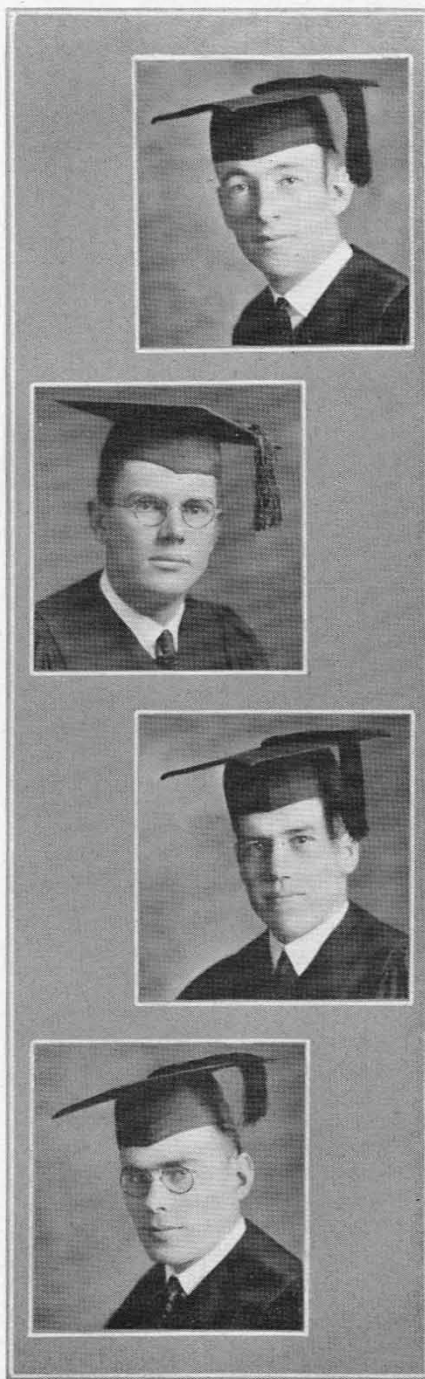
*"She knew her man, and he knew  
his—"*

ROBERT CLINTON HASTINGS—"DUKE"

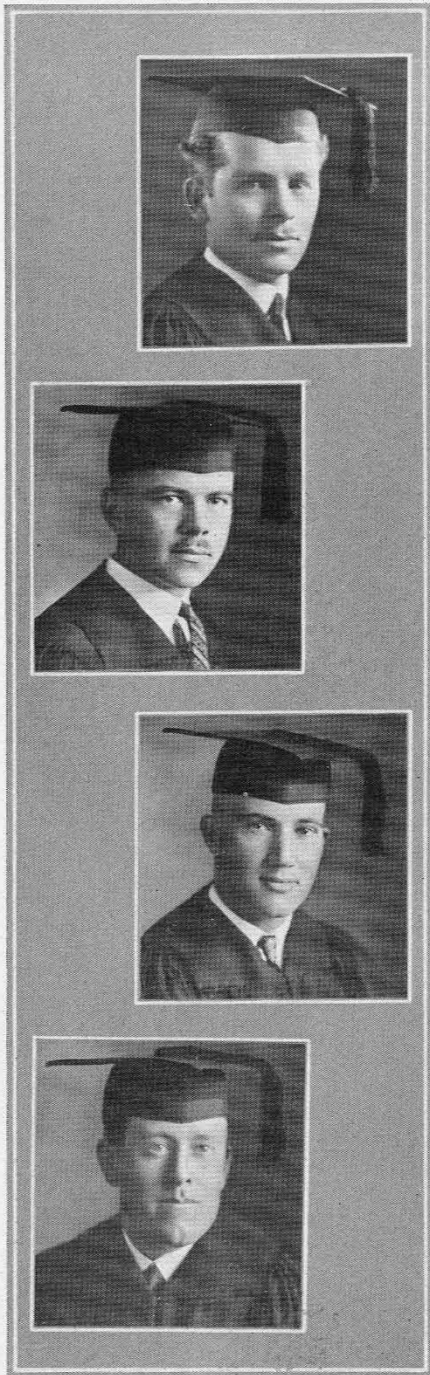
*Tau Beta Pi.*  
Pasadena, California.

Born November 7, 1901; Chemical Engineering; Prepared at Huntington Park High School; Entered Fall 1919; Football (3, 4); Track (3, 4), Letterman (2); Varsity Club (2, 3, 4); Annual Staff (4); Chem Club (1, 2, 3, 4).

*"If he had any faults, he has left  
us in doubt."*







EARL SPENCER HAYMAN—"OIL"

*Sigma Alpha Pi.*

Los Angeles, California.

Born June 27, 1896; Electrical Engineering; Prepared at Covington (Kentucky) High School; Attended University of Cincinnati, University of Southern California, Stevens Institute of Technology (Hoboken, New Jersey); U. C. L. A.; Entered Tech Fall 1921. Glee Club (3, 4).

*"Facts are stubborn things."*

WILLIAM LEE HOLLADAY—"BILL"

*Lambda Kappa Tau, (U. C. L. A.),*

*Pi Alpha Tau, Press Club.*

Los Angeles, California.

Born December 9, 1901; Electrical Engineering; Prepared at Inglewood Union High School; Attended U. C. L. A.; Entered Tech Fall 1922; Honor Key (4); Secretary Senior Class (4); Tech Staff (4); Annual Staff (4); Glee Club (4); A. I. E. E. (3, 4); Y. M. C. A. Cabinet (4); R. O. T. C. Sergeant (3), First Lieutenant (4).

*"I am monarch of all I survey,*

*My right there is none to dispute."*

HARRY THOMAS HONN—"HARRY"

Los Angeles, California.

Born February 21, 1898; Electrical Engineering; Prepared at Los Angeles Lincoln High School; Attended University of Nevada; Entered Tech Fall 1920; Glee Club (1); A. I. E. E. (4).

*"But rides an eagle flight, bold and  
forth on,*

*Leaving no track behind."*

GEORGE HAROLD HOPKINS—"HOPPIE"

*Tau Beta Pi.*

Pasadena, California.

Born September 10, 1897; Mechanical Engineering; Prepared at Pasadena High School; Attended Occidental College, Massachusetts Institute of Technology; Entered Tech Fall 1920; A. S. M. E. (3, 4).

*"And wisely tell what hour o' the day  
The clock does strike, by algebra."*



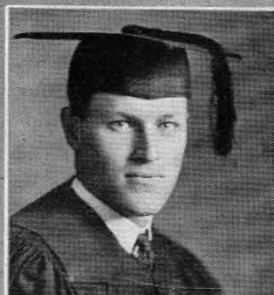
FREDERIC ALLEN HOUGH—"FRED"  
*Tau Beta Pi.*  
 Phoenix, Arizona.  
 Born March 6, 1902; Chemistry; Prepared at Phoenix High School; Entered Mid-year 1920; Chem Club (2), Secretary (3, 4).

*"Behind a frowning providence  
 He hides a shining face."*



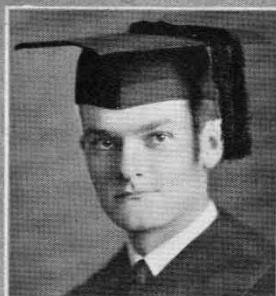
EMMETT MACDONALD IRWIN—"EMMETT"  
*Tau Beta Pi.*  
 Riverside, California.  
 Born April 14, 1902; Electrical Engineering; Prepared at Riverside High School; Attended Riverside Junior College; Entered Tech Fall 1922; A. I. E. E. (4).

*"Variety's the very spice of life."*



ARCHIBALD YULE JAMESON—"OLE"  
*Beta Theta Pi (U. of Minn.)*  
 Hollywood, California.  
 Born April 28, 1902; Chemical Engineering; Prepared at West High School (Minneapolis, Minnesota); Attended University of Minnesota; Entered Tech Fall 1922; Chem Club (3, 4).

*"Above the vulgar flight of common  
 souls."*



GRANT VINCENT JENKINS—"GRANT"  
*Pi Kappa Delta, Pharos.*  
 Redlands, California.

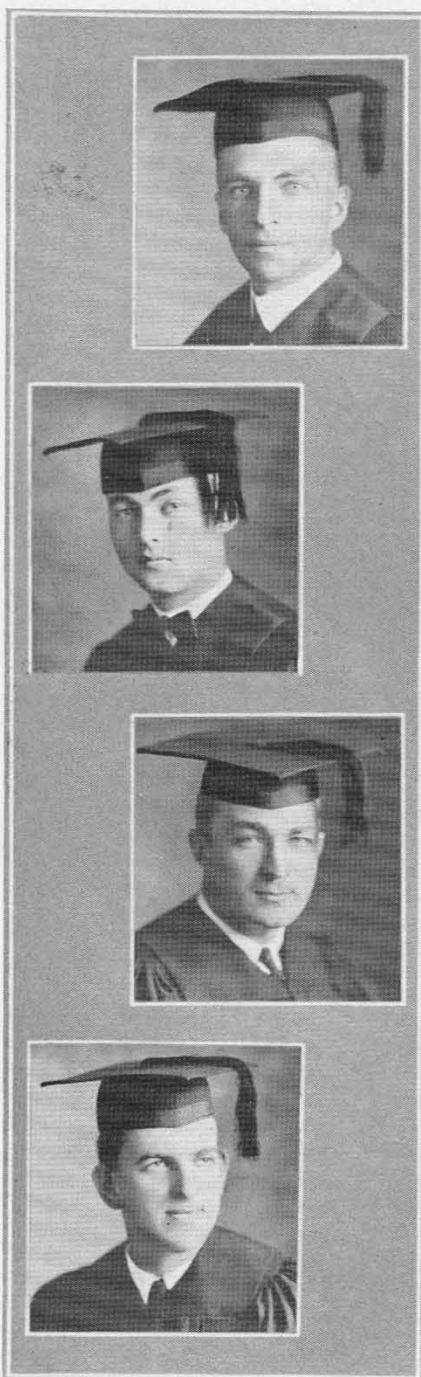
Born December 24, 1896; General Science; Prepared at Redlands High School; Attended U. C. at Berkeley; Entered Tech Fall 1920; Honor Key (3, 4); Manager Musical Activities (3); Annual (4); Band Librarian (1), Manager (2), Director (3, 4); Orchestra Director (2, 3); Debating (4); Hamburger Oratorical Contest (3); "Atomizer;" Chem Club (2, 3, 4); Dug-out Committee (4).

*"To him who in the love of Nature  
 holds*

*Communion with her visible forms,  
 she speaks*

*A various language."*





VLADIMIR ANATOLE KALICHEVSKY—  
"CHEVSKY"

Pasadena, California.

Born April 9, 1895; Chemical Engineering; Prepared at Corps of Pages of H. I. M. Emperor of Russia; Graduate of the Supplementary Classes of the Corps of Pages of H. I. M. Emperor of Russia; Attended the Military College for General Staff Officers, Russia; Attended University of California; Entered Tech Winter 1922; Russian Scholarship in the Institute (2, 3, 4).

*"For he lives twice who can at once  
employ  
The present well, and e'en the past  
enjoy."*

LOUIS KIESLING—"LOUIS"

Los Angeles, California.

Born July 10, 1901; Engineering and Economics; Prepared at Los Angeles High School; Attended U.C.L.A.; Entered Tech Fall 1921; Aero Club (3, 4).

*"We must take the air when it  
serves, or lose our ventures."*

OLIVER WILLIAM KILHAM—"DOC"

*Pi Alpha Tau.*

Pasadena, California.

Born March 18, 1901; Mechanical Engineering; Prepared at Redondo Union High School; Entered Fall 1919; Honor Key (4); Swimming (1); Board of Control (4); Class Athletic Manager (3); Tech Staff (4); Annual Staff (4); Glee Club (3, 4); Chorus (4); Debating (3); A.S.M.E. (3), Secretary-Treasurer (4); R.O.T.C. Sergeant (3), First Lieutenant (4).

*"Thy fatal shafts unerring move  
I bow before thy altar, Love!"*

MAURICE LANDAU—"NAZIMOVIMA"

Los Angeles, California.

Born May 15, 1903; Electrical Engineering; Prepared at Hollywood High School; Entered Fall 1920; A. I. E. E. (3, 4).

*"Whatever sceptic could inquire for,  
For every why he had a wherefore."*





EDGAR NELSON LAYTON—"ED."

*Tau Beta Pi, Pi Alpha Tau, Press Club.*

Pasadena, California.

Born October 23, 1901; Electrical Engineering; Prepared at Greeley High School (Greeley, Colorado); Entered Fall 1919; Honor Key (3, 4); Manager, A. S. B. Musical Organizations (4); Honor Points Committee (3), Chairman (4); Class Secretary (3); Vice-president (4); Tech Staff (2, 3, 4); Annual Staff (3, 4); Glee Club (2), Manager (3), President (4); Band (1, 2, 3, 4); Orchestra (2, 3); A. I. E. E. (3, 4).

*"Odds life! Must one swear to the truth of a song?"*

WARREN BURTON LEAVITT—"WARREN"

Ontario, California.

Born January 27, 1901; Mechanical Engineering; Prepared at Chino High School; Attended Chaffee Junior College, University of Southern California; Entered Tech Fall 1920; Baseball Letterman (3, 4); Varsity Club (3, 4); Band (2, 3, 4); Glee Club (4); A.S.M.E. (3, 4).

*"Ah, why should life all labour be?"*

ORVAL EUGENE LIDDELL—"LYKO"

*Tau Beta Pi, Sigma Alpha Pi, Press Club.*

Los Angeles, California.

Born July 29, 1902; Mechanical Engineering; Prepared at Los Angeles Manual Arts High School; Entered Fall 1920; Honor Key (3); Track (1), Letterman (2); Varsity Club (2, 3, 4); A. S. B. Yell Leader (3); Class Athletic Manager (4); Tech Staff (3, 4); Annual Circulation Manager (4); A. S. M. E. (2, 3), Vice-president (4); Secretary-Treasurer, Dorm Club (3).

*"Rise, honest muse! and sing the 'Song of Twenty-four'."*

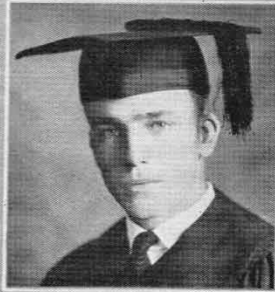
THEODORE CHAPIN LOSEY—"TED"

South Pasadena, California.

Born October 10, 1900; Engineering and Economics; Prepared at East High School (Rochester, New York); Attended Iowa State College; Entered Tech Fall 1920; Cross Country (1).

*"Nothing was ever achieved without enthusiasm."*





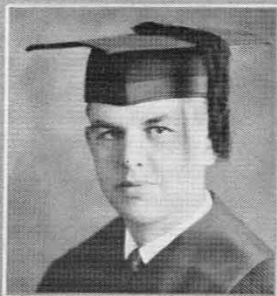
FRANK RUSSELL LOVERING—"LOVY"  
Pasadena, California.  
Born August 25, 1902; Civil Engineering; Prepared at High School, (South Dakota); Attended University of Colorado; Entered Tech Fall 1921; Football (3); A. S. C.E., (1, 2, 3), Treasurer (4).  
*"Such and so various are the tastes of men."*



EDWARD DATESMAN LOWNES—"ED"  
*Pi Alpha Tau.*  
Redlands, California.  
Born June 5, 1902; Engineering and Economics; Prepared at Redlands High School; Entered Fall 1920; Track Letterman (4); Track (1, 2, 3); Tech Staff (4); Annual Staff (4); Glee Club (1, 2, 3, 4); Quartette (2, 3); A.I.E.E. (2); R.O.T.C. Sergeant (3), Second Lieutenant (4).  
*"I took to my heels as fast as I could."*



MITCHELL CLARK LUKENS—"MITCH"  
Pasadena, California  
Born December 2, 1899; Engineering and Economics; Prepared at Coronado High School; Attended San Diego Junior College; Entered Tech Fall 1920; Tech Staff (4); Aero Club (4), Treasurer (2); Economics Club (4).  
*"Knowledge is power."*



PAUL LA FRONE MAGILL—"PAUL"  
*Theta Delta Nu (O. A. C.).*  
Nampa, Idaho.  
Born March 21, 1903; Chemistry; Prepared at Nampa High School; Attended Oregon State Agricultural College; Entered Tech Fall 1922; Chem Club (3, 4).  
*"There are no tricks in plain and simple faith."*





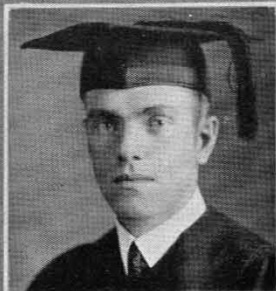
CLIFFORD WILLIAM MALTBY—"CLIFF"

*Pharos.*

Ventura, California.

Born July 5, 1900; Electrical Engineering; Prepared at Santa Paula High School; Entered Fall 1920; Basketball (1, 2), Letterman (3, 4); Varsity Club (3, 4); Board of Control (4); A. I. E. E. (3, 4); Y. M. C. A. Cabinet (3, 4).

*"He holds fast the golden mean."*



JOSEPH EDWARD MAYER—"JOE"

*Tau Beta Pi, Pi Kappa Delta,  
Sigma Alpha Pi.*

Pasadena, California.

Born February 5, 1904; Chemistry; Prepared at Hollywood High School; Entered Mid-year 1920; Swimming, Letterman (2, 3), Captain (4); Varsity Club (2, 3), Vice-president (4); Tech Staff (4); Debating (3); Chem Club (2), Treasurer (3), President (4).

*"True as the needle to the pole,  
Or as the swimmer to the goal."*

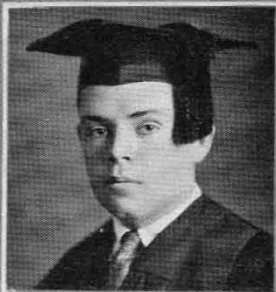


FREDERICK JAMES McCLUNG—"FRED"

Huntington Park, California.

Born November 6, 1901; Electrical Engineering; Prepared at Huntington Park High School; Entered Fall 1919; Orchestra (1); Radio Club (1, 2), Vice-president (4); A. I. E. E. (4).

*"Born for success he seems."*

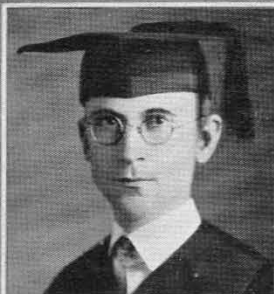


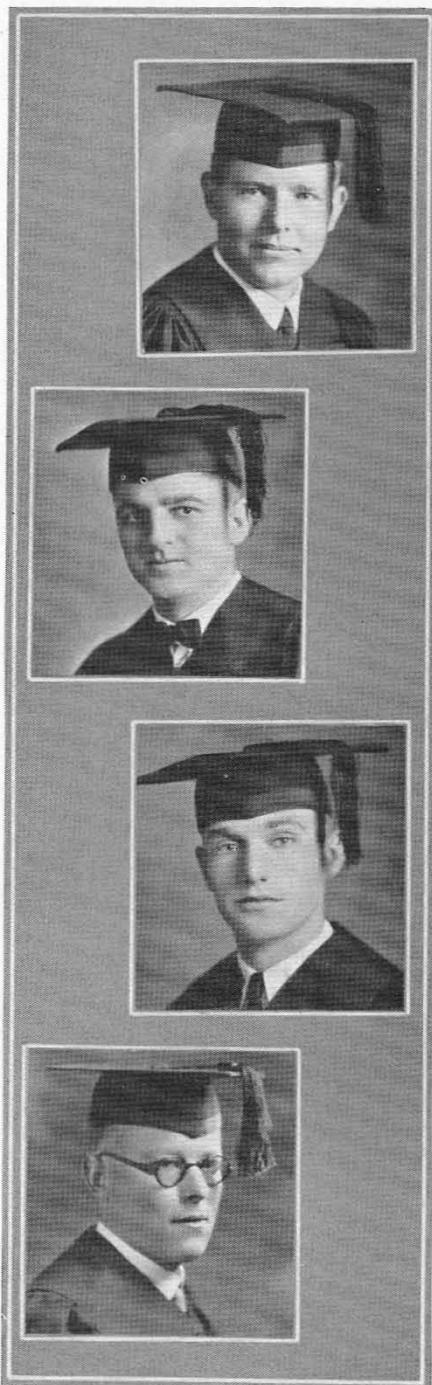
ARCHIE McKAIG—"ARCHIE"

San Diego, California.

Born July 1, 1900; General Science; Prepared at San Diego High School; Entered Fall 1918; Chem Club (1, 2); Economics Club (4).

*"He comes from  
Where the broad ocean leans against  
the land."*





JAMES TIMOTHY MERCEREAU—"CACK"  
 Holtville, California.  
 Born December 15, 1902; Electrical Engineering; Prepared at Holtville High School; Entered Fall 1920; Glee Club (3, 4); Chorus (4); A. I. E. E. (4); Rifle Team (3, 4); "Atomizer" Cast; R. O. T. C. Sergeant (3), Second Lieutenant (4).  
*"He and comparisons are odious."*

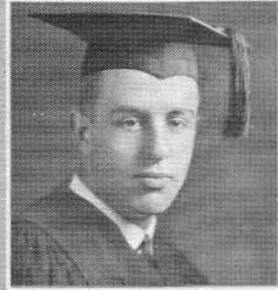
ARTHUR FRANKLIN MICHAEL—"ART"  
*Pi Alpha Tau.*  
 Los Angeles, California.  
 Born November 26, 1900; Electrical Engineering; Prepared at Lincoln High School; Entered Fall 1920; Baseball (1); Glee Club (3, 4).  
*"Why should the Devil have all the good tunes?"*

PALMER MILLER—"PALMER"  
 Portland, Oregon.  
 Born May 6, 1903; Chemistry; Prepared at Jefferson High School (Portland, Oregon); Attended Oregon Agricultural College; Entered Tech Fall 1922; Annual Staff (4); Chem Club (3), Treasurer (4).  
*"The world's a stage on which all parts are played."*

ROY ELMER MILLER—"ROY"  
 Anaheim, California.  
 Born December 18, 1900; Mechanical Engineering; Prepared at Santa Ana High School; Attended Santa Ana Junior College; Entered Tech Fall 1921; A. S. M. E. (4); Y. M. C. A. Cabinet (4).  
*"I hold (s)he loves me best that calls me 'Roy'."*



MAX WASHINGTON MOODY—"MAX"  
*Tau Beta Pi.*  
 Santa Monica, California.  
 Born February 22, 1903; Civil Engineering; Prepared at Santa Monica High School; Entered Fall 1920; Football (2, 4); Chorus (4); A. S. C. E. (2, 3), Secretary (4).  
*But when I tell him he hates flatterers, he says he does, being then most flattered."*



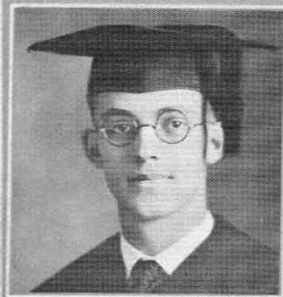
DONALD FRANCIS MORRELL—"DON"  
*Tau Beta Pi, Pi Kappa Delta, Gnome Club.*  
 Los Angeles, California.  
 Born October 12, 1902; Engineering and Economics; Prepared at Los Angeles High School; Entered Fall 1920; Honor Key (3, 4); Football (2); A. S. B. Athletic Manager (4), Basketball Manager (3), Baseball Manager (3); Class Vice-president (2), President (3); Annual Staff (2, 3, 4); Debating Team (1, 2, 3, 4); Debate Manager (2); A. S. M. E. (3); Economics Club (4); Varsity Club (4).  
*"Who can be wise, amazed, temperate and furious, Loyal and neutral, in a moment?"*

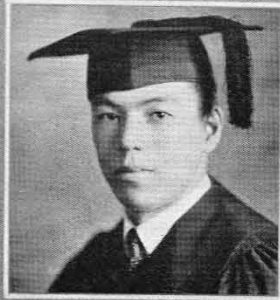


HOLLIS WEAVER MOYSE—"HOLLY"  
*Sigma Alpha Pi.*  
 Glendale, California.  
 Born September 29, 1902; Chemical Engineering; Prepared at Glendale High School; Entered Fall 1920; Honor Key (4); Letterman: Football (2, 3), Captain (4); Basketball (2); Track (3, 4); Baseball (2, 3, 4); Varsity Club (2, 3), President (4); Representative at Large (4); Chem Club (2, 3, 4).  
*"His form is of the manliest beauty, His heart is kind and soft."*



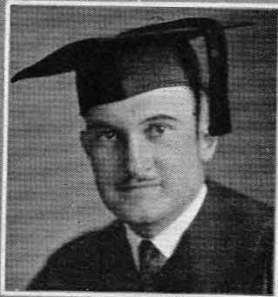
CECIL NELSON PARKER—"CECIL"  
 Pomona, California.  
 Born April 17, 1902; Electrical Engineering; Prepared at Pomona High School; Attended Pomona College, Entered Tech Fall 1921; Tech Staff (3, 4); Radio Club (4).  
*"He seldom smiles."*





JOHN WILLIAM PIPER—"BILL"  
Los Angeles, California.  
Born June 18, 1903; Civil Engineering; Prepared at Loyola High School; Entered Fall 1920; A.S.C.E (2, 3, 4).

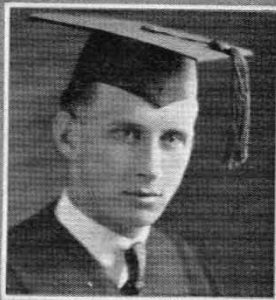
*"We have been friends together  
in sunshine and in shade."*



HAROLD FRANK POPE—"HAROLD"  
*Pharos.*  
Yucaipa, California.

Born June 29, 1902; Civil Engineering; Prepared at Redlands High School; Attended U. C. L. A.; Entered Tech Fall 1920; Football (+); A. S. C. E. (3, 4); Annual (4).

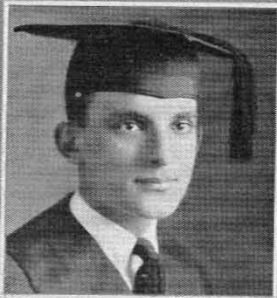
*"Your face, my thane, is as a book  
where men  
May read strange matters."*



ROBERT STYLES RIDGWAY—"BOB"  
*Tau Beta Pi, Press Club.*  
Pasadena, California.

Born June 22, 1902; Mechanical Engineering; Prepared at Venice High School; Entered Fall 1920; Tech Staff (1, 2, 3, 4); Annual (3, 4); Editor Hot Rivet (2); Tech Editor Southern California Collegian (2); Editor Y. M. C. A. Handbook (4); A. S. M. E. (3, 4); Aero Club (4).

*"'S death!  
I'll print it, and shame the fools!"*



MAURICE BURSK ROSS—"MAURY"  
*Sigma Alpha Pi.*  
San Diego, California.

Born April 19, 1901; Physics and Engineering; Prepared at San Diego High School; Entered Mid-year 1920; Tech Staff (3, 4); Annual Staff (4); Glee Club (3, 4); A. I. E. E. (4); S. A. E. (2, 3); R. O. T. C. Sergeant (4).

*"I am heir of all the ages,  
In the foremost files of time."*





WILLIS LESLIE SQUIERS—"SQUEERS"  
*Pi Alpha Tau.*  
 Pasadena, California.  
 Born October 10, 1901; Engineering  
 and Economics; Prepared at Venice  
 High School; Entered Fall 1920;  
 Football (2, 3), Track (1, 2, 4);  
 Economics Club Treasurer (4).  
*"Let the world slide, let the world  
 go;  
 A fig for care, and a fig for woe!"*



CHARLES FORDHAM STEARNS—"CHUCK"  
 Altadena, California.  
 Born April 3, 1896; Engineering and  
 Economics; Prepared at Pasadena High  
 School; Entered Fall 1918.  
*"Tis always morn somewhere in the  
 world."*

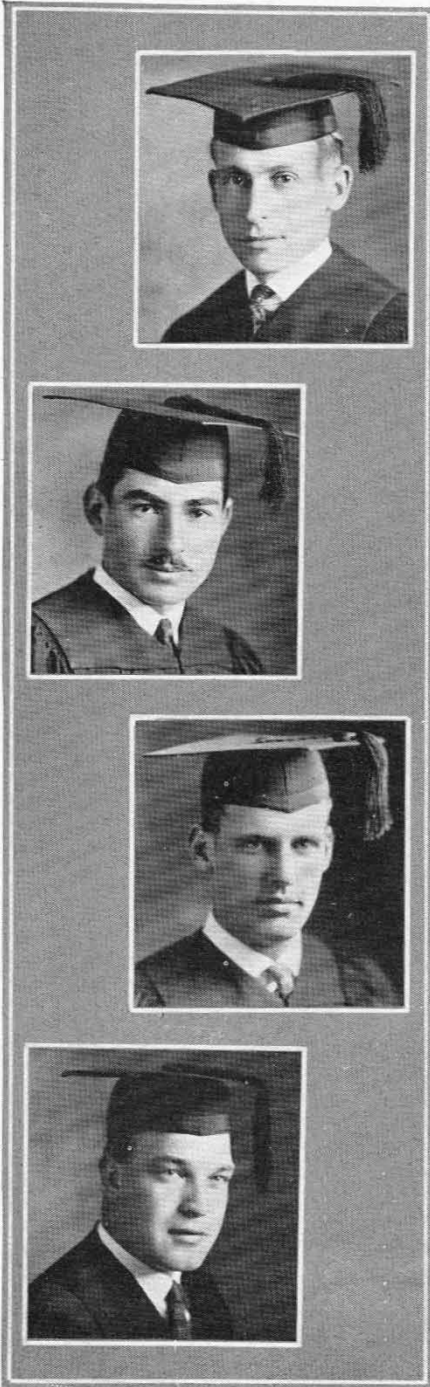


EUGENE WOOD SMITH—"TOOLIE"  
 Fallbrook, California.  
 Born February 9, 1903; Mechanical  
 Engineering; Prepared at Fallbrook  
 High School; Entered Fall 1920; Foot-  
 ball (1, 2), Letterman (3); Basket-  
 ball (1, 2), Letterman (3, 4); Varsity  
 Club (3, 4); A. S. M. E. (4).  
*"All Nature wears one universal  
 grin."*



HAROLD ORMISTON SPRINGER—"SPUD"  
*Tau Beta Pi.*  
 Pasadena, California.  
 Born December 19, 1899; Civil Engi-  
 neering; Prepared at Beaumont High  
 School (California); Entered Fall  
 1920; Football (1, 2); Track (1, 2);  
 A. S. C. E. (2, 3), President (4).  
*"They all declared how much he  
 knew,  
 'Twas certain he could write and  
 cipher too."*





LYMAN PAUL STOKER—"L. P."

*Pharos.*

Long Beach, California.  
Born November 24, 1897; Mechanical Engineering; Prepared at Manhattan High School (Manhattan, Kansas); Attended Kansas State Agricultural College; Entered Tech Fall 1918; Band (1, 2, 3), Manager (4); Orchestra (1, 2), Manager (3); Annual (4); Chorus (4); A. S. M. E. (2, 3, 4).

*"Music sweet as honey from his lips  
distill'd."*

GEORGE BAGDASER STONE—"GEORGE"

Pasadena, California.

Born August 21, 1902; Electrical Engineering; Prepared at Alhambra High School; Entered Fall 1920; Glee Club (1, 2, 3, 4); "Atomizer" Cast; A.I.E.E. (1).

*"Life is real! Life is earnest!"*

FRANK DOUGLAS TELLWRIGHT—"DOUG"

*Pi Kappa Delta, Pharos, Press Club.*

Los Angeles, California.

Born January 2, 1901; Physics and Engineering; Prepared at Los Angeles Polytechnic High School; Entered Fall 1920; Honor Key (3); A. S. B. Secretary (3); Class President (2); Annual Circulation Manager (3), Editor (4); Band-Major (3); Debating Team (2); R. O. T. C., First Sergeant (3), Captain (4).

*"Every man has his fault,  
And honesty is his."*

ROLLAND SHIELDS THOMAS—"TOMMY"

*Tau Kappa Epsilon (O.A.C.)*

Long Beach, California.

Born September 23, 1899; Engineering and Economics; Prepared at Long Beach High School; Attended Oregon State Agricultural College; Entered Tech Fall 1921; Football Letterman (O. A. C.) 1920, Tech (4); Baseball (3); Varsity Club (4); A.A.E. (O.A.C.) 1920; A.S.M.E. (O.A.C.) 1919-20; A.S.M.E. Tech (2, 3, 4); Economics Club (4); R.O. T.C. Sergeant (3), Second Lieutenant (4).

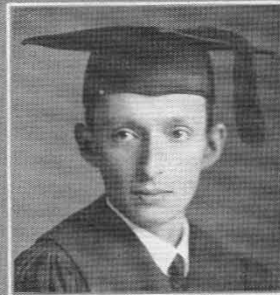
*"Our Tommy's a salad, for in him  
we see oil, vinegar, sugar and  
saltness agree."*



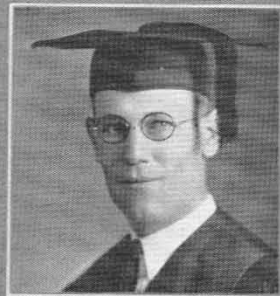
HARRY L. WARREN—"HARRY"  
*Pi Alpha Tau.*  
 Arcadia, California.  
 Born November 28, 1900; Civil Engineering; Prepared at Hughes High School, (Cincinnati, Ohio); Entered Fall 1920; A.S.C.E. (1, 2, 3, 4).  
*Elegant as simplicity, and warm as ecstasy."*



SIDNEY WEINBAUM—"SIDNEY"  
 Los Angeles, California.  
 Born March 16, 1898; Physics and Engineering; Prepared at Odessa 7th, (Odessa, Russia); Attended Rostov University and Kharkoff Institute of Technology, Russia; Entered Tech Fall 1922.  
*"Thy liquid notes that close the eye of day."*



ELMER JOHN WEITEKAMP—"WEITY"  
*Gnome Club.*  
 San Diego, California.  
 Born January 24, 1896; General Science; Prepared at San Diego High School; Attended U. S. C. (Summer Session); Entered Tech Fall 1919; Baseball Letterman, (2, 3), Captain (4); Varsity Club (2, 3, 4); Tech Staff (4); Annual Staff (4); A. S. M. E. (3, 4); Aero Club (2, 3), President (4); Economics Club (4).  
*"A brother of the crescent moon, Unacquainted with fear."*

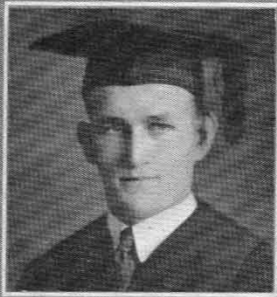


ROBERT MCKENZIE WHITING—"BOB"  
 South Pasadena, California.  
 Born March 8, 1901; Mechanical Engineering; Prepared at South Pasadena High School; Entered Fall 1919; A. S. M. E. (3, 4).  
*"Mocking the air with colors idly spread."*





EDWARD ARTHUR WILSON—"HUSKY"  
*Tau Beta Pi.*  
 Orange, California.  
 Born October 1, 1895; Mechanical Engineering; Prepared at Orange Union High School; Entered Mid-Term 1920; A. S. M. E. (3, 4); S. A. E. (2, 3).  
*"He knew what's what—"*



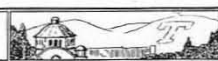
RALPH CHALMERS WILSON—"TANGO"  
 Los Angeles, California.  
 Born November 15, 1901; Electrical Engineering; Prepared at Huntington Park High School; Entered Fall 1919; Basketball (1, 2); A. I. E. E. (4).  
*"The man that hails you Tom or Jack,  
 And proves, by thumping on your back."*



DAVID WOLOCHOW—"DAVE"  
 Los Angeles, California.  
 Born August 31, 1900; Chemical Engineering; Prepared at Saskatoon Collegiate Institute (Canada); B. A. (1921), M. A. (1922), University of Saskatchewan; Entered Tech Fall 1923.  
*"Our hopes, like towering falcons aim  
 At objects in an airy height."*



DAVID ROBERT YOUNG—"DAVE"  
*Tau Beta Pi.*  
 Fallon, Nevada.  
 Born January 8, 1902; Engineering and Economics; Prepared at Churchill County High School, (Fallon, Nevada); Attended Rensselaer Polytechnic Institute; Entered Tech Fall 1921; Basketball (3, 4); Economics Club (4).  
*"What shall I do to be forever known,  
 and make the age to come my own?"*



# Casualties

## Class of 1924

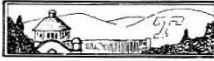
- ACRES, LAWRENCE HOBBS, member of class (1920-21); now at M.I.T.  
AMOS, GERALD A., member of class (1920-21); now in sanitarium.  
ANDERSON, DONALD SOCRATES CONSTANTINE, member of class (1922-23); now California Horticultural Inspector.  
ASHLEY, CHARLES E., member of class (1920-21).  
ATHERTON, TRACY LEON, member of class (1920); now member Class of '25.  
ATKINSON, CLAYTON BEALE, member of class (1920); now electrician.  
BALL, EMMETT BORDEN, member of class (1921).  
BAKER, FLOYD ARTHUR, member class (1922-23); now with Los Angeles Gas Co.  
BAKER, HORACE WEST, member of class (1921-22); killed Sept., 1922, at Pomona.  
BARGER, ORLO GUSTAV, member of class (1920-22); now on father's ranch.  
BARTON, EARALD HUGH, member of class (1920-21); now a plumber.  
BELL, STANLEY ALFRED, member of class (1920-22); now at U.C. at Berkeley.  
BENDER, JOHN H., member of class (1920-21); now at U.S.C.  
BLACKBURN, ARNOLD, member of class (1920-21); now with private engineer.  
BLACKBURN, JOHN FRANCIS, member of class (1920-21); now at U.S.C.  
BONNETT, ALFRED BATES, member of class (1920-21); now with Southern California Gas and Electric Co.  
BRANSCOMBE, ORAN GALLOUPE, member of class (1920); now at Oxy.  
BROADY, LAWRENCE CARL, member of class (1920-23); now a carpenter.  
BURTON, ALLEN WILLIAM, member of class (1920); now at U.C. at Berkeley.  
CARRIER, PHYLIP HOWE, member of class (1921); now at U.S.C.  
CAMPBELL, DONALD McPEAK, member of class (1920-22); now at Stanford.  
CLARK, JOSEPH EDWARD, member of class (1920-21).  
CLARK, REX SCRIPPS, member of class (1920-21); now with the Girard Land Co.  
CORNELISON, EDWARD, member of class (1920); now member of the Class of '25.  
DEREMER, EDGAR MERTON, member of class (1920); now with the class of '25.  
DICKSON, CARL WHITING, member of class (1920-22); now in the San Bernardino Railroad Shops.  
DICKSON, GLENN COLLINS, member of class (1920-21); now at Stanford.  
DORRESTEIN, EDWARD EMLIE, member of class (1920-22); not at Stanford.  
EVANS, CLOYES, member of class (1920-21); now in gasoline service station in Anaheim.  
FENNER, LAWRENCE GILBERT, member of class (1920-23); now electrician at C.I.T.  
FLICK, HOLLAND MILLS, member of class (1922-23); now member of the class of '25.  
FREEMAN, JOSEPH HINES, member of class (1922-23); now a rancher.  
FULWIDER, ROBERT WILLIAM, member of class (1920-22); now member of the Class of '25.  
GARVER, OLIVER BAILEY, member of class (1920-23); now in the advertising business.  
GIEBELSTEIN, LESLIE B., member of class (1923).





- GRAHAM, HAROLD ELVIN, member of class (1920-21); now at the University of Arizona.
- GRAY, ROBERT McLEAN, member of class (1922-23); now drafting for the Standard Oil Co.
- HANSEN, RAYMOND JOHN, member of class (1921-22); now member of the Class of '25.
- HARKER, DONALD CORBAN, member of class (1921); now at M.I.T.
- HART, GEORGE WHITEFIELD, member of class (1920-22); now at U.C. at Berkeley.
- HENDERSON, WILLIE, member of class (1920-21); now on father's ranch.
- HERTENSTEIN, WESLEY CHARLES, member of class (1920-21); now member of the Class of '25.
- HICKOX, ALBERT GEORGE, member of class (1920-21); now at U.S.C.
- HILL, BRYON ARTHUR, member of class (1920-21); now member of the Class of '25.
- HOAK, EDWARD WARREN, member of class (1920-23); now at University of Penn.
- HODGE, BEN, JR., member of class (1920-22); now at Cornell.
- HOVAGHIMIAN, HIGHG, member of class (1920-21); now on father's vineyard.
- HOWLAND, JAMES, member of class (1920-21); now drafting.
- HOYT, JONATHAN, member of class (1920-21).
- HUMPHREYS, CHARLES JOHN, member of class (1920-21); now drafting.
- HUTCHINSON, GLENN WALLACE, member of class (1920-21); now drafting.
- JOHNSON, FRANK KENNETH, member of class (1920); now at U.S.C.
- KEPHART, GEORGE ELBA, member of class (1921).
- KEY, JAMES FRANCIS, member of class (1921).
- KILLGORE, JASON SIGSBEE, member of class (1920-21); now at Oxy.
- KINGSBURY, WILLIAM STEPHEN, JR., member of class (1920-23); now in the California Surveyor General's office.
- KNOWLES, COYLE, member of class (1920-21); now at the University of Iowa.
- KREAGER, CLARENCE B., member of class (1920-23); now in gasoline service station at Glendale.
- KUSTOFF, MICHAEL IVANOVITCH, member of class (1921); now at U.C. at Berkeley.
- LANGDON, RALPH, member of class (1920-22); now at U.S.C.
- LEISHMAN, JOSEPH WINTHROP, member of class (1920-22); died in 1922.
- LETER, EARL ALEXANDER, member of class (1920); now drafstman, Miller Auto Works.
- LEWIS, ERNEST DEMPSEY, member of class (1920-21).
- LINDSAY, HAROLD VAN VOORHES, member of class (1921).
- LOH, PING HANG, member of class (1920-22); now at the Colorado School of Mines.
- LOOP, REX LEE, member of class (1920-23); now salesman, Ward Refrigeration Co.
- MARTIN, HARLAN GETTY, member of class (1920); now mechanic in a Perris garage.
- McCARTER, HAROLD, member of class (1920-21); now at U.S.C.
- McCARTER, KENNETH, member of class (1920-23); now irrigation work at Catalina.
- McKINNEY, WILLIAM HAROLD, member of class (1920-21); now at the Illinois Central Shops.
- McREYNOLDS, LESLIE NAVE, member of class (1920).





## BIG "T" 1924



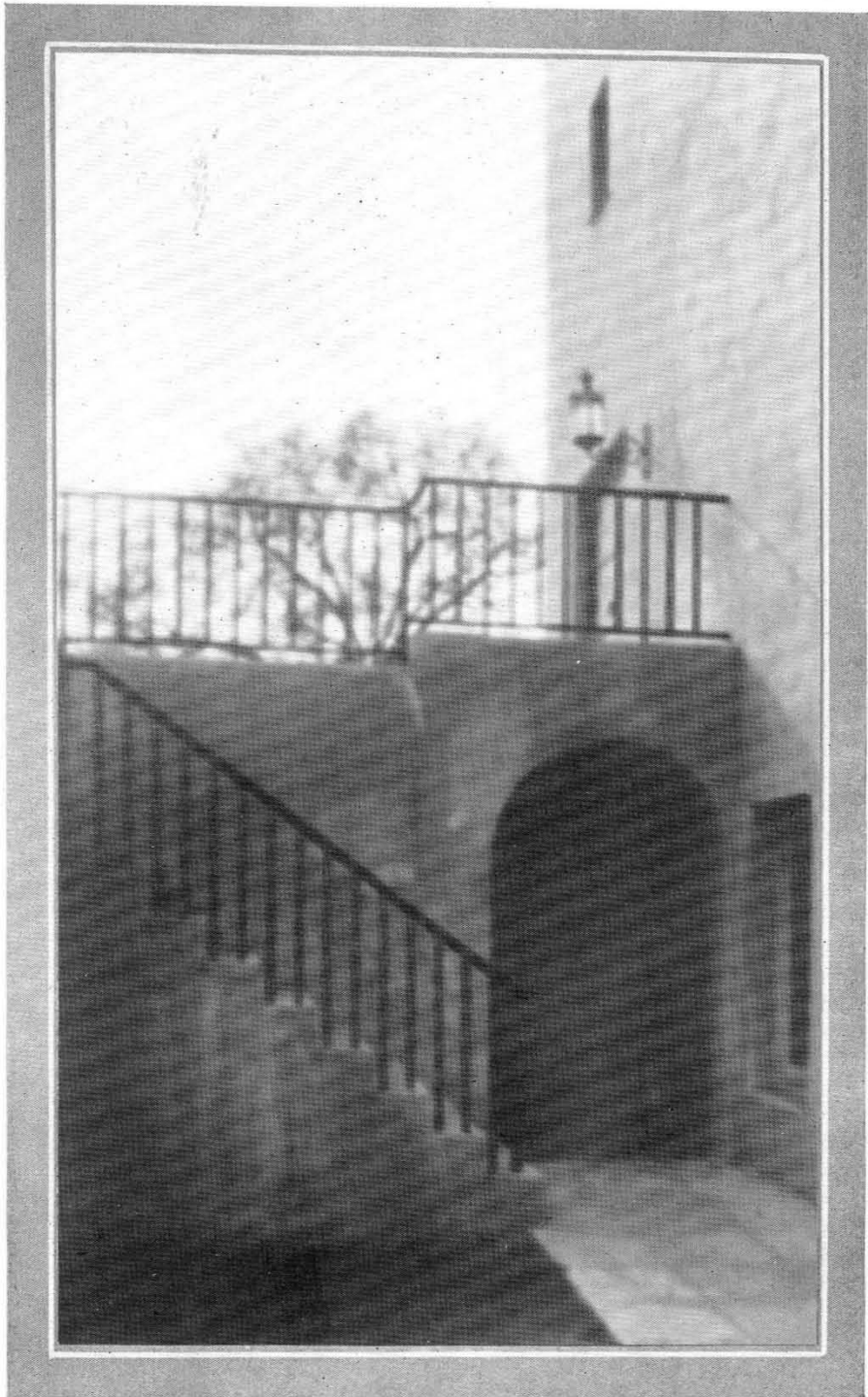
- MEKEEL, HAVILAND SCUDDER, member of class (1921); now at Princeton.
- MITCHELL, HERBERT H., member of class (1920-22); now at Stanford.
- MITTELHOLTZ, MILTON ANDREW, member of class (1920-21); now at University of Michigan.
- MOORE, WALTER TUTHILL, member of class (1922); now at U.S.C.
- MORIKAWA, FRED MASATO, member of class (1920-21); now member of the Class of '25.
- MORTIMER, GODFREY GOULD, member of class (1920-22); now in Pasadena.
- MOSHER, GEORGE MILLS, member of class (1920); now a farmer.
- MUNSON, SPENCER MUNROE, member of class (1920-22); now at Stanford.
- NAGAMATO, GEORGE S., member of class (1921).
- NARUSHIMA, FRANK TAKIZO, member of class (1920).
- NEWTON, ALFRED ARTHUR, member of class (1920-21); now member of the Class of '25.
- NOBLE, WILFRED, member of class (1920-23); now at Redlands University.
- PARDEE, LYALL ALFRED, member of class (1920-23); now drafting for City of Los Angeles.
- PEARSON, ROLLAND ROBERT, member of class (1921-22); now member of the Class of '25.
- PEFFER, ROBERT ELLWOOD, member of class (1920-24); now with the Telephone Co.
- PENNY, CHARLES SIDNEY, member of class 1920.
- PICKETT, ARTHUR GORDON, member of class (1920-22); now with the City Planning Commission, Glendale.
- PINE, FRANK, member of class (1920-22); now selling real estate in Detroit.
- POWERS, FRANCIS PAUL, member of class (1920-21); now at U.S.C.
- PRENTICE, LELAN BUSHEY, member of class (1920-22); now member of the Class of '25.
- PRICE, JOHN BRUFF, member of class (1920-21); now at U.S.C.
- PUNTON, CHARLES WESLEY, member of class (1920-21); now at University of Kansas.
- PARSEL, LOUIS DALE, member of class (1921); now at Oxy.
- RANNEY, KENNETH, member of class (1921-23); now member of the Class of '25.
- RAPP, HENRY CLINTON, member of class (1921-22); now in father's cigar store, Long Beach.
- ROBINSON, LEON EARLAND, member of class (1922).
- ROCKAFIELD, GEORGE CLARK, member of class (1921); now with the Oxnard Sugar Co.
- ROSE, ERNEST MORTON, member of class (1920-23); now a plasterer.
- ROSS, JOHN M., member of class (1920-21); now at Princeton.
- ROSS, LEONARD WICKOFF, member of class (1920-21); now member of the Class of '26.
- SANDERS, ELMORE J., member of class (1920); now at U.S.C.
- SCHEEL, LYMAN FRANK, member of class (1922-23); now at O.A.C.
- SCHLEGEL, GLENN MARCUS, member of class (1920-22); now member of the Class of '25.
- SCHMIDT, GEORGE EMILE, member of class (1922); now at O.A.C.
- SCOTT, CEDRIC LEVI, member of class (1920-22); now at U.C. at Berkeley.
- SELLERS, DOUGLAS, member of class (1920); now member of the Class of '25.
- SETTLES, HENRY LESLIE, member of class (1920); now at U.S.C.
- SHAFFER, CHARLEY L., member of class (1920-21).



## BIG "T" 1924



- SIMPSON, THOMAS PATRICK, member of class (1922); now member of the Class of '25.
- SMITH, HARLAN YAGER, member of class (1920); now at U.C.L.A.
- SMITH, WALSTEIN D., member of class (1920); now at Carnegie Tech.
- SMITH, JOHN NEEDHAM DUDLEY, member of class (1922-23); now with the City Engineering Department, Burbank.
- STALEY, CLAIR VAN METER, member of class (1920-23); now in the furniture business.
- STERN, CLEMENT BERNHARD, member of class (1920-23); now with the Consolidated Gas and Electric Co., San Diego.
- STOKES, EDWARD CLIFTON, member of class (1920-23); now a dairyman.
- STUDEBAKER, EARL V., member of class (1920-21); died in 1921.
- TAGGARD, ALFRED JAMES, member of class (1920-22); now selling insurance.
- THAYER, EDWIN FORCE, member of class (1920); now member of the Class of '25.
- THOMAS, THEODORE CLARK, member of class (1920-22); now selling cemetery lots.
- THOMPSON, WALTER KNIGHT, member of class (1920-21); now at U.C. at Berkeley.
- THOR, ERNEST EMANUEL, member of class (1922-23); now convalescing.
- THORPE, ARTHUR CARLETON, member of class (1920-21).
- UNTHANK, MERLE R., member of class 1920-21); now teller, Southwestern Bank, Pasadena.
- VULTEE, GERARD, member of class (1921-22); now has Ford agency in Los Angeles.
- WAITE, ARTHUR MILO, member of class (1920-21); now at Southwestern University.
- WAKEMAN, CARROL M., member of class (1920); now with the Los Angeles Harbor Commission.
- WALDO, CORNELIUS THORNTON, member of class (1920-21); now at the University of Washington.
- WATSON, HOWARD HINMAN, member of class (1920-22); now at U.S.C.
- WEAVER, FRED ELMER, member of class (1920).
- WHALEY, KENNETH LEROY, member of class (1920-21); now chief of surveying party, Glendale.
- WHITE, DANFORTH, member of class (1920-21); now with the Southern California Gas Co.
- WHITTINGTON, JOHN, member of class (1921-22); now at M.I.T.
- WOODRUFF, WILLIAM RUSH, member of class (1921-23); now with the Los Angeles Planning Commission.
- WILLIS, RAYMOND HALL, member of class (1922); now selling Fords.
- YANG, KAI JIM, member of class (1921); now member of the Class of '25.
- ZELLER, EARL FRANKLIN, member of class (1920).



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IN MEMORY OF OUR CLASSMATES



JOSEPH WINTHROP LEISHMAN

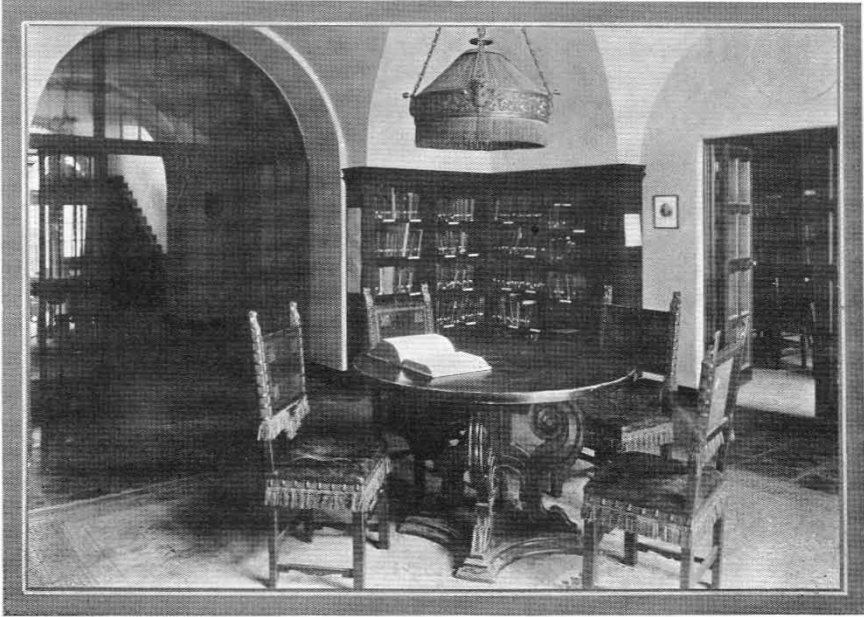
HORACE WEST BAKER

EARL V. STUDEBAKER

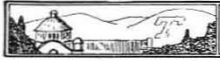
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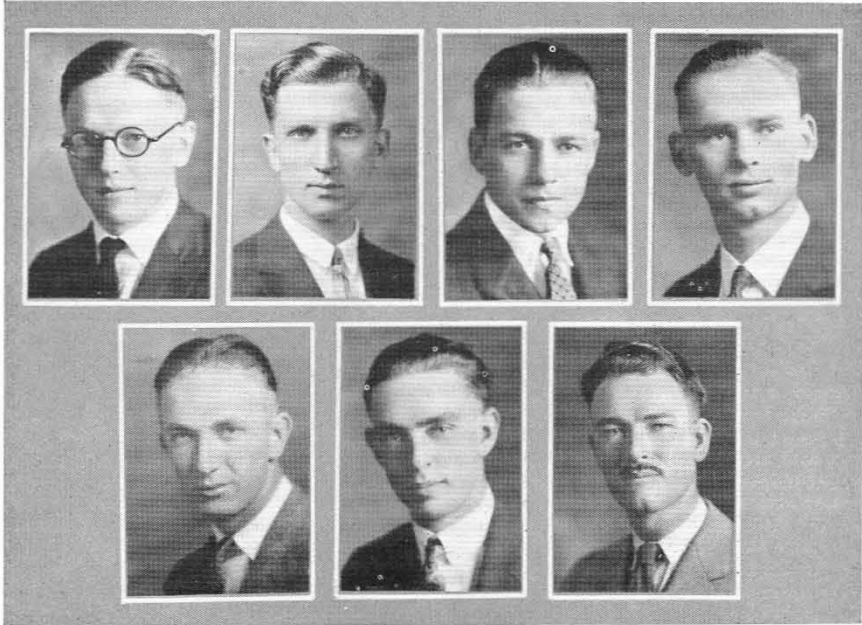




# CLASSES



# Class of 1925



FULWIDER	BRUNNER	WATKINS	BEED
FERKEL	SALSURY	NEWTON	

## OFFICERS

MICHAEL C. BRUNNER	- - -	<i>President</i>
ROBIE T. WATKINS	- - -	<i>Vice-President</i>
ROBERT W. FULWIDER	- - -	<i>Secretary-Treasurer</i>
STERLING W. BEED	- - -	<i>Athletic Manager</i>

## BOARD OF CONTROL

ALBERT J. FERKEL	ALFRED A. NEWTON
MARKHAM E. SALSURY	

## SOCIAL COMMITTEE

LAWRENCE P. HENDERSON	- - -	<i>Chairman</i>
FRANK C. CLAYTON	EDGAR E. SHAFER, JR.	
JOSEPH H. WALKER		

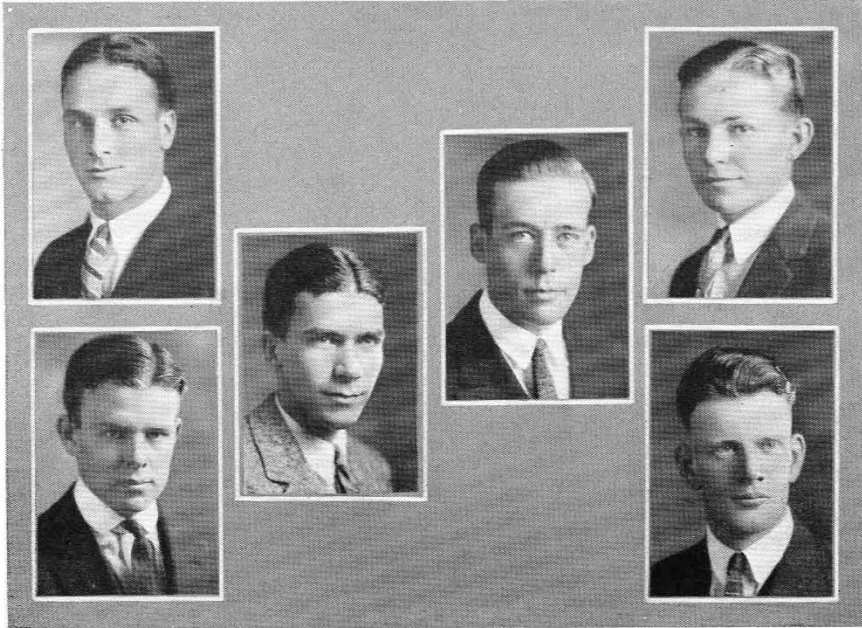


BIG "T" 1924





# Class of 1926



PENFIELD

CAMPBELL

MAECHTLEN

COLEMAN

MACFARLANE

STEIN

## OFFICERS

THEODORE C. COLEMAN - - - *President*  
 WALLACE C. PENFIELD - - - *Vice-President*  
 LAWRENCE G. MAECHTLEN - *Secretary-Treasurer*

## BOARD OF CONTROL

J. STUART CAMPBELL                      ROBERT O. STEIN

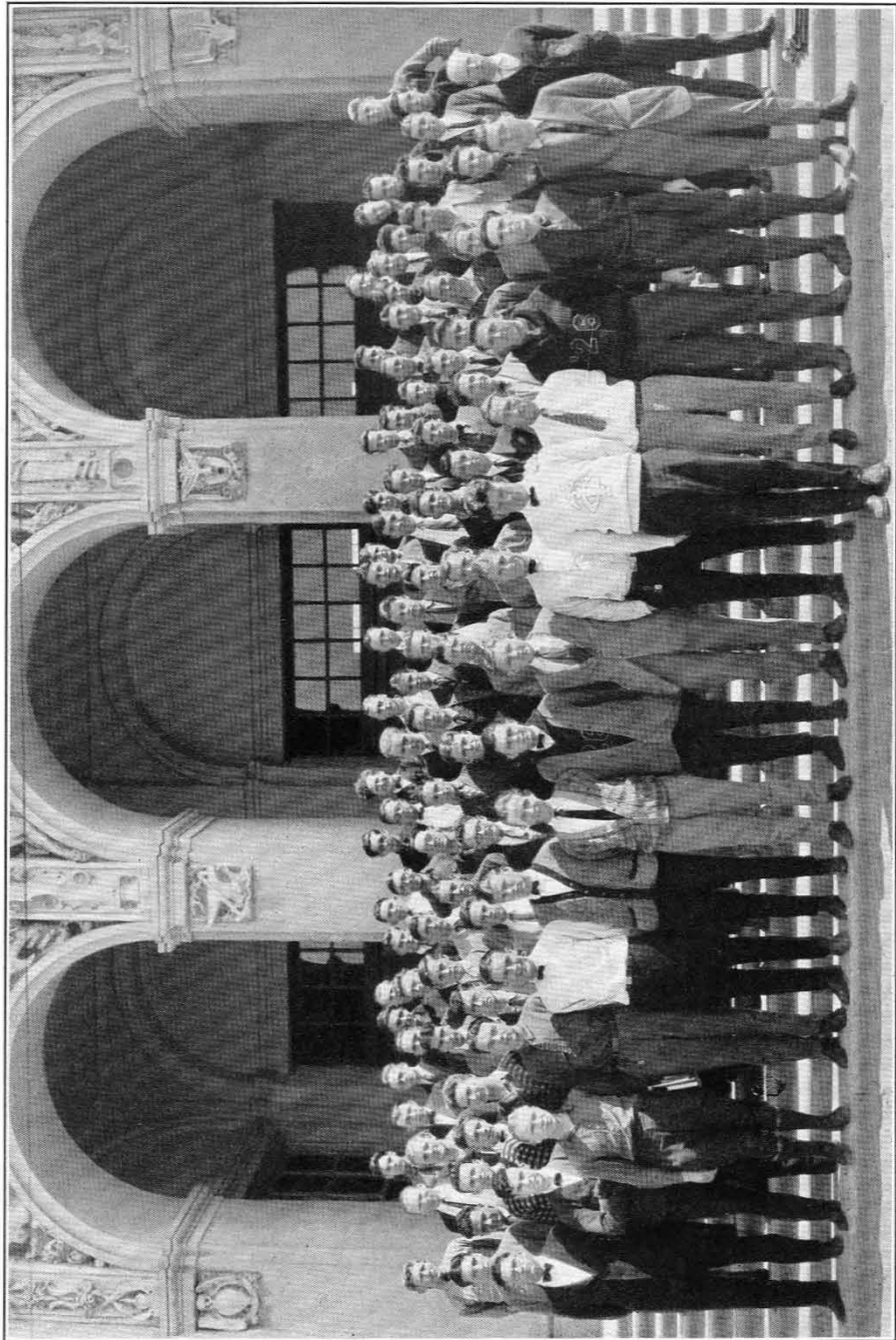
## TRADITIONS COMMITTEE

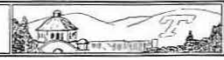
V. WAYNE RODGERS - - *Prosecuting Attorney*  
 JACK C. BAKER                              ROBERT O. STEIN  
 W. STUART JOHNSON                      WILLIAM C. HERRINGTON  
 STEPHEN DETZER



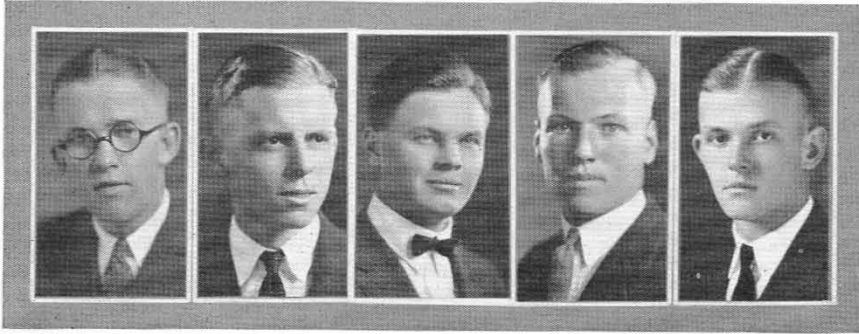


BIG "T" 1924





# Class of 1927



DRASDO

DIX

STANTON

WARD

MOORE

## OFFICERS

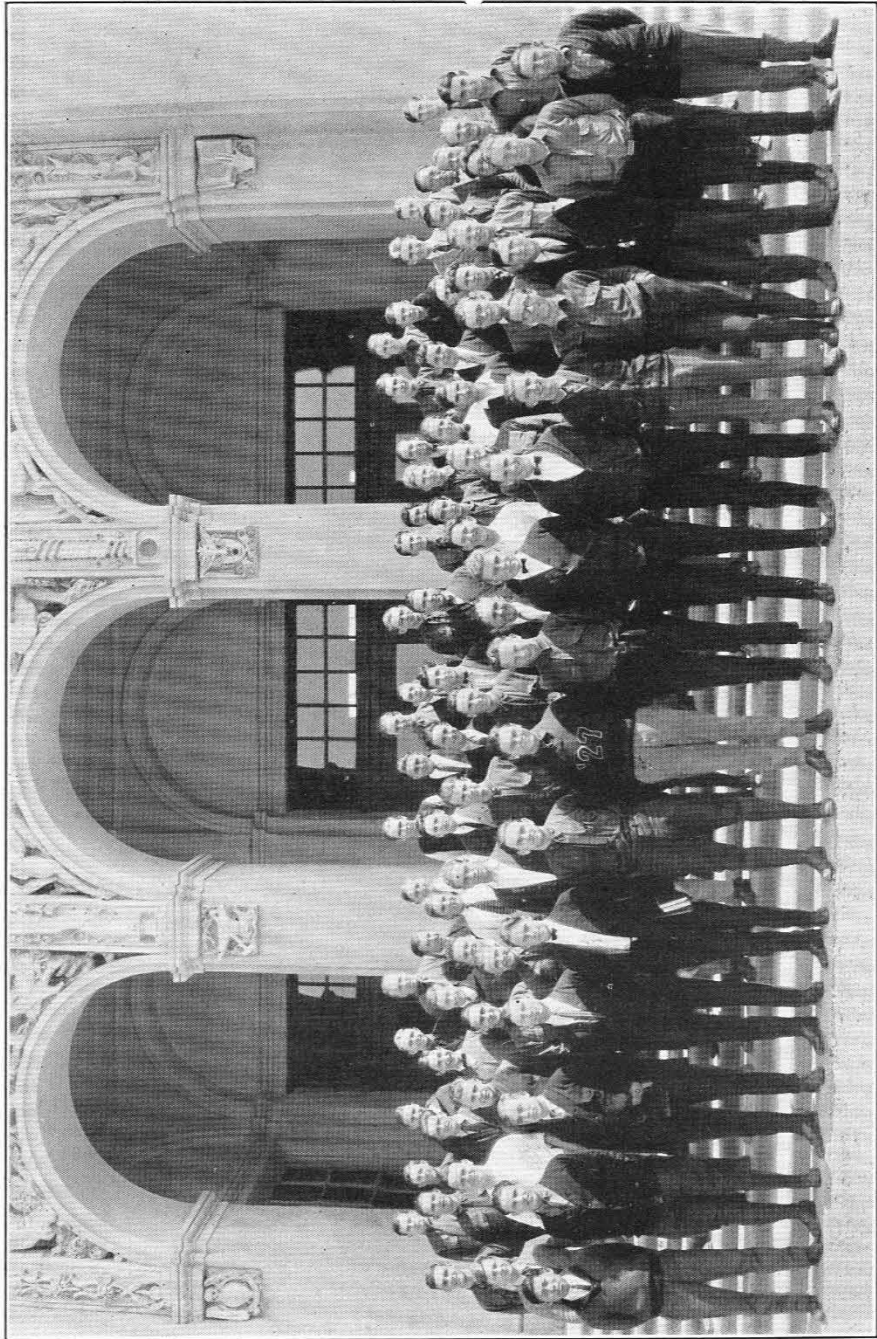
LAYTON STANTON	-	-	-	-	<i>President</i>
CHARLES H. DIX	-	-	-	-	<i>Vice-President</i>
RODERICK C. WARD	-	-	-	-	<i>Secretary-Treasurer</i>
ALBERT P. DRASDO	-	-	-	-	<i>Athletic Manager</i>

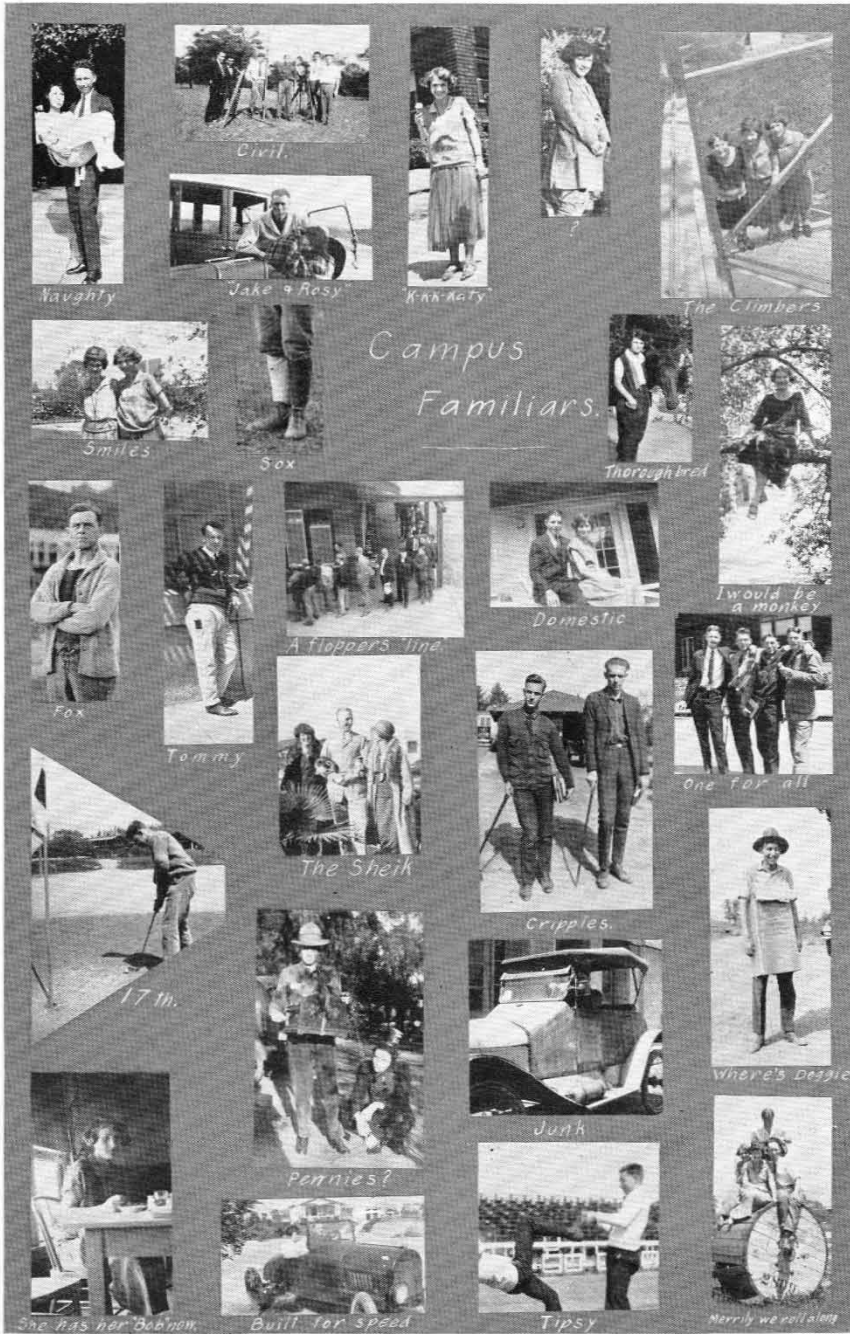
## BOARD OF CONTROL

ROBERT M. MOORE	-	-	-	<i>Board of Control</i>
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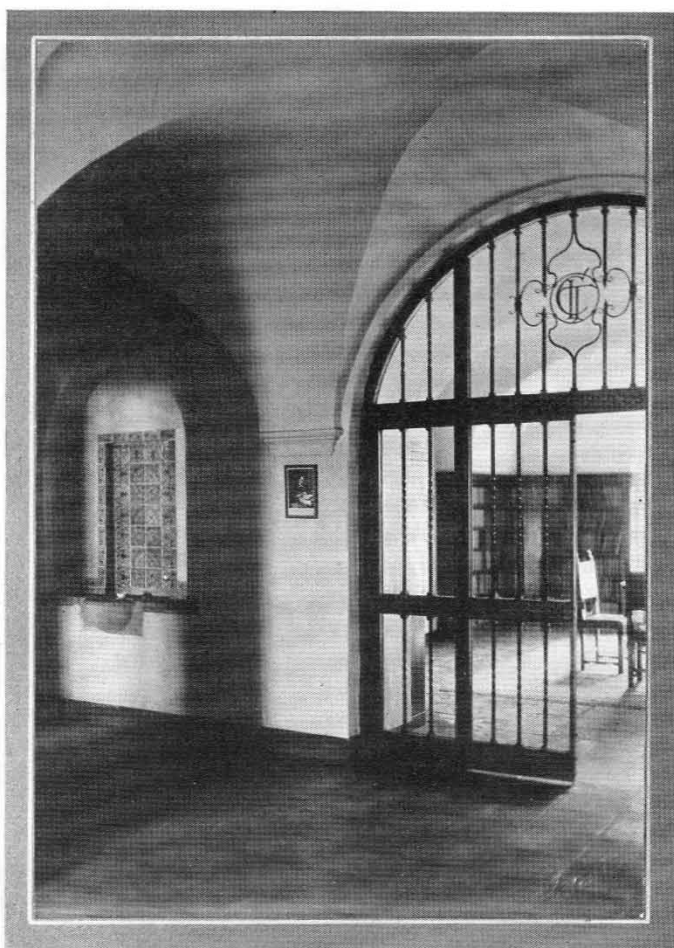


BIG "T" 1924









# ACTIVITIES



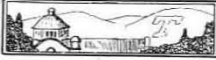
## Forensics

Prior to 1920 debating at the Institute was a complete failure. There had been practically no interest in the activity; the upper classmen were employed in pursuits other than those along forensic lines and did not wish to take part in intercollegiate debates.

At this time the Institute acquired the services of Dr. John R. Macarthur, who was then National President of Pi Kappa Delta, the honorary forensic fraternity. It was through the efforts of this one man that forensics were first introduced at the College; and the place which they now hold in the activities of the Student Body is due to his four years of untiring work.

In the season of 1920-1921 the debate squad and orators were composed entirely of Freshmen. Although their success was not phenomenal it showed the marks of an expert coach and gave an optimistic outlook for the next year. Through the efforts of the coach and interest of the Freshmen in debating, the California Gamma Chapter of Pi Kappa Delta was installed.

From this time on the growth of forensics was assured. The development of the original Freshmen team during the last three years has been all that could be asked. Not only have debates and oratorical contests been held with the Conference Colleges, but Tech teams have competed with Stanford University and the University of Wyoming, and two men were sent to the National Convention of Pi Kappa Delta at Peoria, Illinois, to represent the College in the speaking contest held under the auspices of this organization.



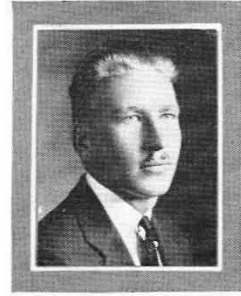
## Oratory



BECK



RODGERS



ECKERMANN

## Orators

- Harold R. Beck.....Extemporaneous Speaker  
 Carlton H. Eckermann.....Orator  
 V. Wayne Rodgers.....Extemporaneous Speaker

Oratory at California Tech dates from the same time as does debating, 1920. Oratorical contests are arranged for under the constitution of a conference of Southern California colleges, by which the intercollegiate forensic relations of the Institute are regulated.

The oratorical season is opened by an extemporaneous speaking contest which tends to develop the best in public speaking. Later in the year, the Conference Oratorical Contest is held, arousing the interest of the entire Southland. The season at the Institute is closed with a local contest known as the Conger Peace Prize Contest; established by Rev. Everett L. Conger, D. D. It promotes interest in the movement toward universal peace as well as in public speaking.

V. Wayne Rodgers was the representative of California Tech in the Conference Extempore Contest, held at the University of Southern California.

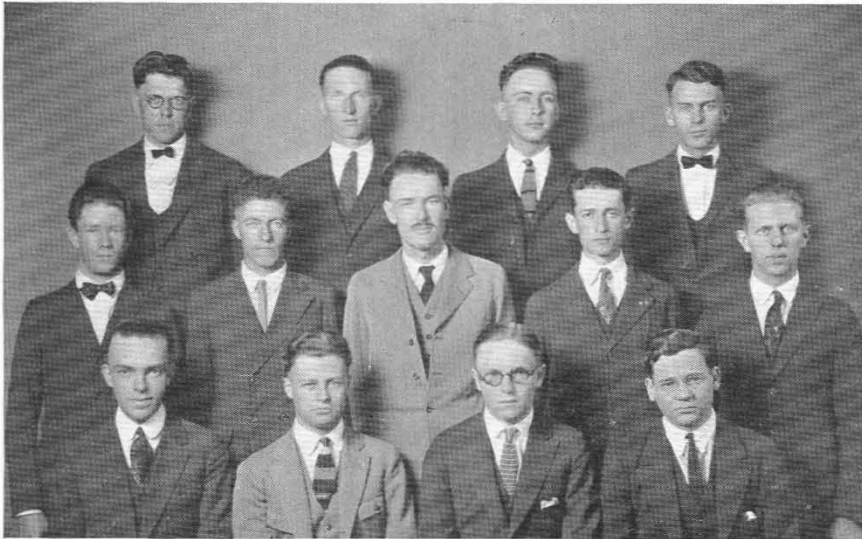
In the Conference Oratorical Contest, held on the home campus this year, the Institute was very ably represented by Carlton H. Eckermann. Mr. Eckermann has for the past three years been our representative in this contest; his ability is shown by the fact that he has consistently taken second in these contests.

California Tech was represented by Carlton H. Eckermann and Harold R. Beck at a National Oratorical contest in Illinois. Mr. Beck's ability was so marked that he was entered in the finals.

The investment in experience of public speaking is well worth while and the interest in such activity is on the increase.



# Debating



## Varsity Debating Squad

Harold R. Beck.....	'24	R. Arthur Merrill.....	'25
Sidney F. Duncan.....	'24	Donald F. Morrell.....	'24
Robert W. Fulwider.....	'25	Alfred A. Newton.....	'25
Grant V. Jenkins.....	'24	V. Wayne Rodgers.....	'26
William A. Lewis, Jr.....	'26	Edwin F. Thayer.....	'25
Leslie W. Margison.....	'26	Joseph H. Walker, Jr.....	'25
Manager—Edward D. Cornelison, '25			





When debating was first brought into the field of activity of Tech men four years ago, the advance to its present position of importance and interest would have been hard to imagine. Such a growth of interest and enthusiasm in any line of endeavor would be extraordinary, but in an institution such as California Tech, it is phenomenal.

The impetus given to debating by the work and influence of Dr. John R. Macarthur has been of immeasurable value. Under his direction an organization known as the Freshman Debating Society was first formed. From this start has developed a Forensic Society that fosters speaking of all types. The extensive system in debating is followed as a principle, the object being to give the maximum number of men the opportunity and experience of representing the Institute in intercollegiate debate.

This year, for the first time, California Tech debated institutions outside the Conference of Southern California colleges. A two-man team met representatives of Stanford University at Palo Alto. One of the interesting features of this debate was the rendition of the decision by the audience.

A debate with the University of Wyoming attracted much attention. Such inter-sectional debates tend to carry the name and influence of the Institute into regions of the country not easily reached by other means. The interest in such debates has now been established and it remains for future years to reveal the uses that will be made of it.

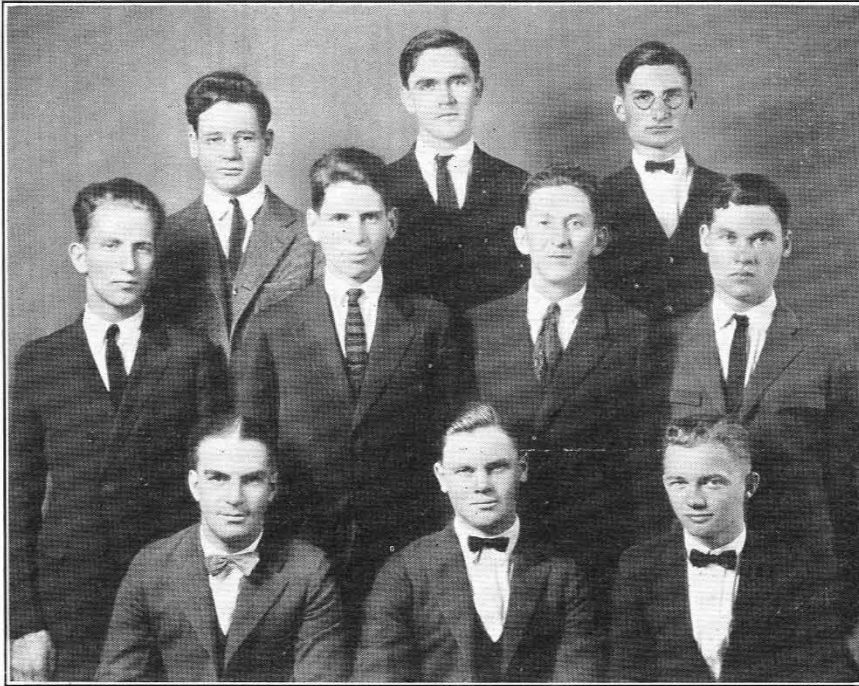
#### CALENDAR OF VARSITY DEBATES

1924

- Feb. 7—  
Pomona Aff. vs. C. I. T. Neg. at Pomona.  
C. I. T. Aff. vs. U. of So. Cal. Neg. at C. I. T.
- Feb. 21—  
Whittier College Aff. vs. C. I. T. Neg. at Whittier.  
C. I. T. Aff. vs. Redlands Univ. Neg. at C. I. T.
- Feb. 27—  
C.I.T. Aff. vs. La Verne College Neg. at La Verne.
- Mar. 3—  
Stanford Aff. vs. C. I. T. Neg. at Stanford.
- Mar. 6—  
C. I. T. Aff. vs. Occidental Neg. at Occidental.  
U. of Cal., L. A. Aff. vs. C. I. T. Neg. at C. I. T.
- April 2—  
U. of Wyoming Aff. vs. C. I. T. Neg. at C. I. T.



## Freshman Debating



### Freshman Debating Squad

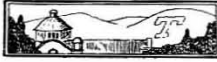
Kenneth A. Belknap  
David Bogen  
Maxwell Bower  
Maxwell F. Burke  
John G. Case  
Fred Ewing, Jr.

George H. Hodel  
Russell Love  
John H. Maxson  
Leonard W. Ross  
Raymond St. Clair  
Cecil D. St. Helen

Layton Stanton

The past season has proved exceedingly beneficial to the Freshman debaters, as well as adding prestige to Tech forensics. Mr. Pargellis, the coach, was assisted in the task of whipping the team into shape by Mr. Emmett and Dr. Brode. The turnout this year was larger than ever before, making possible the organization of a pentangular Freshman Conference debate, which is similar to the septangular affair entered into by the Varsity. The colleges participating in the series of ten debates were Redlands, Pomona, University of Southern California, University of California at Los Angeles, and California Tech. The schedule was so arranged that each college met each other college in two debates, the question being, Resolved: "That the United States should recognize Soviet Russia".

The outlook for next year is exceedingly bright as all of these men will be well fitted, because of their experience, to take a position on the Varsity squad.



## “Philoctetes”

### Cast

Philoctetes	- - - - -	Alvah S. Bull
Ulysses	- - - - -	Richard Pomeroy
Neoptolemus	- - - - -	Edward D. Cornelison
First Chorus	- - - - -	Theodore C. Coleman
Second Chorus	- - - - -	Robert F. Heilbron
Spy	- - - - -	Lawrence W. Hall
Hercules	- - - - -	Harold R. Beck

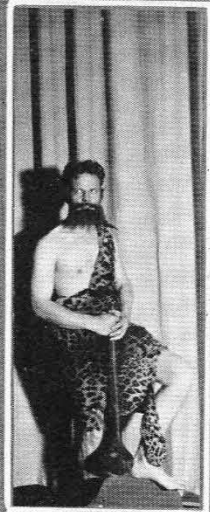
A new departure in the annals of forensics at the Institute occurred with the presentation of “Philoctetes” by the California Gamma Chapter of Pi Kappa Delta; an offering which demonstrated most effectively the feasibility of such a dramatic production at a technical college.

The play, written by Sophocles, is regarded by many as one of the world’s masterpieces. The cast is entirely masculine, obviating the necessary impersonation such as was the case in the musical comedy presented last year, a situation which is accompanied by much loss of dramatic effect in a serious production. The characterizations were excellently done, especially so in the case of Alvah Bull, whose terrible sufferings were portrayed in an extremely realistic manner. Dr. Macarthur and Mr. Ogier, who coached the production, should be congratulated upon its success.

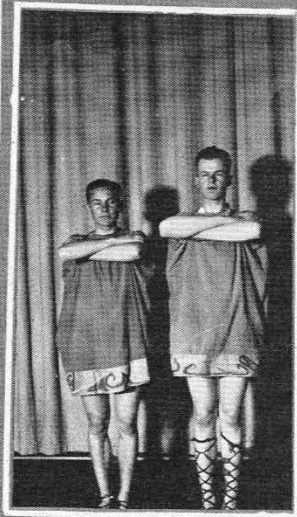
Pi Kappa Delta already has plans under way for a similar offering next year, and it is hoped that such a presentation may become an annual event.



# Philoctetes.



S

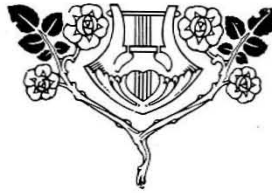




## Musical Activities

### Men's Chorus

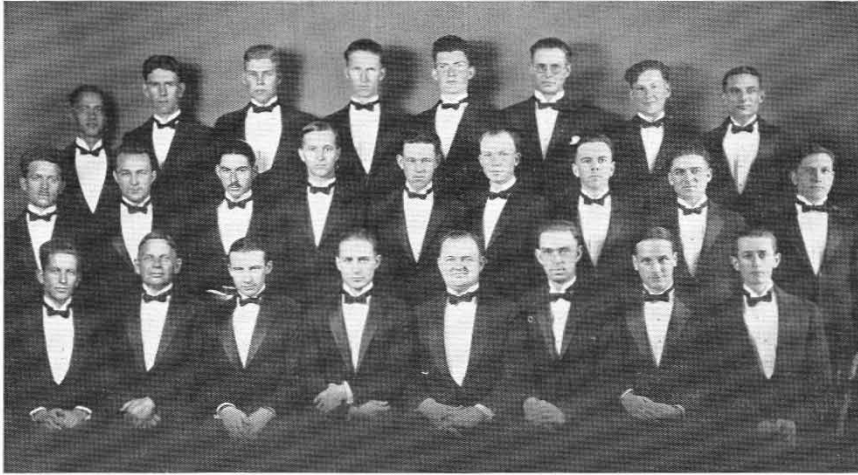
This year has seen the organization of a new campus organization—the Chorus. Because of the interest which has been shown in Mr. Ogier's song conducting at the Institute assemblies, a group of men believed that an organization might be sponsored by those who were fond of singing but had not the time nor ability to be Glee Club members. The call was sounded late in the year, but an enthusiastic response was evidenced by the present membership of forty men. Mr. Ogler conducts the group at their song-fests.







# Glee Club



## Members

WALTER W. OGIER, JR.	- - - - -	<i>Director</i>
EDGAR N. LAYTON, '24	- - - - -	<i>President</i>
MARKHAM E. SALSURY, '25	- - - - -	<i>Manager</i>
PAUL E. NOLL, '25	- - - - -	<i>Accompanist</i>
SYDNEY F. DUNCAN, '24	- - - - -	<i>Librarian</i>

### FIRST TENOR

Arthur F. Michael, '24  
 Warren B. Leavitt, '24  
 Conrad J. Waller, '25  
 Ralph V. Blackman, '25  
 Wallace C. Penfield, '26  
 John E. Michelmores, '26

### FIRST BASS

George B. Stone, '24  
 James T. Mercereau, '24  
 Markham E. Salsbury, '25  
 Robert Bogen, '26  
 Maxwell F. Burke, '27

### SECOND TENOR

Sydney F. Duncan, '24  
 Morris Goldsmith, '24  
 William L. Holladay, '24  
 Earl S. Hayman, '24  
 R. Arthur Merrill, '25  
 G. Robert Jaffray, '26

### SECOND BASS

Edgar N. Layton, '24  
 Oliver W. Kilham, '24  
 O. Seymour Larabee, '25  
 Robert O. Stein, '26  
 William L. Olsen, '27

Specialties: Dwight A. Degnan, '26, Saxophone  
 Maurice B. Ross, '24, Steel Guitar



## The Season

An unprecedented amount of interest in Glee Club work was shown at the beginning of the year when more than fifty men tried out for singing positions. Naturally, competition was keen for places, but a Club of thirty-five was chosen, which, after rehearsing during the first term, was finally cut down to twenty-two for concert work.

A schedule of one afternoon and three noon rehearsals each week was followed throughout the year, and under the able leadership of Walter W. Ogier, Jr., a repertoire of unusual variety and brilliance was developed.

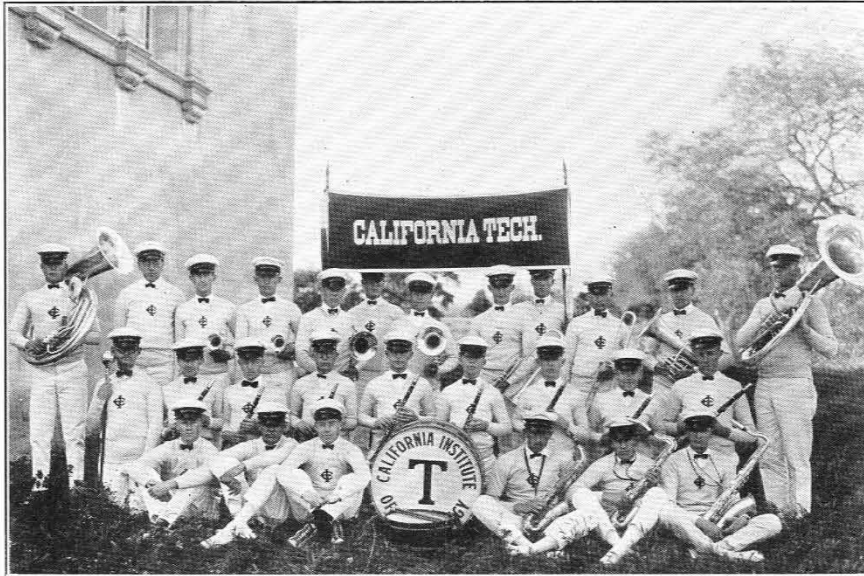
An innovation in Glee Club programs which proved very popular was provided this season for the informal half of each concert. Singing into a counterfeit microphone, the Club "broadcasted" from "Radio CIT," and gave its audiences a true picture of broadcasting studio procedure.

Dwight Degnan accompanied the club and delighted audiences with his saxophone solos, while Maurice Ross and his steel guitar never failed to please. Bob Stein with his battery of harmonicas was also a decided attraction. The quartet, composed this year of Michelmore, Duncan, Salsbury and Layton, was much in demand both at concerts and outside affairs, with a repertoire of ballads and humorous numbers.

The concert season included appearances as follows: First Methodist Church of San Bernardino, Institute Auditorium, Raymond Theater of Pasadena, Broad-oaks, San Bernardino High School, First Congregational Church of Pasadena, Santa Paula High School, Gardena High School, Chino High School, Van Nuys High School, Intercollegiate Glee Club Concert, Occidental College, and Alhambra High School.



## The Band



### Roster

#### CORNETS

John G. Case  
Lewis Gazin  
Herbert V. Ingersoll  
Stuart L. Seymour

#### CLARINETS

Horace C. Adams  
Dwight A. Degnan  
Ernest A. Gordon  
Percy S. Hallet  
Edgar N. Layton  
Harold W. Lord  
John E. Marsland  
Cyrus G. Minkler  
W. B. Musselman  
Karl W. Westlund

#### PICCOLO AND FLUTE

Joseph H. Walker

#### SAXOPHONES

Edward W. Hart  
Warren B. Leavitt  
Lee W. Ralston

#### BARITONE

Albert S. Gould

#### TROMBONES

Richard H. Merrill  
L. Paul Stoker

#### ALTOS

Ralph S. Thacker  
Burnett B. Wisegarver

#### BASSES

Lewis W. Olsen  
Robert O. Stein

#### DRUMS

Frank H. Cloyes  
William E. Froggatt



## The Year

DIRECTOR  
Grant V. Jenkins

DRUM MAJOR  
H. Leroy Chaffee  
\*Harold C. Sheffield

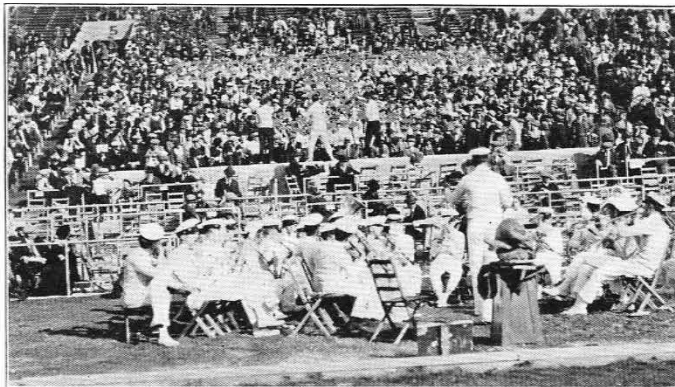
The second year of the band as a student body activity has increased its prestige as a college organization, and it has also been of great aid to the Military Department in the effort to gain the rating of Distinguished College.

During the year the band has been present at practically all athletic contests, and did much toward winning the football championship for Tech. The climax of the organization's efforts came at the Occidental game, where a very effective and impressive drill was staged. The band also marched in the Tournament of Roses parade on New Year's Day. The Exhibit Day, the welcoming of the Knights Templar to Pasadena, and the Intercollegiate Band Contest held under the auspices of the Civic Music and Art Association of Los Angeles, were also included in the calendar of this organization.

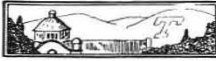
The band has been directed for the last three years by Grant V. Jenkins, who has spent a great deal of time and effort to develop the well balanced group of musicians of which the band is now composed. During the third term the Institute secured the services, as coach, of A. J. Smith, who will in all probability have charge of the band next year.

The work of the band can not be too highly praised. It is one of the student body's most essential activities, and as such its members deserve a great deal of credit for the time and effort they have expended in making this organization what it is.

\* Third term



AT THE OXY GAME



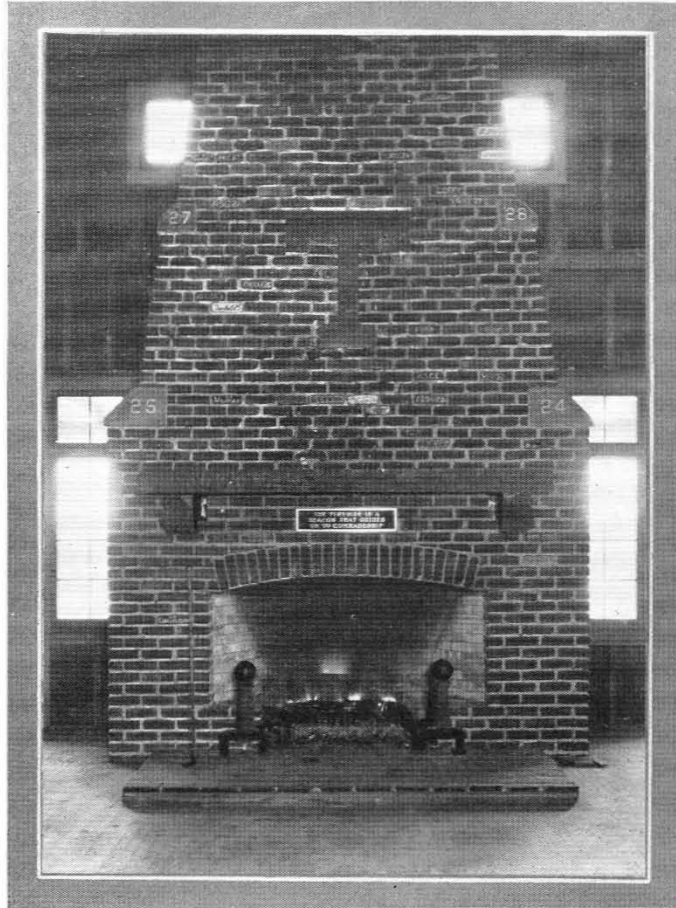
## The Straight Eight

Playing at several assemblies and at the Raymond Theatre on "Tech Nite," Paul Stoker's "Straight 8" orchestra was royally welcomed on the campus this year. The group was the outgrowth of the artists of the Tech orchestra of last year, and was therefore successful in the rendition of both classical and popular selections. Besides Stoker with his trombone, the group consisted of Noll, piano, Gould, string bass, Martin, cornet, Chaffee, traps and drums, Degnan, alto saxophone, Hart, tenor saxophone, and Drake, banjo.





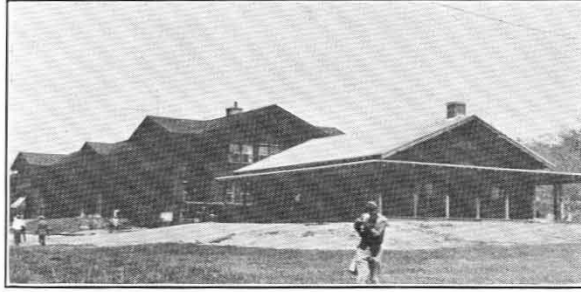
## The Dugout



## The Fireplace

With the dedication of the Dugout on February 11, a three years' ambition was at last gratified, and the long-needed student center and recreation building became a reality.

The name "Dugout" is a reminder of S. A. T. C. days, when Hambrook and Erb conducted a lunch and refreshment emporium under that title in a shed on the campus. Although small, the place became an animated center of discussion during the noon hour, and proved important in the formation and crystallization of student opinion. When in 1921 the old stand was discontinued,



its loss was keenly felt and agitation was immediately begun for a new and larger student center.

The new building, adjoining the Dormitory on the south, was made possible through the courtesy of Mr. and Mrs. R. R. Blacker of the Board of Trustees, who realized the need of the students and donated the necessary funds. As the building neared completion, arrangements for its equipment, opening, and proper functioning were placed in the hands of a student Dugout Committee, composed of Grant Jenkins '24, chairman, Glenn Schlegel '25, and Riley Gilbert '26, these men being assisted by Al Newton '25, Bill Holladay '24, and Bill Lewis '26, as a sub-committee.

The outstanding contribution of this committee to the Dugout idea was that of its chairman, in the conception of a massive fireplace to be built with the aid of the entire student body. Bricks, to be engraved with the names of purchasers, were sold for one dollar each, and the proceeds used in building the fireplace. The response of the students to this scheme was almost unanimous, and when the structure had been faced with the engraved bricks the effect was decidedly unique and pleasing.

Each class also contributed toward building the fireplace, the Faculty furnishing the hearthstone, Seniors the bronze motto, Juniors the large bronze "T", Sophomores the mantel supported by two beaver heads, and Freshmen the andirons. The stipulation has been made that, should the student center ever be moved to more permanent quarters, the fireplace shall be rebuilt exactly as it now stands, in order that the engraved bricks and the traditions associated with them may be preserved.

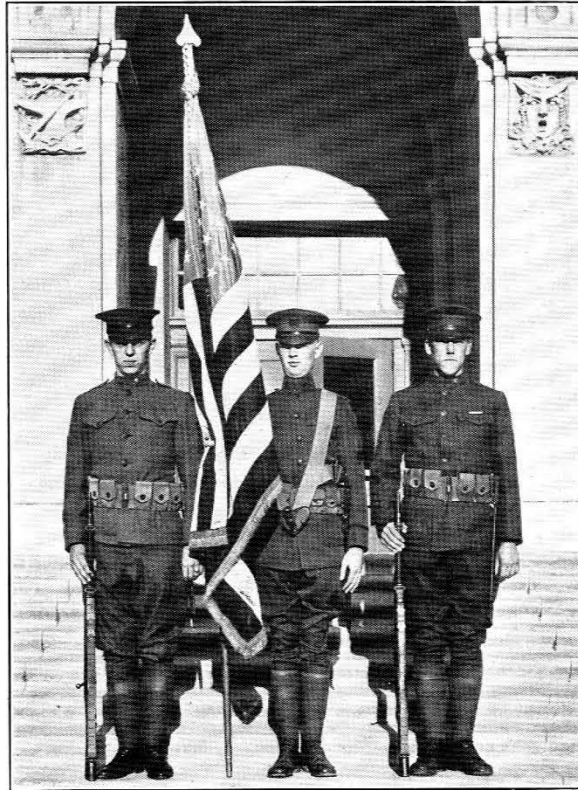
A ceremony comparable to that of corner-stone laying was performed before the fireplace foundation was poured, when a sealed box containing copies of *The Tech*, *The Hot Rivet*, a roster of the student body, a list of those who bought bricks, a *Star-News* Dugout article, and a complete history of the Dugout, was buried beneath the first concrete.

After a billiard table had been installed by Mr. C. W. Gates, a piano donated by Mr. Henry M. Robinson, both members of the Board of Trustees, and numerous tables and chairs put in to accommodate the mid-day rush, the Dugout was officially dedicated with proper ceremony, and formally thrown open for use.

Since its dedication the building has more than justified its erection, for the student body has enthusiastically availed itself of a place to eat lunch, carry on discussion of student body affairs, and while away an occasional idle hour with music, billiards, or the "Y" chess and checkers.



# MILITARY



LEWIS

MOORE

TRIGGS

## The Colors



LIEUT. KRAMER

Department  
of  
Military Science  
and  
Tactics



LIEUT. GULLATT

MILITARY DEPARTMENT PERSONNEL

Hans Kramer, First Lieutenant, C. of E.

Doswell Gullatt, First Lieutenant, C. of E.

Joseph Laracy, Master Sergeant, Retired.

Louis H. Bailey, Staff Sergeant, D. E. M. L.

Marien H. DeGraff, Master Sergeant, Retired.



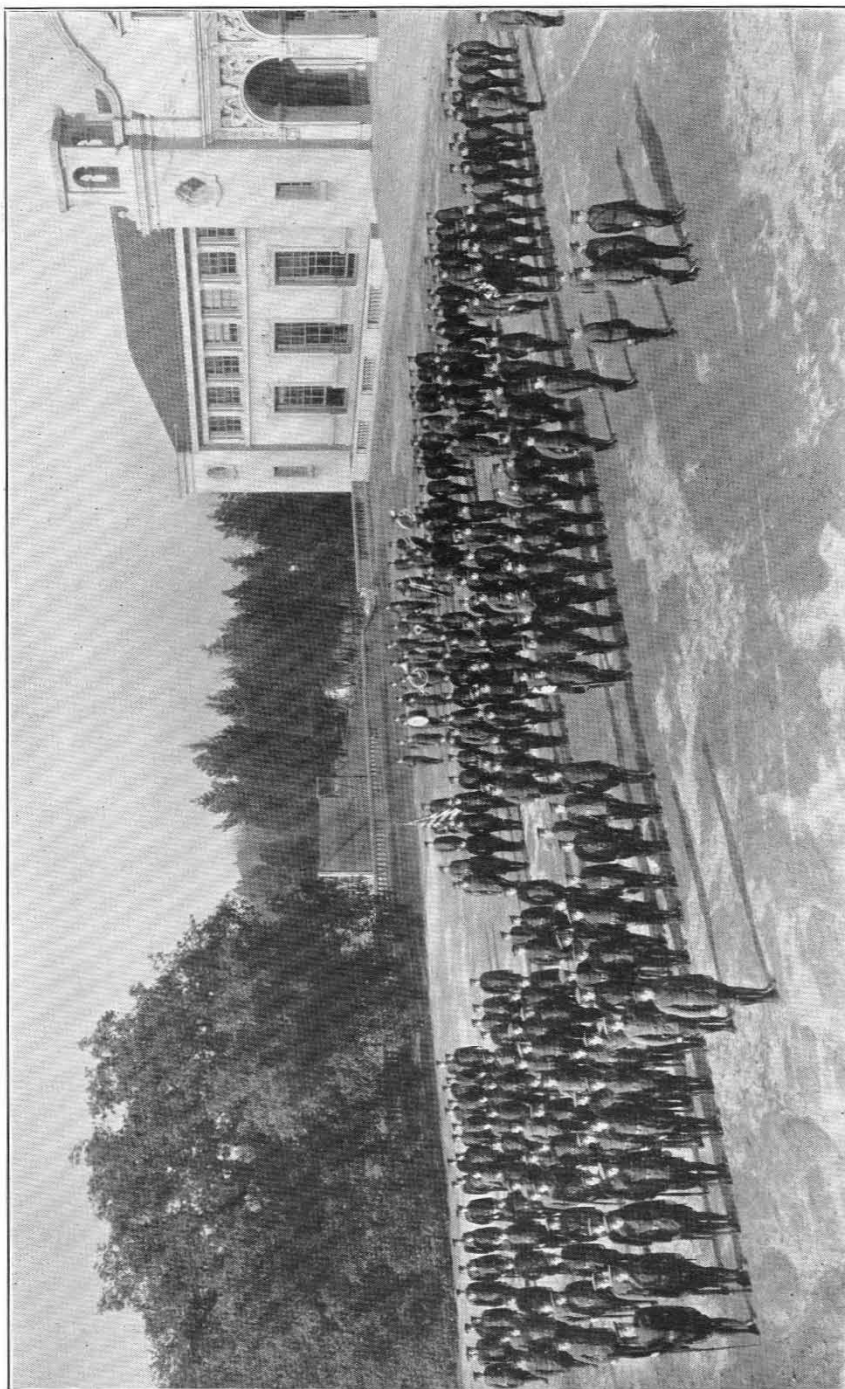
SGT. LARACY

SGT. DEGRAFF

SGT. BAILEY

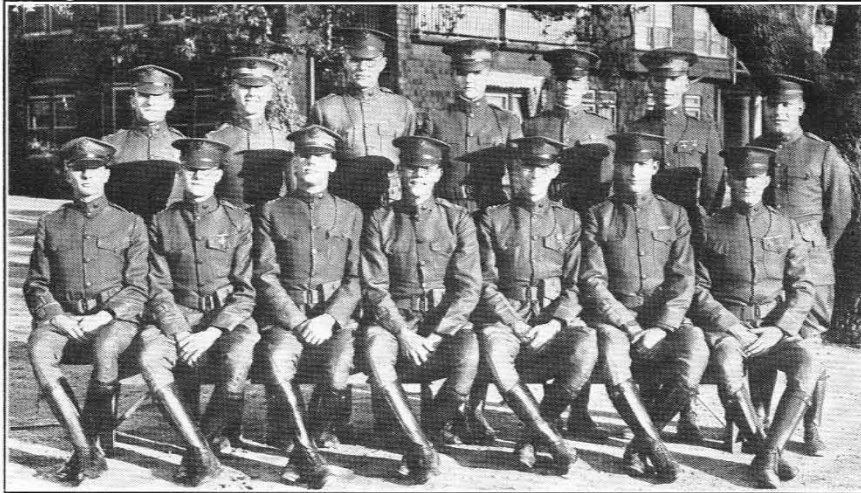


BIG "T" 1924



THE BATTALION





ATHERTON SCHLEGEL MERCEREAU MCPROUD HOLLADAY BRUNNER THOMAS  
LOWNES HELMS TELLWRIGHT GROAT THAYER ANDERSON KILHAM

## BATTALION ACTIVITIES

The R.O.T.C. unit at California Tech, which is a battalion composed of three Companies and an Automatic Weapon Platoon, has had one of the most successful years since its inauguration in 1917. The cadet officers have been capable, the men have been willing, and all the various activities which have been attempted by the unit have been carried out with marked success.

The work which the men are required to take under the Military course of instruction is a departure from the general type of scholastic work which is offered at the Institute, in that the Military courses consist almost entirely of practical problems and field work, and very little actual class work, especially in the basic course. The value of such training to students of engineering is very great, since practical knowledge, as well as theoretical knowledge, is a necessary attribute of a successful engineer.

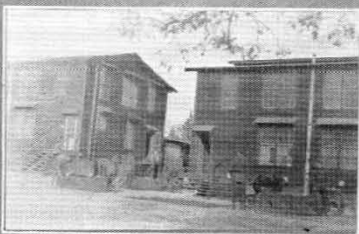
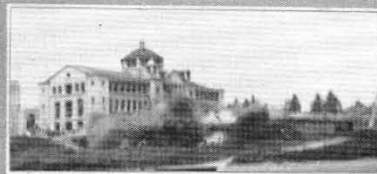
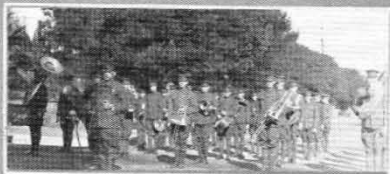
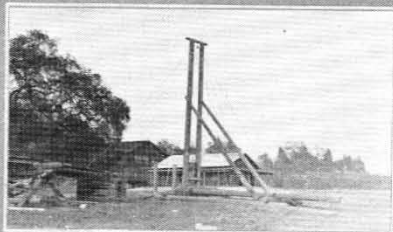
Courses are offered in both basic and advanced studies. These courses include work in Military bridge construction, the handling of spars, knots and lashings, area sketching, rifle practice, the use of high explosives, trench construction, photography, signaling, map reproduction, and other matters of practical value. One hour a week is also devoted to infantry drill, in which the unit has become very proficient.

The course offered this year has been the result of four years of careful planning and untiring effort on the part of Lieutenant Kramer, the assigned Commanding Officer of the unit. His purpose has been to obtain for the Battalion a Distinguished College rating, which is an honor conferred by the War Department on a few select units throughout the country which have shown extraordinary proficiency in matters military.

The Battalion was inspected by the Examining Board during the third term, and the Tech unit is now in line for the rating, the attainment of which is a signal honor for both the officer commanding the unit and the college itself.



BIG "T" 1924





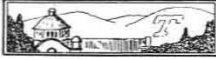
## Summer Camp 1923

In connection with the R. O. T. C. work offered at the Institute, a summer Training Camp is held at Camp Lewis, Washington. The camp is of six weeks duration, and attendance is voluntary for students taking the basic course, while those enrolled in the advanced course are required to attend at least one camp in connection with their training.

The men who attend this camp come from those western colleges which have Engineer R.O.T.C. units. About seventy men took the training last summer; thirty-one of these represented California Tech, nineteen taking the advanced work, and twelve the basic. These men well upheld the reputation of those who have attended former camps, since they assumed leadership in the majority of the camp activities.

Ed Thayer was the editor of "The Fighting Engineer," the book which was published by the students at camp. He was ably assisted in his work by several other Tech men, who formed the major part of his staff. In addition, Tech men took a prominent part in social and athletic activities, Atherton being captain of the volley-ball team, and Thomas captain of the baseball squad. The men from Tech were also among the first in the rifle competition, and Roth, Owens and Kilham were included in the list of the ten highest men who were chosen to compete for the berths on the team which was to attend the national matches at Camp Perry, Ohio.

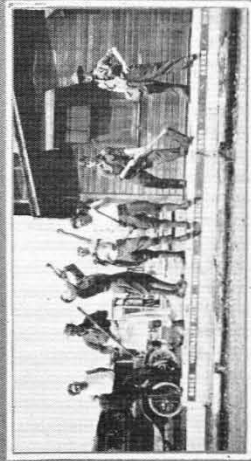
The attraction of the trip north, together with the fact that all expenses are paid by the government, makes attendance at camp very desirable to most men. It is therefore probable that Tech will be well represented again this summer.



BIG "T" 1924



*This was an "orchestra"*

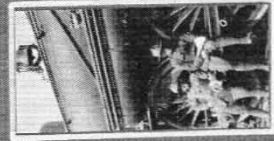


*"Sherman's Vindication"*



CAMP

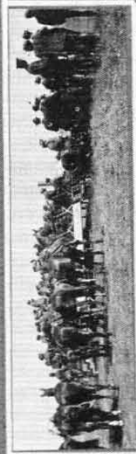
1923



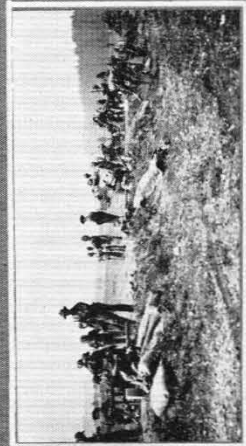
*Casey Jones*



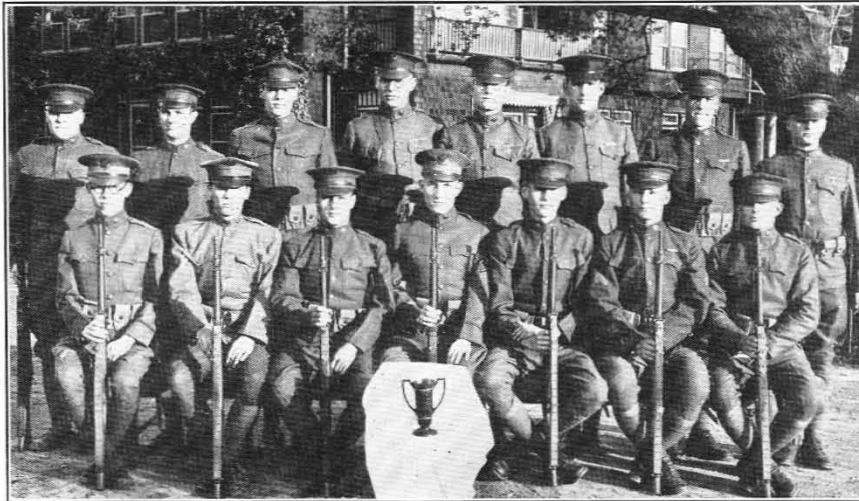
*Mt. Rainier*



*Pistol Range*



*"500 yds."*



HERRINGTON JONES HASTINGS MERCEREAU HELMS ANDERSON TRIGGS RODGERS  
MARTIN LEVINE BULL KROUSER KAYE FRICKER HERTZ

## Rifle Team

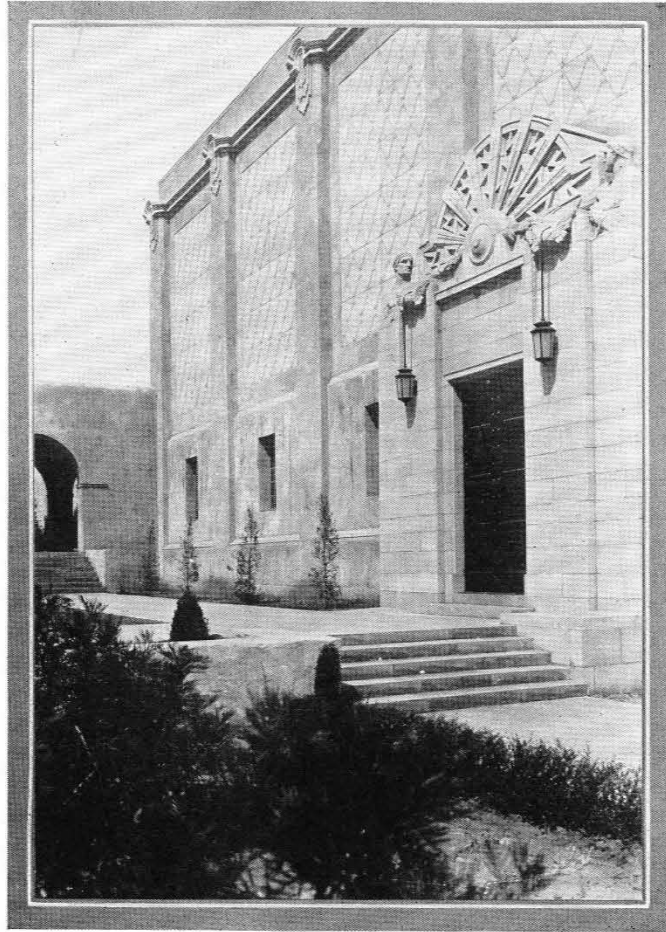
One of the most important activities in which students of the Military courses are privileged to take part is that of rifle competition. Any man studying under the department is eligible to fire on the gallery range. Those men who turn in the highest scores in their practice firing are then chosen to form the team which competes with teams of other institutions in the annual inter-collegiate matches. A great deal of interest has been shown in rifle practice during the year, which has caused the Tech team to show up very well in the matches in which it has been entered.

The first competition took place during the first term, when the inter-company title was contested. The team representing Company B headed the list, with a score of 2589, while Company A was next, with a score of 2548, and Company C came last with a score of 2261. The winner of this match receives a cup donated by the Military Department, which Company B has now retained for two years in succession.

The second competition was in the form of a triangular match between Tech, Southern Branch, and Pomona. Two rounds were fired, each college having two teams and each team competing once with each of the other teams. When the final results were tabulated, the Tech team was first with a score of 1633, the Branch team was next, with a score of 1595, and the Pomona team was last, with a score of 1577. Through winning this match, the Conference cup remains at the college for another year, only one more win being required to make it the permanent property of the Institute.

The team finished this successful season by taking sixth place in the Ninth Corps Area match, which was very good since there were nineteen teams entered representing colleges all through the west.





# ORGANIZATIONS



### Associated Student Body



BEESON

GROAT

BECK

ELMORE

#### OFFICERS

FRED J. GROAT	- - - - -	- -	<i>President</i>
HAROLD R. BECK	- - - - -	- -	<i>Vice-President</i>
ROY O. ELMORE	- - - - -	- -	<i>Secretary</i>
ROBERT E. PEFFER	} (each one-half year)	- -	<i>Treasurer</i>
MARTIN L. BEESON			
LeROY DIXON	- - - - -	- -	<i>Assistant Treasurer</i>

#### APPOINTMENTS

EDGAR N. LAYTON	- - - - -	-	<i>Musical Manager</i>
EDWARD D. CORNELISON	- - - - -	-	<i>Debate Manager</i>

#### SPORT MANAGERS

JOHN E. MAURER	- - - - -	- -	<i>Football</i>
ROBIE T. WATKINS	- - - - -	- -	<i>Basketball</i>
PHILIP T. DUNLAP	- - - - -	- -	<i>Track</i>
V. WAYNE RODGERS	- - - - -	- -	<i>Baseball</i>
H. TODD NIES	- - - - -	- -	<i>Tennis</i>
JOSEPH MATSON, JR.	- - - - -	- -	<i>Swimming</i>

#### COMMITTEES

##### ATHLETIC COUNCIL

Fred J. Groat	} (One term each)
Donald F. Morrell	
Harold R. Beck	
John E. Maurer	
Robie T. Watkins	
V. Wayne Rodgers	

##### EXHIBIT DAY

Edwin F. Thayer, <i>Chairman</i>
William L. Holladay
LeRoy Dixon

##### RAYMOND THEATRE—"TECH NIGHT"

Alfred A. Newton, <i>Chairman</i>
Joseph H. Walker
Sydney F. Duncan

##### DUGOUT

Grant V. Jenkins, <i>Chairman</i>
Riley L. Gilbert
Glenn M. Schlegel

##### ELECTION

Robie T. Watkins, <i>Chairman</i>	Loys Griswold
E. Harold Gandy, <i>Chairman</i> (Third Term)	Robert W. Fulwider

##### HONOR KEY

Edgar N. Layton, <i>Chairman</i>
Martin L. Beeson
Bruce H. Mills

##### TIE UP

Carl Heilbron, Jr., <i>Chairman</i>
Joseph H. Walker, Jr.
Lawrence P. Henderson

##### FOOTBALL BANQUET

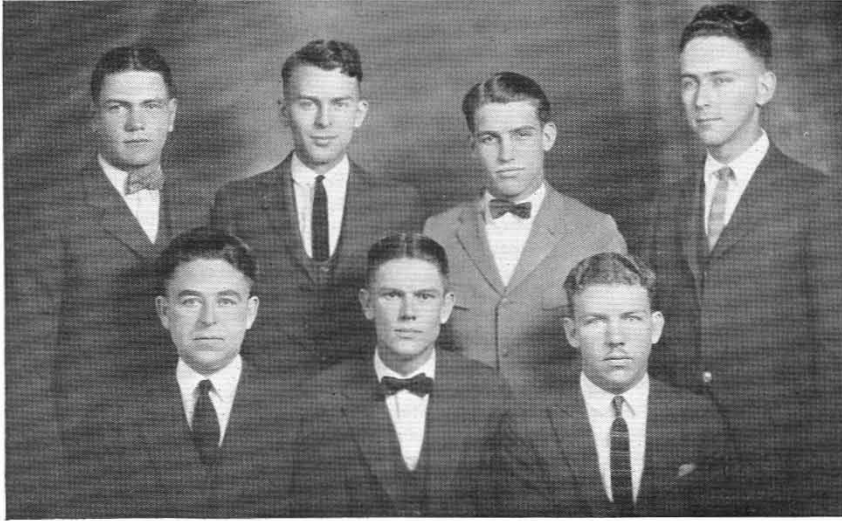
Donald F. Morrell, <i>Chairman</i>
Alfred A. Newton
LeRoy Dixon

##### ARMISTICE DAY GAME

Donald F. Morrell, <i>Chairman</i>
Edgar N. Layton
Bruce H. Mills
Lawrence P. Henderson

##### FOOTBALL AWARD

Orval E. Liddell, <i>Chairman</i>
Loys Griswold
Clifford W. Maltby



## Executive Committee

The most significant feature of this year's student body government is the separation of the athletic from the non-athletic activities of the Association. The student Executive Committee, by delegating the control of athletic expenditures to an Athletic Council composed of students and faculty members, has relieved itself of overpowering financial, accounting and managerial burdens without relinquishing that student body contact which is so vital. It is a distinct advantage that the student officers now have more time and funds to devote to the other than athletic activities.

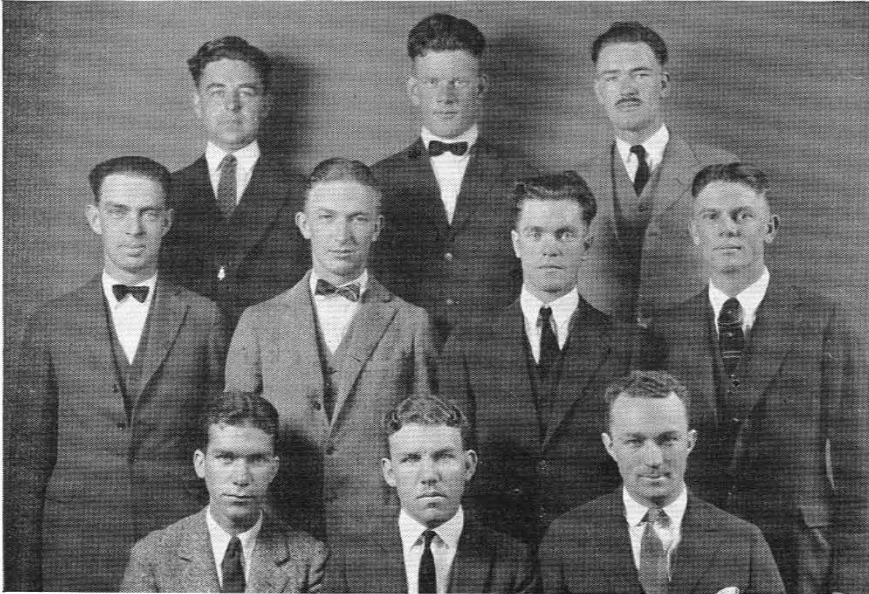
Building upon the experience of past administrations, this year's Executive Committee instituted a financial organization which makes the Student Body Treasurer the sole dispenser of funds and the recipient of the gross receipts of all student body functions. The centralization of bookkeeping thus effected eliminates the possibility of error among the various activity managers. Then, too, the adoption of the policy of budgeting in March instead of at the beginning of the college year has militated to prevent running in debt.

Further evidences of the progressive evolution of the Association government exist in all activities; the number of Honor Points awarded to each activity has been doubled with a view to giving finer differentiation between the several activities; the system of Intra-mural Athletics has been expanded to provide competitive training in recognized sports to forty per cent of the Student Body each week; the office of Student Athletic Manager has been shorn of its salary and been made elective to coincide with the new athletic policy; the fire interest evidenced in rifle shooting has led to its adoption as a minor sport; and finally, a revision of the Constitution has been effected to keep pace with this rapid evolution.

Among the institutions of proven worth, the Honor System stands out as evidence of a growing consciousness in its support. The Court of Traditions, having stood the test of two years, remains as a fixed institution, subsidiary to the Board of Control.

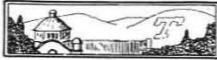


## Board of Control

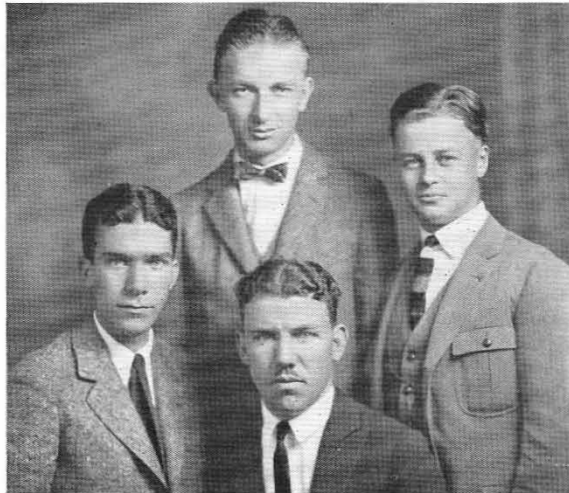


## The Honor System

The Honor System at Tech is the self-reliant stamina of character which a man assumes upon entrance into the Institute, removing all manner and signs of discipline from his freedom of action and his conduct in places where external assistance or infringement of his liberties would be counted dishonorable. While the Honor System is failing at many other institutions, it is only growing stronger at Tech, and the members of the student body hold it above any other tradition or phase of their life at the Institute. The character-moulding effects of the Honor System allow a man to take his examinations without restriction or question in the same manner as they allow him to leave his books in any part of the campus and expect to find them whenever he chances to return. As long as the Honor System remains, Tech may justly claim that she has no peer as an institution for moulding men.



# Court of Traditions



## Officers

Senior Judge	- - - - -	Martin L. Beeson
Junior Judge and Clerk	- - - - -	Albert J. Ferkel
Sophomore Judge	- - - - -	John Stuart Campbell
Freshman Representative	- - - - -	Robert M. Moore
Sophomore Prosecutor	- - - - -	Wayne Rodgers

Sophomore Deputies	{	Robert O. Stein
		Jack C. Baker
		William C. Herrington
		Stuart Johnson
		Stephen Detzer (Dormitory)

The Court of Traditions occupies a unique position in the student life at Tech. Organized in 1922, its end is to interpret the best traditions of the College and to see that the Freshmen are made to live up to these traditions. The Court opposes the practice of hazing in the ordinary sense, but makes it a point to provide adequate discipline for the infant engineers at the Institute. Those Frosh who, either through ignorance, wilfulness or neglect, go contrary to the rules as laid down by tradition are prosecuted by the Court and sentenced to various original and humiliating tasks.





# The California Tech

PASADENA, CALIFORNIA

Published weekly during the College Year by the Student Body of the

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\*Robert E. Peffer

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Tel. Colorado 5474

Asst. Manager.....Robie T. Watkins, '25

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Wallace Penfield, '26

Kenneth Belknap, '27

Albert Chapman, '25

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John Hertz, '27

Harold Sheffield, '25

Ray St. Clair, '27

George Hodel, '27

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Elmer J. Weitekamp, '24

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Harold Sheffield, '25

Ed. Lownes, '24

Arthur Allyn, '26

Maurice Ross, '24

Sam Parnall, '26

Ray Perry, '27

\*First half only.

## SPECIAL EDITIONS OF THE "TECH".

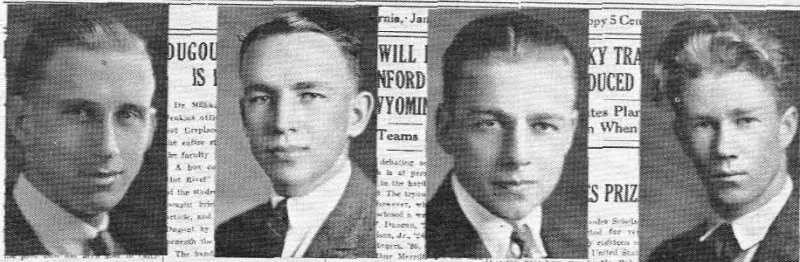
Two special editions of the "California Tech" came out during the first term of this year. The first one, the Souvenir Sport Extra of November 12th, appeared just after Tech had beaten Oxy in that memorable football game in the Rose Bowl. This was the first time in history that the "Tech" had printed a special edition.

The second extra came into being at the Football Banquet when each guest found a copy beside his plate. It contained a resume of the season and the picture of every football letter man.

A third special edition appeared as a Souvenir Exhibit Day issue.



# The California Tech



RIDGEWAY      SALSBUURY      MAURER      WESTON      WATKINS      BRUNNER      WALKER  
KROUSER      FERKEL      The Staff      TEMPLIN      INGERSOLL



# The Big "T"

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### Organizations

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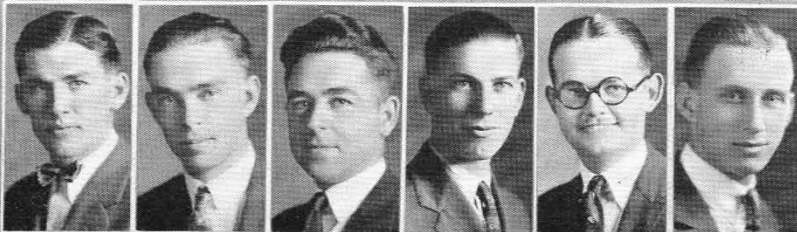
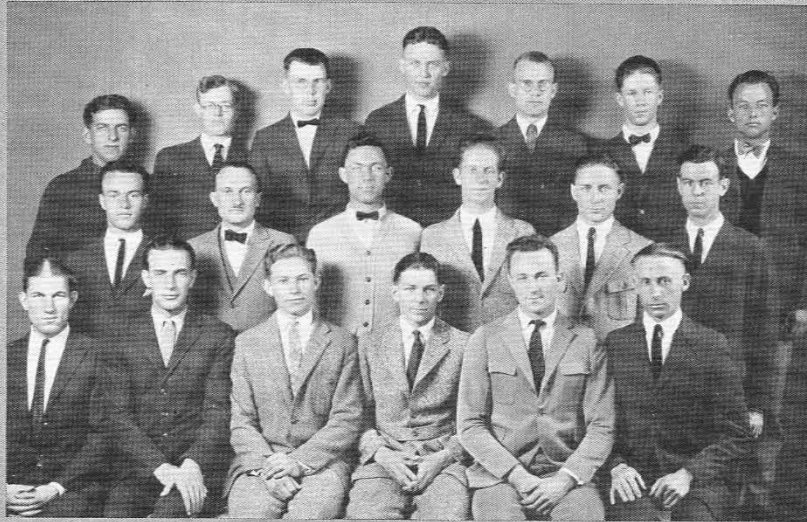
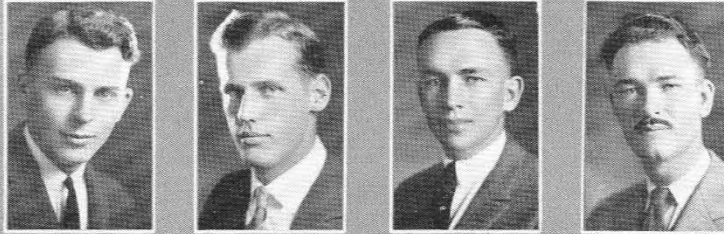
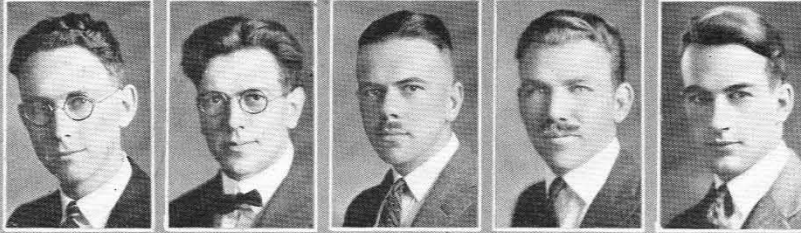
EDGAR N. LAYTON

HAROLD BECK

GEORGE H. HODEL, *Editorial Assistant*



BIG "T" 1924



THAYER	JENKINS	HOLLADAY	BEESON	ANDERSON
	MORRELL	TELLWRIGHT	MAURER	NEWTON
		THE STAFF		
DIACK	SALSBURY	ELMORE	GANDY	SHEFFIELD
				RIDGEWAY



## Honor Societies

The functions of the honor societies at the Institute are so numerous that they constitute the greater portion of the outside events that characterize college life. The societies are enumerated according to their campus seniority.

### TAU BETA PI

One of the truly great honors that may be conferred upon a student of engineering is election to membership in Tau Beta Pi, National Engineering Honor Society. Only those who have attained particular merit are eligible, and in the selection much emphasis is placed on personality and character. In consequence the annual election of members is of the greatest interest to all.

The California Beta Chapter was organized in 1921. The purposes of the order are to provide an incentive for not only good scholarship but general ability along all lines. This year the outstanding events of the Society have been three banquets and two formal dances. The Institute Chapter is still young and plans great things for the future.

### PI KAPPA DELTA

The California Gamma Chapter of Pi Kappa Delta was organized at the Institute in 1921. Its aim is to foster and promote forensic activities and to this end the chapter has been very active this year. Numerous debates have been held, sponsored by both the chapter and the student body. The Greek play, "Philoctetes", by Sophocles was presented with great success, financial and otherwise, and as a result, two delegates were sent to the National Convention at Peoria, Illinois. It is expected that the Chapter will be increasingly active in the future, and will continue its work of promoting forensics at Tech.





## VARSITY CLUB

The Varsity Club is an organization composed of men who are wearers of the Orange and White "T", signifying their official athletic recognition. It is a very powerful organization of large membership.

The Club exists for the purpose of assisting in the direction of athletic activities. It performs the very necessary and useful function of acting as communicating body between the teams and the Executive Committee. In addition, the Club sponsors social events, chief of which is the Varsity Dance given to all members of the Institute.

## PRESS CLUB

The Press Club is an honorary association of students who have shown special interest in literary and journalistic work. Great interest is taken every year in the initiation of the pledges as one of their requirements is the publication of the "Hot Rivet" which has become one of the traditions of the Institute. As a "Razz" sheet it is par excellence. The real aim of the organization, however, is to raise the standard of journalistic work in the Institute, and to provide a rendezvous where the members may oftentimes gather to forget the rush of life and be transported to live with the masters of the pen.

## THE HONOR KEY SYSTEM

The honor key system is intended to promote interest in student activities. The Student Body feels that men who have given of their time and energy should be awarded a lasting token of appreciation and this takes the form of an attractively engraved key.

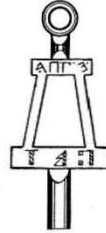
In order that the honor of possessing a key may not be lessened by too many presentations, an Honor Key committee is maintained to watch and guard the system. Every activity has been allotted honor points in proportion to its importance and at the end of the year those who have participated in a sufficient number of activities yielding the required number of points are awarded keys.



BIG "T" 1924



# Tau Beta Pi



*Founded 1885 at Lehigh University  
Members of California Beta Chapter*

## FACULTY

Dr. Robert A. Millikan  
Dr. Arthur A. Noyes  
Dean Frederick W. Hinrichs  
Prof. William H. Clapp

Prof. Franklin Thomas  
Prof. Royal W. Sorenson  
Lieut. Hans Kramer  
Mr. Robert T. Knapp

## GRADUATE STUDENTS

L. Merle Kirkpatrick  
Donald H. Loughridge  
Hallan N. Marsh

Jesse W. DuMond  
H. Todd Nies  
Dr. Russell M. Otis

George T. McKee

## CLASS OF 1924

Robert S. Ridgway  
Albert S. Gould  
Max M. Moody  
Frederick A. Hough  
Joseph E. Mayer  
Orval E. Liddell  
Loys Griswold  
Jule H. Coffey  
Edward A. Wilson  
Lawrence G. Fenner

Martin L. Beeson  
David R. Young  
John Carr  
Harold O. Springer  
Robert C. Hastings  
Donald F. Morrell  
William C. Dreyer  
Edgar N. Layton  
George H. Hopkins  
Emmett M. Irwin

## CLASS OF 1925

Carl H. Heilbron, Jr.  
Ralph V. Blackman  
Paul E. Noll  
John E. Maurer

Robert T. Dillon  
Michael C. Brunner  
James E. Moore  
Clarence Burmister



BIG "T" 1924





# Pi Kappa Delta



*Founded 1913 at Ottawa University  
California Gamma Chapter Established 1921*

## FACULTY

Dr. John Macarthur

Walter W. Ogier, Jr.  
Stanley W. Pargellis

## CLASS OF 1924

Harold R. Beck  
Carlton H. Eckermann  
Fred J. Groat  
Donald F. Morrell  
Joseph E. Mayer

Edward D. Cornelison  
Lawrence W. Hall  
F. Douglas Tellwright  
Sydney F. Duncan  
Grant V. Jenkins

## CLASS OF 1925

Edwin F. Thayer  
Jack H. Helms  
John E. Maurer  
Alfred A. Newton

Harold C. Sheffield  
Keith M. Wilson  
Joseph H. Walker  
Robert A. Merrill  
Robert W. Fulwider

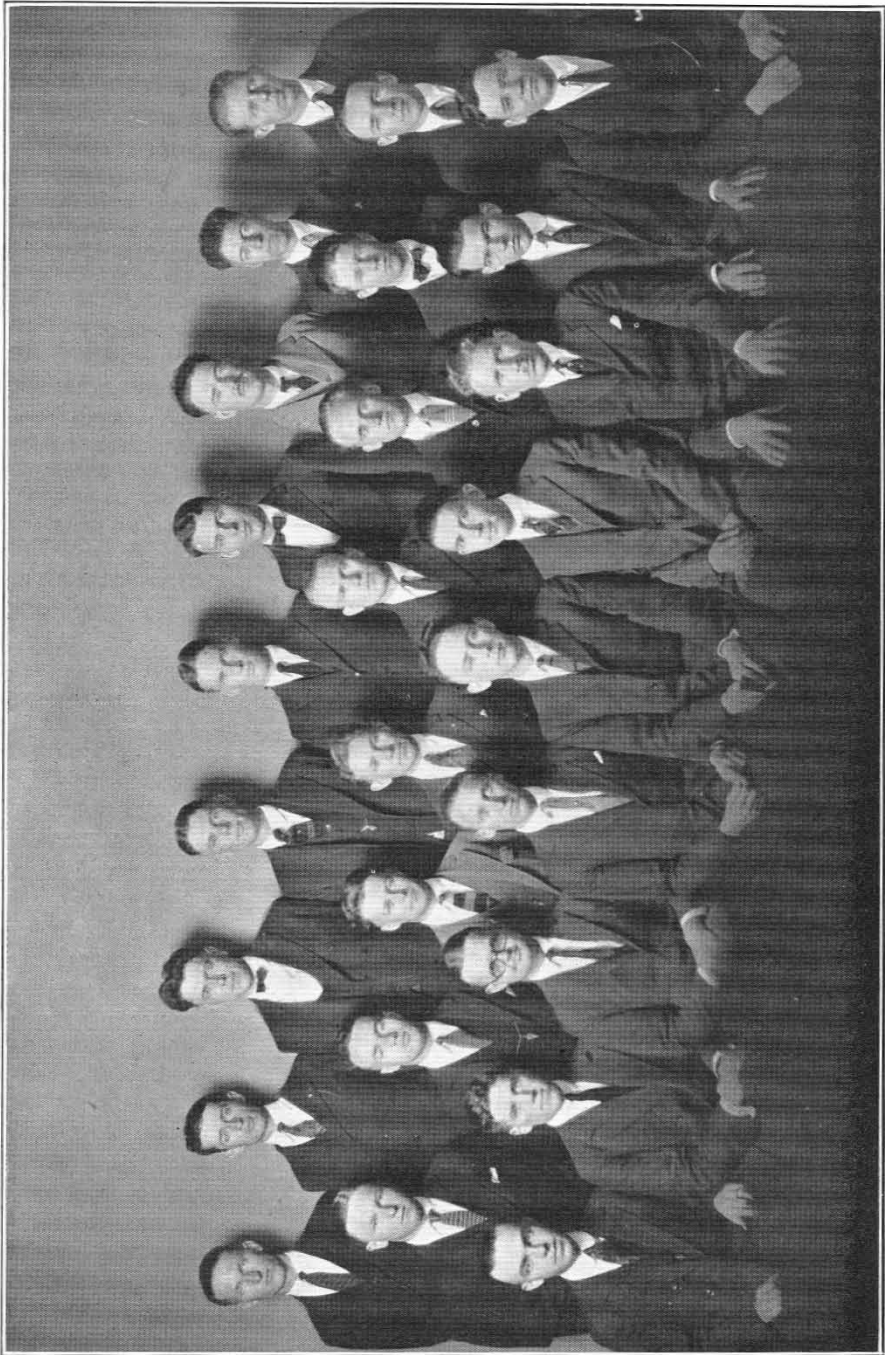
## CLASS OF 1926

Theodore C. Coleman  
Robert F. Heilbron  
John L. Fahs  
Richard D. Pomeroy

Alvah S. Bull  
Riley L. Gilbert  
V. Wayne Rodgers  
William A. Lewis, Jr.  
Leslie W. Margison



BIG "T" 1924





# Varsity Club



HOLLIS W. MOYSE - - - - - *President*  
 CLIFFORD W. MALTBY - - - - - *Secretary-Treasurer*

## MEMBERS

Hollis W. Moyse	F 3., BB 3., Tr 2., Bask 1
Fred J. Groat	F 2., BB 3., Tr 1., Bask 1.
Harold R. Beck	F 3.
Morris Goldsmith	F 3.
Michael C. Brunner	F 2., Bask 2.
Ray E. Alderman	F 2.
Martin L. Beeson	F 2.
Stuart L. Seymour	F 2.
Frank M. Foster	F 2.
J. Edward Kinsey	F 1.
Eugene W. Smith	F 1., Bask 2.
Douglas Sellers	F 1.
Elmer Weitekamp	BB 3.
Seymour Larabee	BB 2., Bask 1
Warren B. Leavitt	BB 2.
Orval E. Liddell	Tr 1.
Rolland S. Thomas	F 1.
Joseph E. Mayer	Sw 3.
Clifford W. Maltby	Bask 2.
Robert O. Stein	F 1.
William C. Herrington	F 1.
Jack C. Baker	F 1.
Leroy Newcomb	F 1.
Robert Fulwider	Sw 2.
Edgar E. Shafer, Jr.	Bask 2.

## HONORARY MEMBERS

W. L. Stanton—Football and Track Coach  
 H. Z. Musselman—Baseball and Basketball Coach.  
 Donald F. Morrell—Athletic Manager  
 Lawrence P. Henderson—Yell Leader.

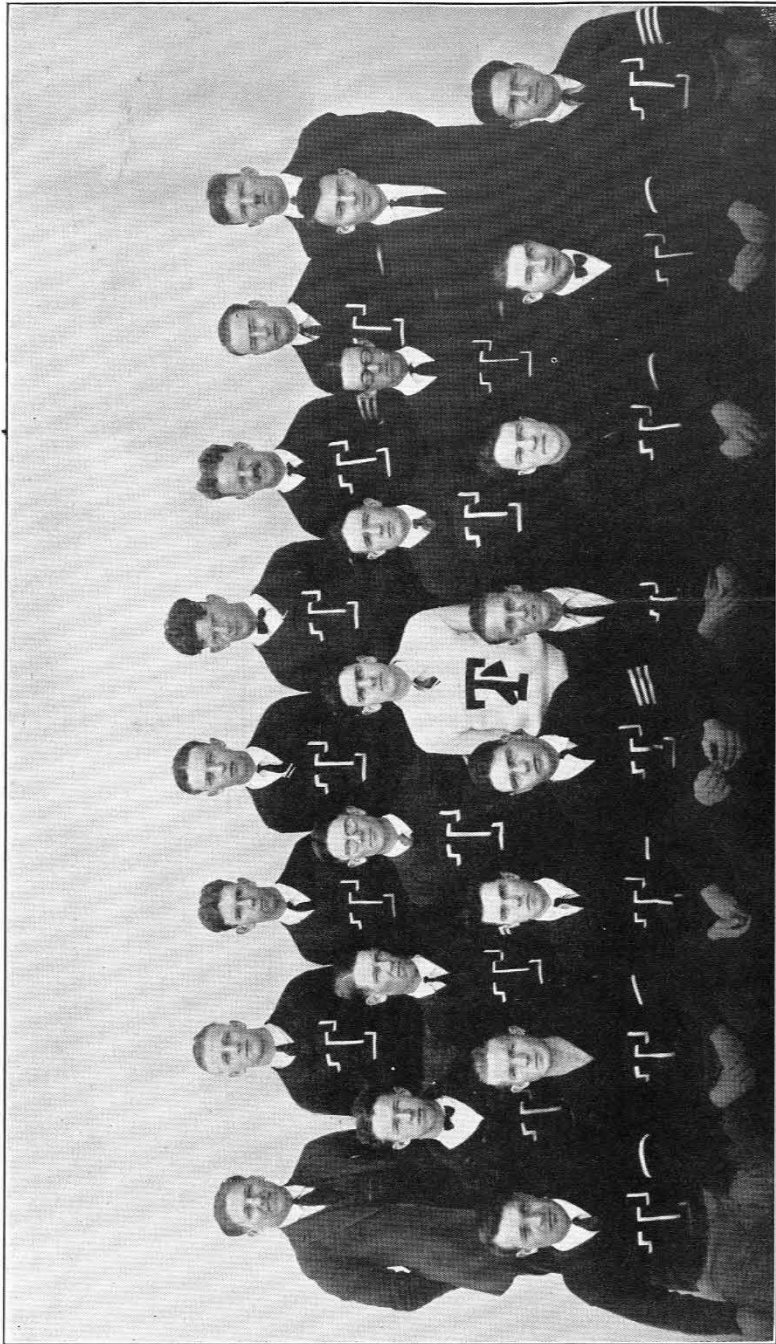
## NOTE

F—Football  
 BB—Baseball  
 Tr—Track  
 Bask—Basketball  
 Sw—Swimming

Numbers refer to number of years letter was won.



BIG "T" 1924





## Press Club



### HONORARY

Prof. George R. MacMinn      Prof. Clinton K. Judy  
Mr. Stanley M. Pargellis

### FACULTY

Sinclair Smith                      Arthur L. Klein  
George T. McKee

### ACTIVE

#### CLASS OF 1924

Robert S. Ridgway                      William L. Holladay  
Edgar N. Layton                      Robert E. Peffer  
F. Douglas Tellwright                      Orval E. Liddell  
John Carr

#### CLASS OF 1925

Alfred A. Newton                      Markham E. Salsbury  
Tracy L. Atherton                      Joseph H. Walker  
Paul E. Noll                      John E. Maurer

#### CLASS OF 1926

Robert F. Heilbron                      Alvah S. Bull



BIG "T" 1924



## Honor Key Men



1924

Martin L. Beeson..... 43	Grant V. Jenkins..... 28
Fred J. Groat..... Key, 18	William L. Holladay..... 27
Alfred A. Newton..... 35	Donald F. Morrell..... 27
Harold R. Beck..... 33	Roy O. Elmore..... 25
Michael C. Brunner..... 32	Robert O. Stein..... 25
Markham E. Salsbury..... 32	Kenneth B. Anderson..... 25
John E. Maurer..... 30	Joseph H. Walker..... 24
Hollis W. Moyse..... 29	Morris Goldsmith..... 24
Edgar N. Layton..... 28	Oliver W. Kilham..... 24
Edwin F. Thayer..... 24	

### HONORABLE MENTION

#### 16 POINTS OR MORE

Warren B. Leavitt	Leroy Newcomb
Robert S. Ridgway	Harold C. Sheffield
Maurice B. Rcss	Stuart L. Seymour
F. Douglas Tellwright	Maxwell F. Burke
Elmer J. Weitekamp	Layton Stanton
Theodore C. Coleman	Lewis W. Olsen

1923

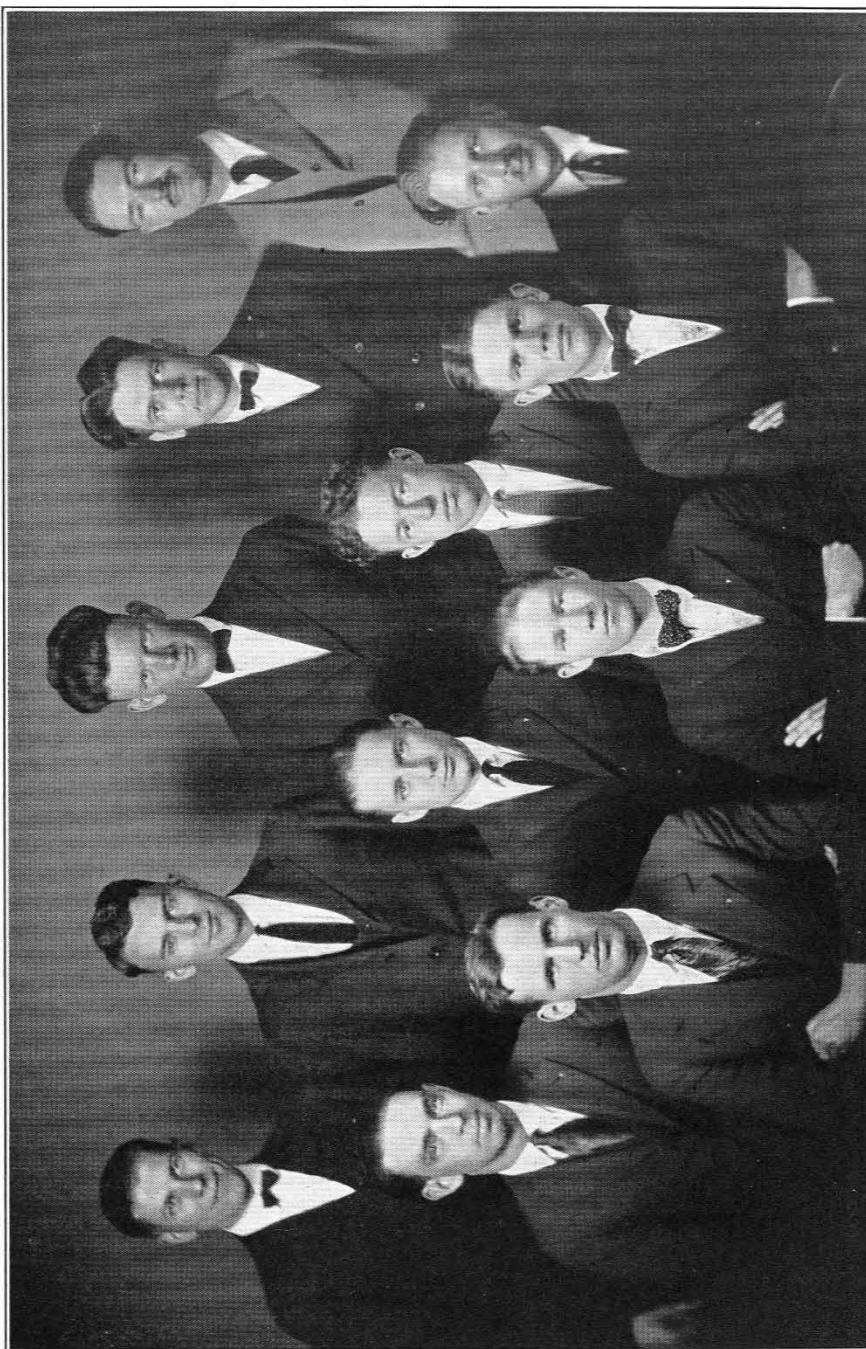
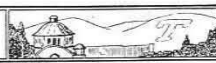
Max B. Alcorn	Orval E. Liddell
W. L. Bangham	Edgar N. Layton
Loren E. Blakeley	George T. McKee
Harold R. Beck	Donald F. Morrell
C. H. Eckerman	Alfred A. Newton
Bernard G. Evans	Harold Preston
L. Dean Fowler	M. E. Salsbury
Fred J. Groat	Oliver B. Scott
Alvah C. Hall	Richard H. Skinner
David G. Harries	Robert O. Stein
Marcus I. Hoffman	F. Douglas Tellwright
E. Harold Gandy	C. Perry Walker

Joseph H. Walker





BIG "T" 1924





## Technical Societies

A student branch of each of the large national engineering societies exists at Tech and in addition there is a club for each of the less technical and more specialized branches of the engineering field. The function of these societies and clubs is to bring the students into closer association with the conditions and problems of actual practice and to develop initiative and self-expression in the members. Occasionally meetings are held with the local national branch and at other times a practicing engineer from that group is secured to address the student chapter. In addition purely student membership meetings are held at frequent periods, usually during the noon hour, where the members take turns in presenting some phase of a technical project to the men. Due to the fact that no limitations as to subject are imposed, some of the topics embrace problems very ambitious in their aspects and the solution may be entirely original. Benefit thus accrues not only to the organization as a whole but especially to the speaker, who is thereby given practice in exposition before a group.

Social affairs are occasionally held and these tend to engender a spirit of fellowship and co-operation among the followers of each particular phase of engineering.



## Aero Club



### Members

ELMER J. WEITEKAMP.....*President*  
 LEWIS McCLAIN.....*Secretary*

Robert B. Bowman  
 R. E. Fowle  
 Mason D. Hanes  
 H. P. Henderson  
 Herbert Ingersoll  
 Louis Kiesling  
 Carl B. Knox  
 Mitchell C. Lukens  
 H. J. Martin

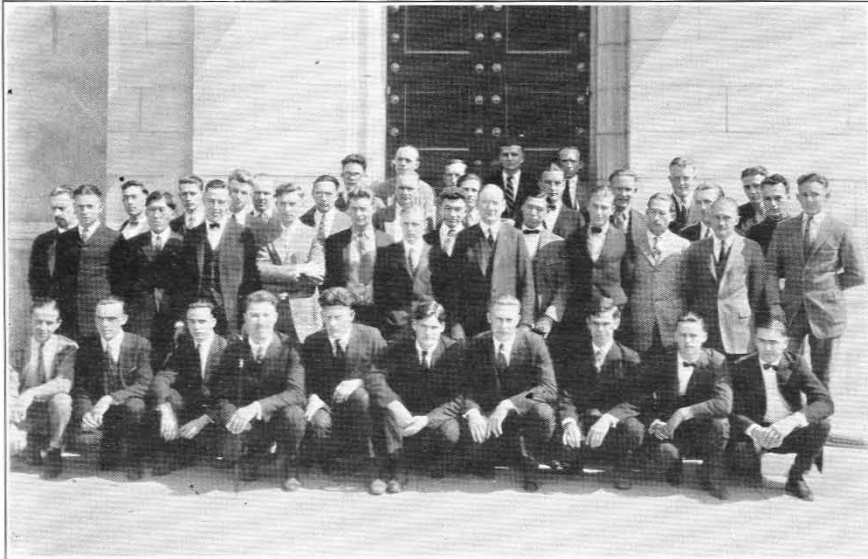
Weidler B. Musselman, Jr.  
 Wallace Penfield  
 Frank Peterson  
 Harry Remington  
 Robert Ridgway  
 Fred G. Thearle  
 Rolland S. Thomas  
 Joachim Voelker  
 W. W. Weber

The Aero Club is composed of men interested in the subject of aeronautics. Discussions are held about twice a week at which members who saw service with the air forces relate their experiences. Theoretical topics are also discussed. Of particular interest was a talk given by Louis Kiesling upon the sailplane which he and a former student designed and built under Mr. Merrill's supervision. This sailplane is now being used for important aero-dynamic research by Mr. Merrill.

During the second term the Club made a trip to the Douglas Aircraft factory for the purpose of inspecting the army "Round the World" planes then being built.



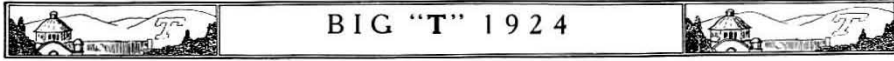
### Members



HAROLD O. SPRINGER	-	-	-	<i>President</i>
HOWARD W. GOODHUE	-	-	-	<i>Vice-President</i>
MAX W. MOODY	-	-	-	<i>Secretary</i>
FRANK R. LOVERING	-	-	-	<i>Treasurer</i>

### MEMBERS

- |                     |                       |
|---------------------|-----------------------|
| Tracy L. Atherton   | Clarence A. Burmister |
| Edward Cornelison   | Frank M. Foster       |
| Morris Goldsmith    | Royal E. Fowle        |
| Howard W. Goodhue   | Horace V. Gridley     |
| Frank R. Lovering   | Carl H. Heilbron, Jr. |
| Max W. Moody        | Leo M. Miller         |
| John W. Piper       | Bruce H. Mills        |
| Harold F. Pope      | Ernest E. Garnett     |
| Harold O. Springer  | Ray I. Hall           |
| Harry L. Warren     | Robert W. Moodie      |
| Earl R. Peterson    | Mark U. Serrurier     |
| Markham E. Salsbury | Robert O. Stein       |
| Glenn M. Schlegel   | H. Clinton Rapp       |
| Karl F. Schumacher  | Donald A. Blackburn   |
| Newton H. Templin   | Wesley C. Hertenstein |
| Edmond E. Winckel   | Arthur Merrill        |
| Alvah S. Bull       | Stuart L. Seymour     |
| Theodore C. Coleman | Earnest P. Herner     |
| Stephen Detzer      | Carl F. Beed          |



## American Society *of* Civil Engineers

The Student Branch of the American Society of Civil Engineers has been active throughout the year in furtherance of the primary purpose of the organization, that of bringing its members into closer contact with problems, the aims and the ideals of their future profession. This purpose has been accomplished through a close connection with the Los Angeles Chapter, whose meetings the members of the Student Branch are invited to attend. Prominent men in the field of Civil Engineering have also been secured through the courtesy of the same branch.

At the first meeting of the year, Mr. Harold Conkling, Associate Engineer of the Division of Water Rights for the State of California, gave an address on the San Gabriel Basin water supply investigation, and incidentally found several part-time positions on the investigation for the men present. A very successful and well-attended smoker was held in the Dugout toward the end of the second term, at which Mr. Morris, Chief Engineer of the Pasadena Water Department and Vice-President of the Los Angeles Chapter of the Society, gave a talk on the history and development of water supply of Pasadena. He also spoke on the development of the San Gabriel River. Professor Franklin Thomas, Head of the Department of Civil Engineering at the Institute, and President of the Los Angeles Chapter, spoke on the purpose and organization of the society.

A matter of extreme interest and importance to the Student Chapter is the Annual Convention of the Society, which will be held this year at the Institute, the week after Commencement.





### Members

KENNETH B. ANDERSON - - - - - *President*  
 ORVAL E. LIDDELL - - - - - *Vice-President*  
 OLIVER W. KILHAM - - - - - *Secty.-Treas.*

Sydney F. Duncan  
 Carlton H. Eckermann  
 Charles Leonard Forbes  
 Warren B. Leavitt  
 Roy E. Miller  
 Robert S. Ridgway  
 Eugene W. Smith  
 Lyman Paul Stoker  
 Elmer J. Weitekamp  
 Robert M. Whiting

Sterling W. Beed  
 Raymond Catey  
 Edgar M. DeRemer  
 Harold A. Dresser  
 Alfred L. Erickson  
 Robert W. Fulwider  
 Lawrence P. Henderson  
 C. Gilbert McProud  
 James E. Moore  
 Ira E. Triggs



# American Society of Mechanical Engineers

The local Student Branch of the A. S. M. E., by maintaining constant contact with the Los Angeles Branch of the Society, promotes an interest in the students of the problems confronting mechanical engineers in actual practice and thus renders the transition from the student to the engineering field less abrupt.

During the first term the student members were the guests of the Los Angeles Branch at a dinner held in the Throop Memorial Church and this affair will long be remembered by all the "mechanicals." After the dinner, a lecture was given at the College by Professor Watson upon the structure of matter and later the students conducted the engineers about the buildings of the Institute.

Another high point in the calendar was the meeting held in conjunction with the A. I. E. E. at which Mr. H. L. Doolittle, Designing Engineer of the Southern California Edison Company, spoke on the problems of the Big Creek project. An interesting motion picture of the construction work was shown also.

Meetings of the student Society are held bi-weekly, at which time student members speak upon topics of general interest. Among some of the subjects discussed at these meetings this year were: Four wheel brakes, balancing of automobile motors, "Pneushox" absorbers, liquid air machines and sailplanes.

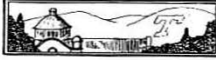
The Society gave an "Ark" party at Hallowe'en time which was an innovation at Tech. This was in the nature of a hard times dance and was pronounced by all those present a huge success.



### Members

ROY O. ELMORE	- - - - -	<i>Chairman</i>
MARTIN L. BEESON	- - - - -	<i>Secretary</i>

- |                     |                      |
|---------------------|----------------------|
| E. Dale Barcus      | Edgar N. Layton      |
| Martin L. Beeson    | Maurice Landau       |
| Walter L. Bryant    | Allen L. Laws        |
| John Carr           | William A. Lewis     |
| Jule H. Coffey      | Arnold S. Lutes      |
| Daniel G. Dinsmore  | Clifford W. Maltby   |
| William C. Dreyer   | Leslie W. Margison   |
| Roy O. Elmore       | Frederick J. McClung |
| E. Harold Gandy     | Richard H. Merrill   |
| Albert S. Gould     | Hallam E. Mendenhall |
| Boris A. Golikoff   | James T. Mercereau   |
| Loys Griswold       | W. A. Minkler        |
| Fred J. Groat       | Fred M. Morikawa     |
| Frey Hamberger      | Cecil N. Parker      |
| Robert J. Hammond   | Percy E. Parker      |
| William L. Holladay | Merle I. Pyle        |
| Harry T. Honn       | Jack Reed            |
| Thomas M. Hotchkiss | Leon Russell         |
| Emmett M. Irwin     | Maurice B. Ross      |
| Walter S. Johnson   | Alfred E. Schueler   |
| David T. Jones      | Fritz Schumacher     |
| Maurice T. Jones    | Douglas Sellers      |
| Walter B. Jones     | George B. Stone      |
| Frank E. Kagiwada   | Robie T. Watkins     |
| Michael B. Karelitz | Joseph H. Walker     |
| James C. Krouser    | Keith M. Wilson      |

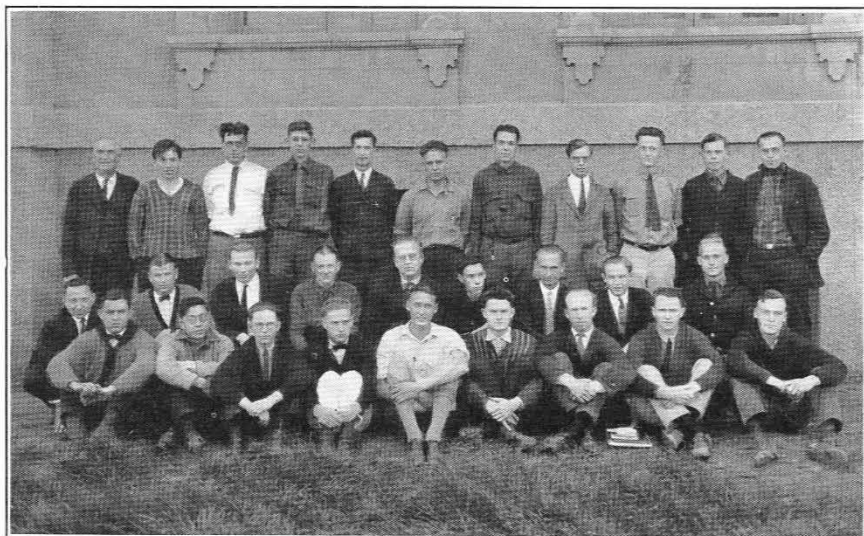
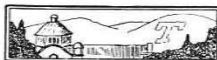


## American Institute *of* Electrical Engineers

The local Student Branch of the American Institute of Electrical Engineers has grown very rapidly. The membership last year was but thirty-seven,—this year it is fifty-two. All Sophomores, Juniors, and Seniors are eligible for membership.

The students of the local branch frequently attend meetings of the Los Angeles section, as a valuable opportunity is thus afforded to bring the men of the Institute into direct contact with the men and work of the day. At one such meeting Dr. Ryan, the national president of the association, spoke on "High Tension Transmission." He gave an interesting discussion on the various problems encountered in this phase of electrical work. At another meeting, Mr. Copeland of the Westinghouse Company, spoke on one of their latest and most important developments, the Klydonograph, an instrument for indicating and measuring line surges.

The student chapter meets every two weeks. It is a thriving society and it plans to still further increase its membership and its scope of activity.

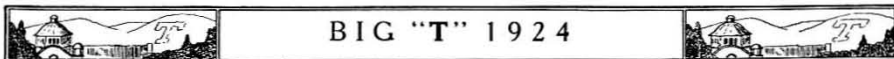


## Members

Dr. A. A. Noyes  
Dr. H. J. Lucas  
Dr. W. N. Lacey  
Dr. S. J. Bates  
Dr. J. E. Bell  
Dr. A. F. Benton  
Mr. E. H. Swift  
Dr. J. H. Ellis  
Dr. R. G. Dickinson  
Gordon A. Alles  
Paul H. Emmet  
Linus C. Pauling  
Albert G. Raymond  
L. M. Kirkpatrick  
Richard Badger  
Robert Loofbourrow  
Fred C. Henson  
Leland B. Prentice  
Joseph E. Mayer  
Grant V. Jenkins  
Warren P. Baxter  
George R. Kaye  
Paul Magill  
Nathan Scudder  
Robert T. Dillon

Robert H. Dalton  
Robert C. Hastings  
Arthur B. Allyn  
H. Todd Nies  
Ellery R. Baxter  
Vladimir Kalichevsky  
George W. Clapp  
Willard H. Tracy  
William H. Allen  
Horace C. Adams  
Edward W. Hart  
Thomas P. Simpson  
Eugene Cartwright  
Richard D. Pomeroy  
David Wolochow  
Earl D. Stewart  
Archibald Y. Jameson  
Harold H. Farnham  
John Buxton  
Roger B. Bryan  
Edgar E. Shafer  
Kai Jin Yang  
Burnett B. Wisegarver  
Palmer Miller  
Frederick A. Hough





# Chem Club

## Officers

JOSEPH E. MAYER.....	<i>President</i>
NATHAN F. SCUDDER.....	<i>Vice-President</i>
FREDERICK A. HOUGH.....	<i>Secretary</i>
PALMER MILLER .....	<i>Treasurer</i>

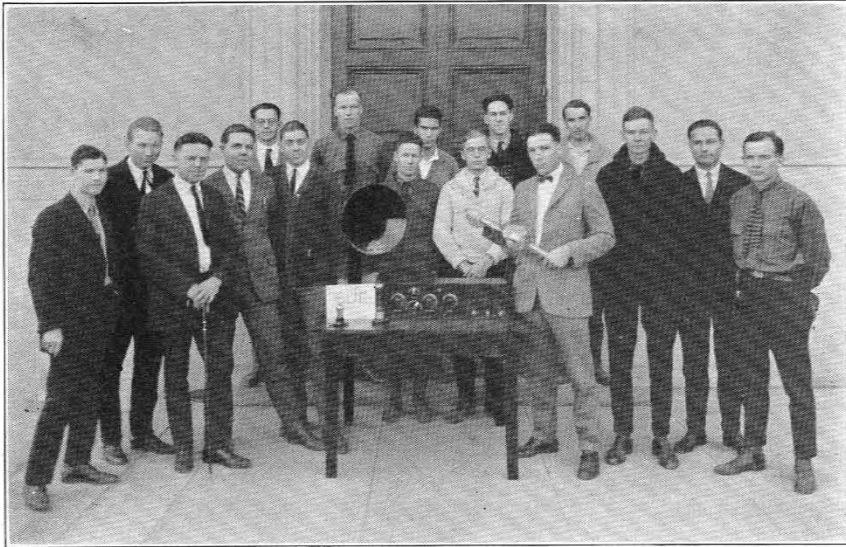
The Chem Club is one of the oldest professional organizations on the campus. It was founded to promote good fellowship among the professors and students by means of its meetings and the various hikes undertaken throughout the year.

The members meet every Wednesday noon and lunch together, coffee and ice cream being served. After lunch the meetings are devoted to talks and demonstrations by members of the Club and research men. The topics are extremely interesting and are typical of the chemical work being carried on at the Institute.

Each year the Club takes trips to the mountains and sea shore. During the first term twenty-eight of the members enjoyed a hike to Sturdevant's Camp over the week end. The Chem Club "Stew" prepared for this hike will remain as a lasting memory in the minds of all. With the approach of warm weather everyone is looking forward to another good time at Balboa as the last two trips there have set a precedent of enjoyment for the Chem Club.



# Radio Club



## Members

HORTON C. WILLIAMS	-	-	-	-	-	<i>President</i>
FRED J. McCLUNG	-	-	-	-	-	<i>Vice-President</i>
VICTOR F. HANSEN	-	-	-	-	-	<i>Treasurer</i>
JACK REED	-	-	-	-	-	<i>Secretary</i>

E. Dale Barcus  
 Cecil M. Parker  
 Emmet M. Irwin  
 James E. Moore  
 Michael B. Karelitz  
 J. Stuart Campbell  
 John G. Sawyer  
 Manley W. Edwards  
 Joachim H. Voelker  
 Edwin D. Doane

C. Hawley Cartwright  
 Walt E. Cruzan  
 Percy E. Parker  
 David Z. Gardner  
 Percy S. Hallett  
 Archie F. King  
 R. M. Moore  
 John D. Hertz  
 Mason A. Logan  
 Roderick C. Ward

Arnold L. Lutes

The Radio Club, 6UE, was reorganized this year after a lapse of several semesters. The members have gathered together a large amount of equipment, including transmitting and receiving apparatus, and have set it up in the north room of the "Ark," where they spend their time "tuning in" and broadcasting. An aerial has spanned the distance between the Dormitory and the Barracks, and not a little success has been attained from long distance transmission. Efforts are being made to use the Radio Club in conjunction with the "Tech" for intercollegiate news service in the Southern California Conference.

*One Hundred Eighteen*



# Economics Club



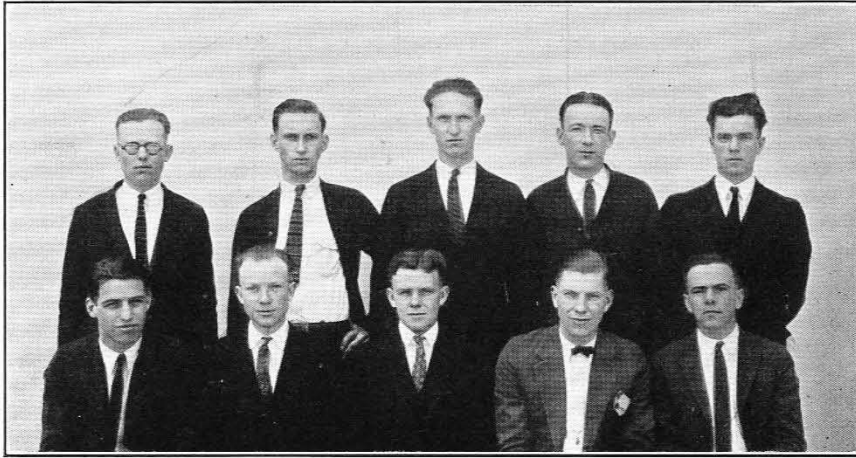
## Members

EDWIN F. THAYER	-	-	-	<i>President</i>
WILLIS L. SQUIERS	-	-	-	<i>Secty.-Treas.</i>

Prof. Graham A. Laing  
 Harold Gandy  
 Howard Goodhue  
 Edward D. Lownes  
 Mitchell C. Lukens  
 Donald F. Morrell  
 Archie McKaig

Maurice B. Ross  
 Rolland S. Thomas  
 Elmer J. Weitekamp  
 David R. Young  
 Paul C. Rivinius  
 Eugene H. Riggs  
 Alfred A. Newton

The Economics Club, organized this last year, has for its purpose the furtherance of interest in the field of general economics. Its membership is open to men enrolled in the Engineering and Economics course and other interested upperclassmen. Meetings are held every two weeks at which some member presents a paper upon topics of interest. Some very interesting meetings were held during the past year at the home of Professor Laing, Head of the Department of Economics, who generously offered his house as a meeting place for the Club.



### Cabinet

HAROLD E. GANDY.....	<i>President</i>
MARKHAM E. SALSURY.....	<i>Vice-President</i>
LOYS GRISWOLD.....	<i>Secretary</i>
WILLIAM L. HOLLADAY.....	<i>Treasurer</i>

### COMMITTEE CHAIRMEN

Robert S. Ridgway.....	Handbook
Donald P. Macfarlane.....	Social
Clifford W. Maltby.....	Membership
William L. Holladay.....	Finance
Harry K. Farrar.....	Meetings
Robert S. Ridgway.....	Bible Study
Markham E. Salsbury.....	Asilomar
Roy E. Miller.....	Employment
Sidney F. Duncan.....	Room and Board



## Y. M. C. A.

The past year has been, as usual, a very successful one for the Young Men's Christian Association. At registration time the annual drive brought the membership up to two hundred and sixty-two.

One of the features of this year's administration is the fact that for the first time in the life of the organization, all of the work is being done by the student association. Heretofore, a general secretary has done most of the work, but this year the students agreed to tackle the problems alone. The administration has been singularly successful in both a financial and a social way.

During the first week of the school year a reception was given by the "Y" for the Freshmen. It was held in the Dormitory and was a great success. During the third term a banquet was given and the new officers were installed. A hike up Mt. Wilson and a skate at Alhambra closed the social events of the year and were enjoyed by a large number of students and their friends.

On the traditional day when the new students clean off the big "T" on Mt. Wilson, the "Y" is on hand to distribute doughnuts and apples to the tired and hungry "brush beaters". This year was no exception and the rapid disappearance of edibles was a sign of appreciation of the "Y's" co-operation.

Further advantages of the "Y" were enjoyed by six delegates who were sent to the Asilomar conference during the Christmas holidays. This is an opportunity afforded by the "Y" to hear big speakers, make friendships with members of other institutions, and have a good trip over the vacation time.

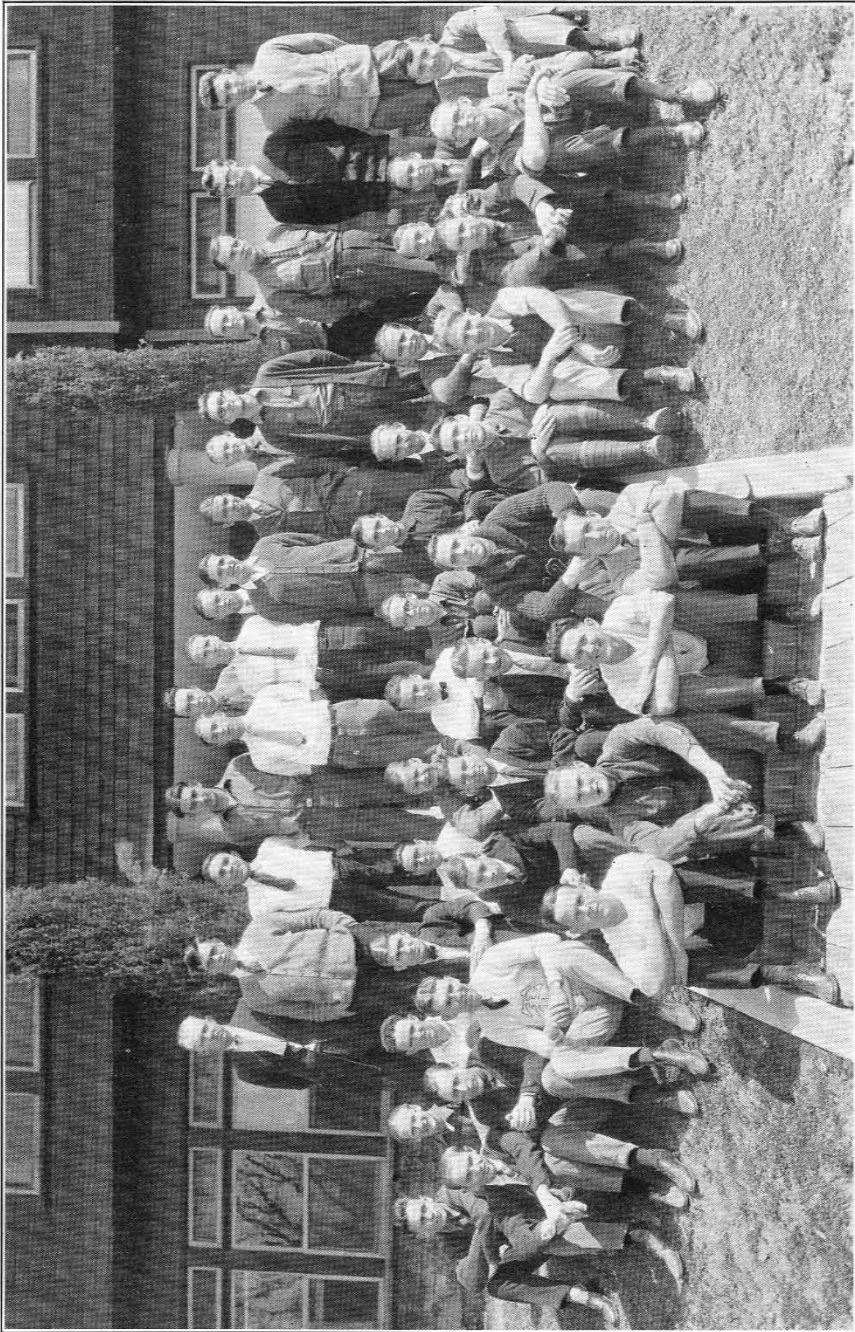
Tech was very proud to have two of her men sent back to the National Convention of Student Volunteers at Indianapolis. Duncan and Macfarlane, the delegates, gave reports of a great trip and experience.

At the opening of the college year the "Y" presents to each member of the Institute a handbook which will fit the loose leaf notebooks, and which contains information concerning the Institute which every man should know. To make them feel more welcome, these books are mailed out to the Frosh during the summer.





BIG "T" 1924





## The Dorm Club

MORRIS GOLDSMITH.....*President*  
O. SEYMOUR LARABEE.....*Vice-President*  
TRACY L. ATHERTON.....*Sec.-Treasurer*

H. Carter Austin  
Tracy L. Atherton  
William L. Arnold  
Emerson D. Bailey  
David Bogen  
Walter L. Bryant  
George Burrell  
Albert E. Byler  
James M. Carter  
Eugene E. Cartwright  
Albert Chapman  
Donald G. Clark  
Harry F. Cunningham  
George E. Crocker  
William U. Dent  
Stephen Detzer  
Harold A. Dresser  
Robert T. Dillon  
Edwin Doane  
Walter C. Doane  
Carlton H. Eckermann  
Jack Fahs  
Glenn Feely  
Willard H. Francis  
William E. Froggatt  
Howard W. Goodhue  
Morris Goldsmith

Boris A. Golikoff  
J. Henry Gunning  
T. Sherman Hale  
Clarence L. Haserot  
John D. Hertz  
Byron A. Hill  
Donald R. Hinkston  
Vernon P. Jaeger  
H. J. Jones  
James C. Krouser  
O. Seymour Larabee  
Edward M. Levine  
Bernard N. Moore  
Frank P. Meserve  
Frederick J. McClung  
Frank A. Nickell  
Rolland A. Philleo  
Harry L. Remington  
Kenneth W. Ranney  
Herman F. Schott  
K. Fritz Schumacher  
Percy T. Scott  
Thomas S. Southwick  
G. Cutriss Spelman  
Robert M. Stuart  
Ira E. Triggs  
Keith M. Wilson



## The Rivet

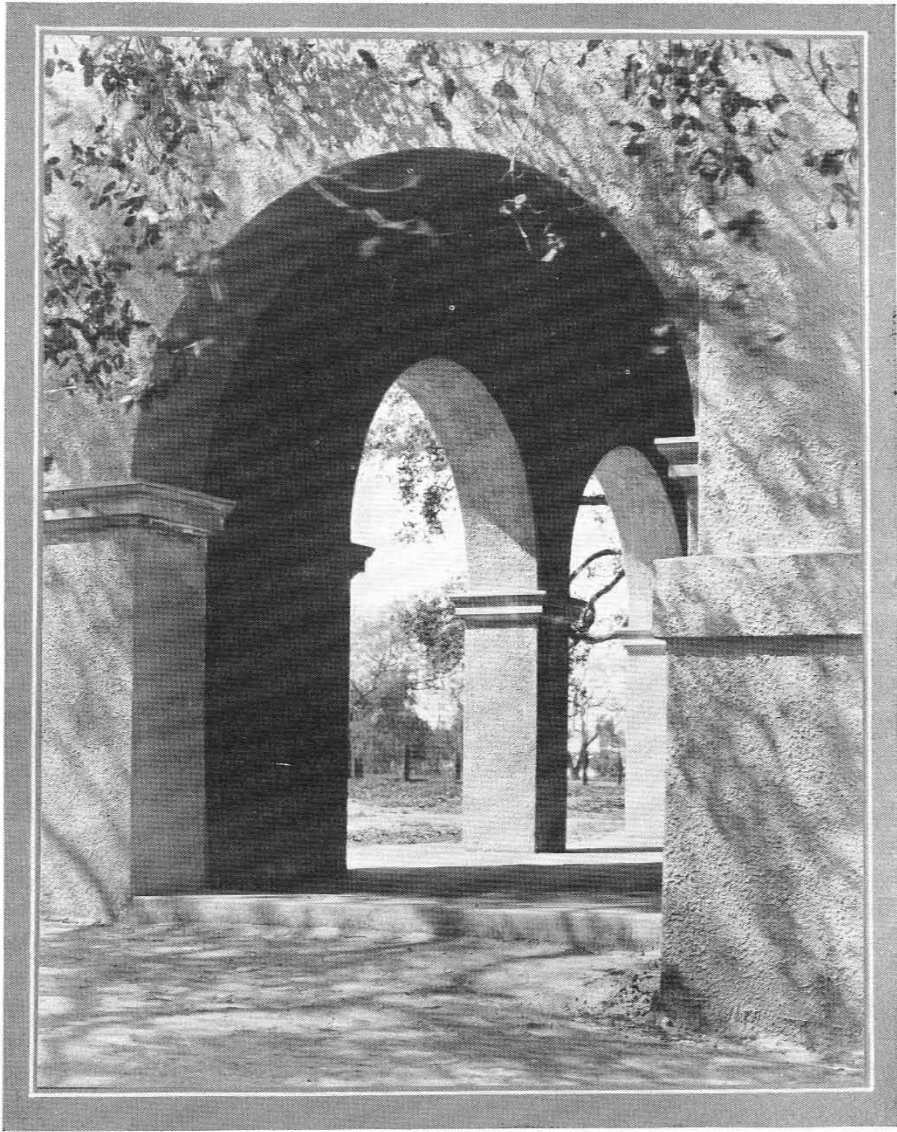


The HOT RIVET, the regular Press Club "razz" sheet was issued during the second term under the guidance of the initiates of that time, Carr, Holladay, Liddell, Pepper, Salsbury, Tellwright and Walker. The paper was distinctive both as to artistic coloring and treatment of the subjects of comment.

The RIVET accomplished the abolition of assembly cards (?), the bobbing of the office force (denied by office force), and many other reforms, according to members of the staff. These results are not generally credited to the RIVET by those making the changes, so there is room for uncertainty. The RIVET, however, was certainly one of the most successful ever put out by the Press Club.

## The Ax

As it is the custom of the Press Club to sponsor but one issue of the Hot Rivet each year, the initiates elected in the third term, Pargellis, Maurer, Bull, Heilbron, Allyn, and Noll were obliged to produce an issue of an entirely different nature. The Ax was the result, a brilliantly colored sheet distinctly razzberry in flavor but presenting a decided contrast to any former publication. Without any odious comparisons suffice it to say that through the medium of the bold pages of the Ax, the Faculty received its long wished for opportunity to come back at the students. And the vigor and directness with which its members grasped the opportunity will be long remembered.



# FRATERNITIES

*One Hundred Twenty-five*



# Gnome Club

(*Kappa Gamma*)



*Founded 1897*

House: 289 South Madison Avenue

## MEMBERS

## FACULTY

Mr. Edward C. Barrett  
Dr. Stuart J. Bates  
Prof. W. Howard Clapp  
Prof. Robert L. Daugherty  
Prof. Royal W. Sorensen  
Prof. Clinton K. Judy

Prof. Romeo R. Martel  
Dr. Russell M. Otis  
Mr. Walter W. Ogier, Jr.  
Prof. Paul Perigord  
Prof. Lucien H. Gilmore  
Prof. Harry C. Van Buskirk

## CLASS OF 1924

Harold R. Beck  
Martin L. Beeson

Elmer J. Weitekamp

Fred J. Groat  
Donald F. Morrell

## CLASS OF 1925

Carl H. Heilbron, Jr.  
Lawrence P. Henderson  
Alfred A. Newton

Markham E. Salsbury  
Harold C. Sheffield  
Edward F. Thayer

## CLASS OF 1926

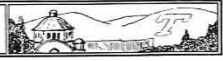
Alvah S. Bull  
Theodore C. Coleman  
Mortimer D. Darling  
Riley L. Gilbert  
Glenn Graham  
Robert F. Heilbron

William C. Herrington  
Wallace C. Penfield  
Vincent W. Rodgers  
Robert O. Stein  
Arthur C. Werden  
Frank H. Wiegand





BIG "T" 1924



*One Hundred Twenty-seven*



# Sigma Alpha Pi



*Founded 1914*

House: 399 South Mentor Avenue

## MEMBERS

## FACULTY

Prof. Franklin Thomas  
Prof. George R. MacMinn

Lieut. Hans Kramer  
Dr. William N. Lacey

Prof. Graham A. Laing

## CLASS OF 1924

Roy O. Elmore  
Earl S. Hayman  
Orval E. Liddell

Joseph E. Mayer  
Hollis W. Moyse  
Maurice B. Ross

## CLASS OF 1925

Raymond E. Alderman  
Michael C. Brunner  
Samuel L. Diack  
Frank M. Foster  
Albert J. Ferkel

J. Edward Kinsey  
John E. Maurer  
Bruce H. Mills  
Leroy Newcomb  
Glenn M. Schlegel

Robie T. Watkins

## CLASS OF 1926

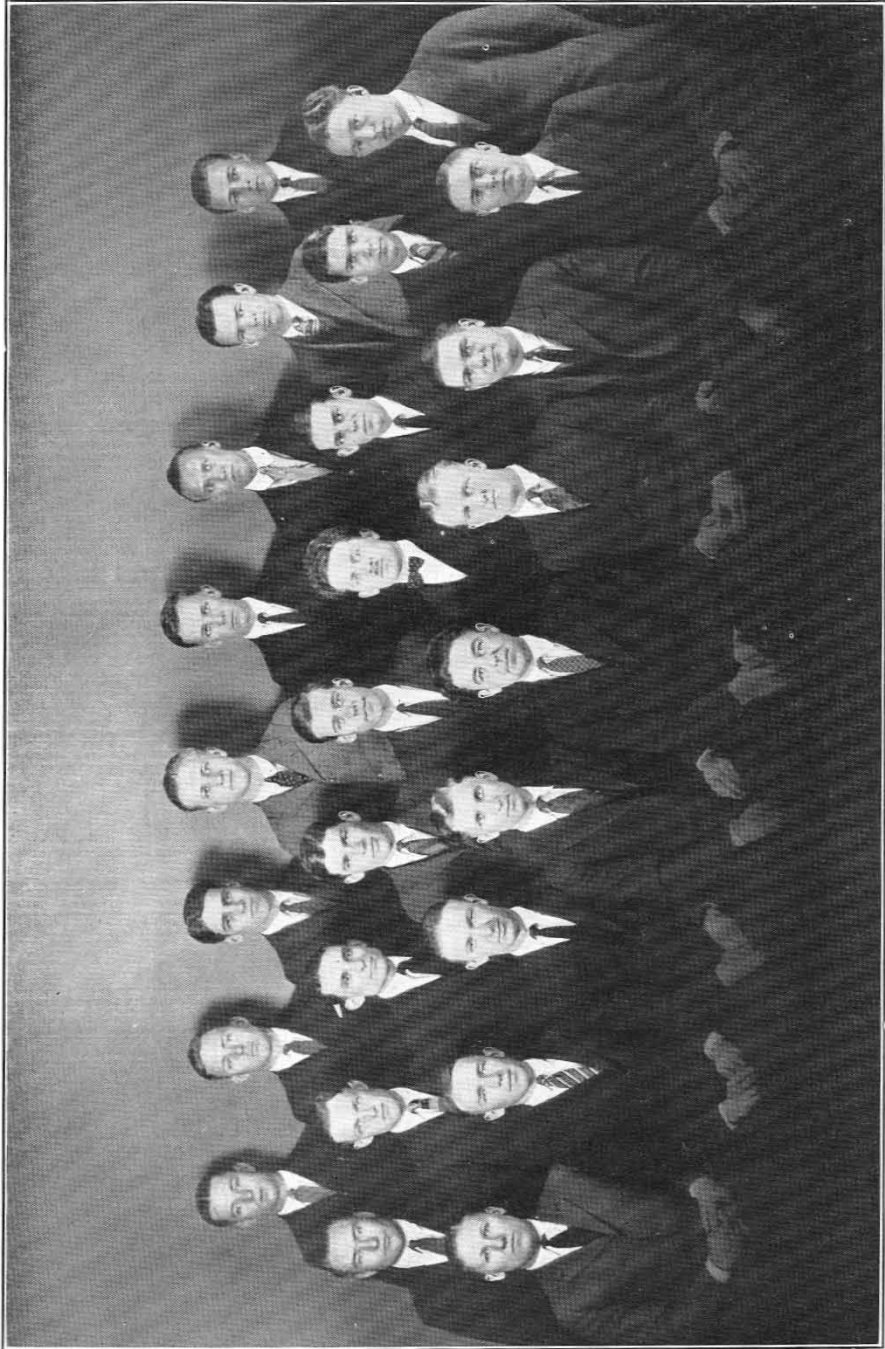
Jack C. Baker  
J. Stuart Campbell  
LeRoy Dixon  
W. Stuart Johnson  
Lawrence G. Maechtlen

Joseph Matson, Jr.  
Lewis S. McClain  
Leonard W. Ross  
George S. Stewart  
Samuel Parnall

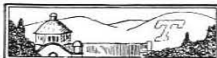
W. Kenneth Kemp



BIG "T" 1924



*One Hundred Twenty-nine*



BIG "T" 1924



# The Pharos

*(Phi Alpha Rho)*



*Founded 1921*

House: 447 South Lake Avenue

## MEMBERS FACULTY

Dr. Arthur A. Noyes  
Dr. Clyde Wolfe

Prof. E. Charles Watson  
Prof. Howard J. Lucas

Mr. Ernest H. Swift

## CLASS OF 1924

Albert S. Gould  
F. Douglas Tellwright  
Kenneth B. Anderson  
Grant V. Jenkins

Clifford W. Maltby  
L. Paul Stoker  
Harold F. Pope  
Robert E. Peffer

Jule H. Coffey

## CLASS OF 1925

Carl F. Beed  
Sterling W. Beed  
James E. Moore

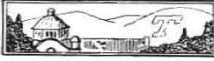
Norris F. Bravender  
Duncan A. Blackburn  
Ben E. Hess

Allen L. Laws  
CLASS OF 1926

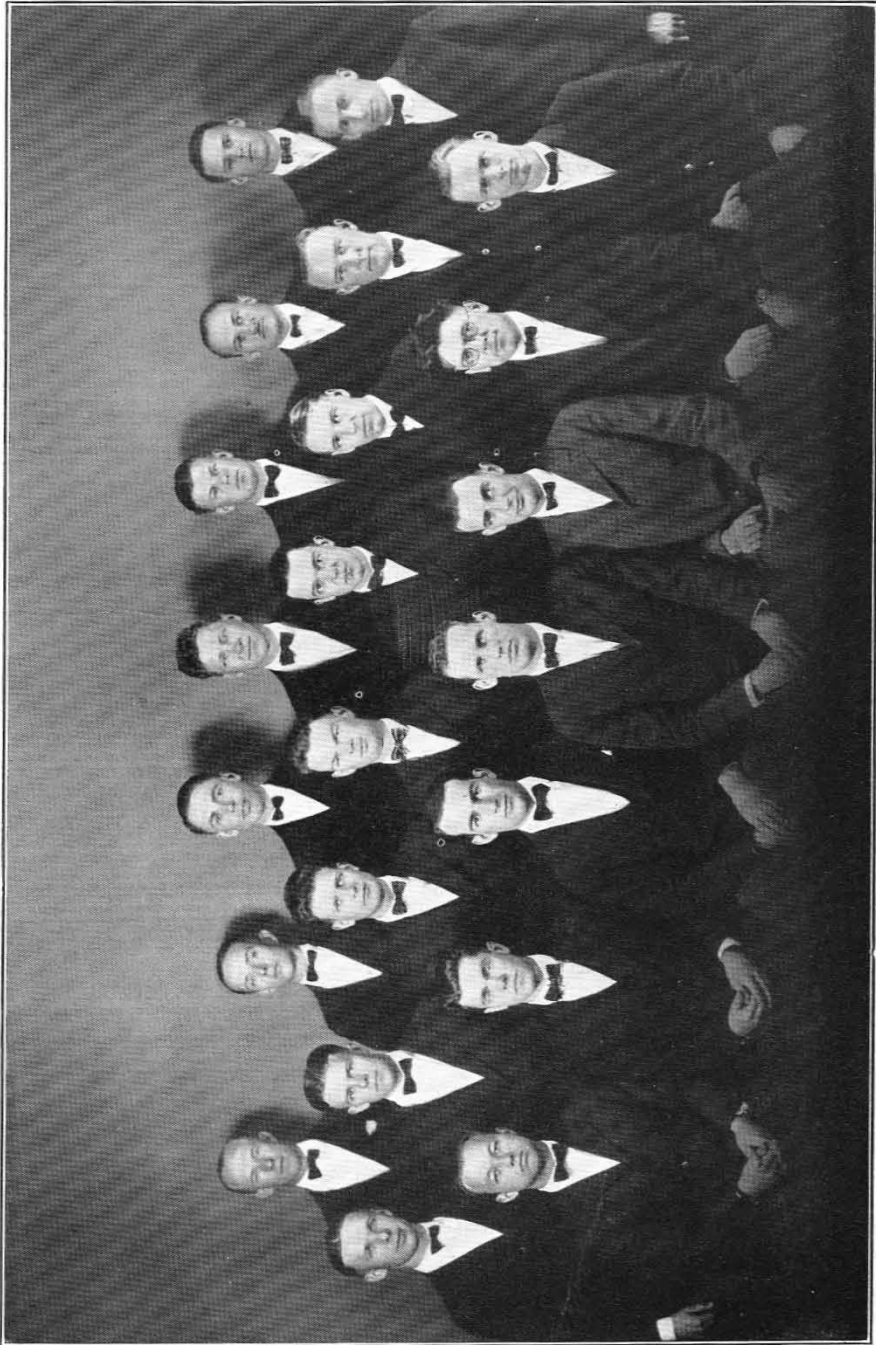
Earl R. Peterson  
Baker Wingfield  
Ernest E. Garnett, Jr.  
Roger B. Bryan

John R. Buxton  
Donald P. Macfarlane  
Joy A. Vanden Akker  
Robert C. Bawbell

*One Hundred Thirty*



BIG "T" 1924





# Pi Alpha Tau



*Founded 1921*

House: 75 North Lake Avenue

## MEMBERS

## FACULTY

Mr. Fred J. Converse  
Mr. Francis W. Maxstadt

Dr. Walter T. Whitney  
Dr. Robert B. Brode

### CLASS OF 1924

C. Leonard Forbes  
Loys Griswold  
Oliver W. Kilham  
Edward D. Lownes  
Willis L. Squires

Morris Goldsmith  
William L. Holladay  
Edgar N. Layton  
Arthur F. Michael  
Harry L. Warren

### CLASS OF 1925

Edgar M. DeRemer  
Leo M. Miller  
Paul E. Noll  
W. Douglas Sellers

Tracy L. Atherton  
O. Seymour Larabee  
Leland B. Prentice  
Edward D. Cornelison

### CLASS OF 1926

C. Hawley Cartwright  
Dwight A. Degnan

George W. Russell

Wayne Clark  
George R. Kaye



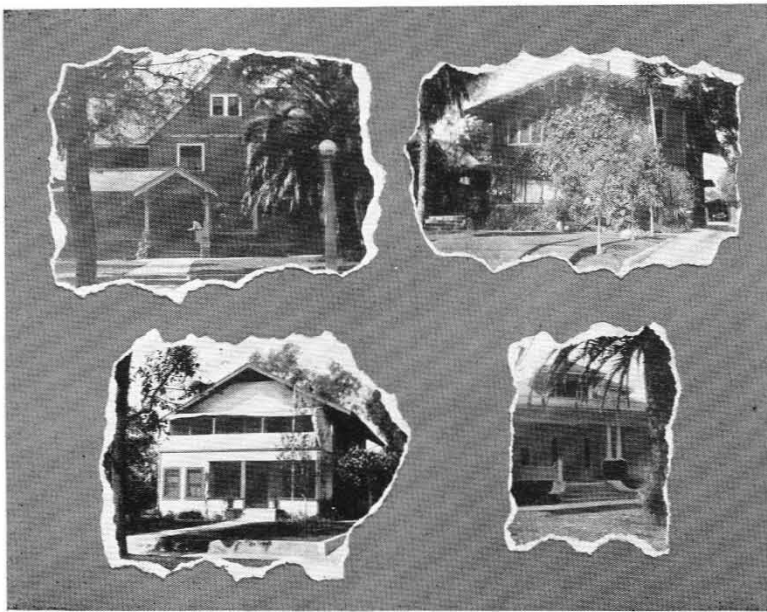


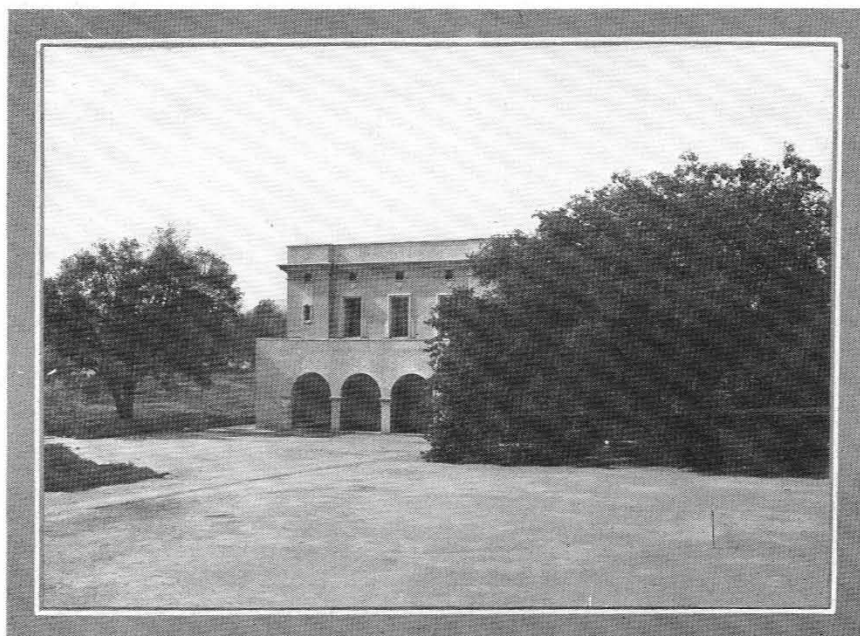
BIG "T" 1924





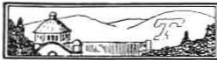
## Fraternity Houses





# THE YEAR

*One Hundred Thirty-five*



# The Year

## THE FRESHMAN "T" PARTY

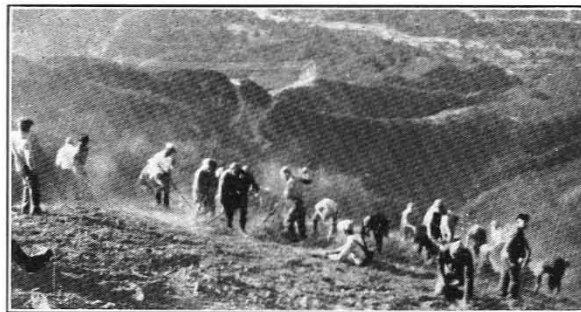
Early Saturday morning, the thirteenth of October, the Frosh gathered at the Armory, and after procuring shovels and hatchets crowded into the available machines and were transported to the Mt. Wilson toll-house.

Every man carried a hoe or a pick, or even a hunting knife, and as the class started off up the road it looked like some determined but ill-equipped revolutionary army. The coolness of the morning made climbing easy, and, except for the last quarter-mile of struggle through the brush, the ascent offered no difficulty and the "T" was soon reached.

One hundred and sixty men, all working at once, can accomplish a great deal and the "T" was cleaned in the record time of forty minutes, thereby lowering the previous record by fifteen minutes. Those at the bottom of the "T" spent most of their time dodging the rocks and small landslides which showered down upon them from the upper part.

The class monument was placed in the lower right hand corner of the "T" cross bar, and after taking the roll, the party started down the mountain. Some of the more venturesome spirits tried various short cuts and reached the foot of the road far ahead of the others, although much the worse for wear.

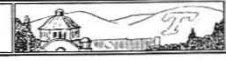
The best part of the whole trip was the meeting of the "Y" car at the toll-house, loaded with doughnuts and apples. It was a fitting ending to a morning which the Frosh will long remember as a truly worth-while experience.



## INTERFRATERNITY SMOKER

In order to foster a spirit of comradeship among the fraternity men on the campus, the Sigma Alpha Pi fraternity held a "get-acquainted" smoker at its house, Thursday evening, October 18th, for members of the Gnome Club, The Pharos, and the Pi Alpha Tau fraternities.

An interesting program was provided for the evening. Music, singing and general conversation occupied some of the earlier part of the evening and then card games began to attract various groups. About nine-thirty, several exhibition boxing bouts were held on the back-yard lawn. Upon returning to the



house, everyone was pleasantly surprised to find that a light luncheon had been served. Card games and music were resumed after appetites had been appeased. The only regrettable feature of the evening, outside of the fact that the cigars didn't agree with some, was that the evening couldn't have been longer. Twelve-thirty was too soon for many to leave.

#### DORM CLUB DANCE

Saturday afternoon, October twentieth, nineteen twenty-three, the California Tech football team, for the first time in history decisively defeated the Pomona College team at Tournament Park. The victory was celebrated by serpentineing about the football field and the campus was alive with happy and hilarious throngs until long after dark. Later in the evening many members of the student body were guests at a dance given by the Dorm Club in the Dormitory reception room. The spirit of the afternoon still prevailed and the annual dance developed into a big-time football celebration. Many novelties were included in the evening's program, such as the full thirty-six verses of "Sweet Hortense" as rendered by Frank Wiegand and his orchestra.

Midnight broke up the most successful dance ever given by the Dorm Club and everyone proclaimed it the end of a perfect day.

#### OCCIDENTAL BON-FIRE RALLY

On Saturday night preceding the victorious game with Occidental on Armistice day, Tech worked up a running start in the form of a big rally. The enthusiasm ran higher and higher as speakers, including Dr. Millikan, Captain Kramer, and Berny Evans prophesied a hard-fought victory for Tech. Magic proceedings staged by the Sophomores revealed the course of the game to come. Oxy's chances diminished rapidly as the evening progressed and were finally exploded following the signal by Dr. Millikan which ignited the immense bonfire gathered by the Frosh. Following yells and songs a lengthy, pajama-clad serpentine wound its way through town leaving in its wake confusion and traffic jams.

#### S. C. I. S. B. A. CONFERENCE

The Southern California Intercollegiate Student Body Association is composed of the student bodies of the University of Southern California, University of California at Los Angeles, Occidental College, Pomona College, University of Redlands, Whittier College, and the California Institute of Technology. The idea of the Association is to bring together representatives of the various student bodies to discuss certain phases of student body life, such as the honor system, student participation in activities, activity awards, etc.

The presidency of the Association remains at one institution for one year, the president of the student body of that institution being president of the Association. Since the presidency this year had been given to Tech, President Groat called the first meeting on Tuesday, November 13. Representatives from all members of the Association were present.

After a short business meeting in the afternoon the representatives attended a dinner at the Faculty club house, Dr. and Mrs. Millikan receiving. The evening business meeting was held in the discussion room of the library. Various student body problems were presented by the delegates and out of the discussions that took place helpful suggestions were received in solving such problems. The meeting adjourned about 11 o'clock. The second meeting was held in the month of April, at Tech.



## ARMISTICE DAY PARADE

The Military Department represented Tech's spirit in the Armistice Day parade. In order to give the ex-service men attending Tech an opportunity to honor Armistice Day and still represent Tech, an honor platoon was formed. In this platoon, which marched with the Military Department parade, were all of the ex-service men at Tech, with Captain Hinrichs as platoon commander.

The battalion and band left Tech about 10 o'clock in the morning, the line of march being along San Pasqual Avenue, Lake Avenue and Colorado Street, then north on Raymond Avenue to Library Park. Here the battalion disbanded. At Library Park, Armistice Day exercises were conducted, with Captain Perigord as master of the ceremonies. The Tech Glee Club rendered several selections.

## THE FRESHMAN DANCE NOVEMBER 24

In accordance with a time honored custom, the Frosh paid nobly for an ignoble defeat in the annual Sophomore-Freshman tie-up by a dance to the Student Body at the Hotel Green, November twenty-fourth. To the usual program there were added a few delightful features which contributed to its unquestionable success. Among these was the reception of guests by Dr. and Mrs. Millikan and members of the Faculty, who acted as hosts and hostesses.

The dance was an enthusiastic climax to a very successful football season. The pep and unanimity which characterized student support during the term were features of the evening's attendance. The music, refreshments, and decorations were equal to the occasion, making complete an enjoyable event. In the eyes of the school the Frosh were redeemed.

## TAU BETA PI FORMAL

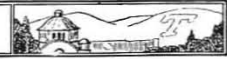
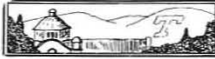
The first formal dance ever given by the California Beta Chapter of Tau Beta Pi was held at Culbertson Hall on the evening before Thanksgiving, in honor of Senior pledges. The Hall was artistically decorated, brown and white streamers being hung from the balcony to the large wooden bent placed in the middle of the floor, while small palms added a touch of green to the setting. During the intermission, the pledges gave an exhibition of their dramatic talent by the presentation of a three-scene pantomime. The characters were so well presented that it seemed evident that the actors had had experience along these lines before.

About one hundred couples were present. The dance was so successful that the Chapter decided to make it a semi-annual affair.

## SOPHOMORE CLASS DANCE DECEMBER 15

This year the Sophomores early in the first term decided unanimously upon a program of three dances, to be given one each term. The first of these took place in Culbertson Hall December fifteenth, the last day of the first term. In harmony with the atmosphere of the week, the predominant feature of the occasion was blue lights and blue dances. This, however, did not depress the spirits of the small but gay party, nor lessen the success of an impromptu dancing contest. Wiegand and his orchestra of Tech men furnished the music.





## Underclass Rodeo

The historic pole-rush between the Freshman and Sophomore classes, the purpose of which was to determine the class supremacy for the college year, has been replaced by a tie-up, known as the Underclass Rodeo. Although the pole-rush gave the Freshmen and Sophomores an excellent opportunity to mingle with one another, the manner in which they embraced each other during the Rodeo gave evidence that there was considerable rivalry between the Class of Twenty-six and the Class of Twenty-seven.

The initiation of the tie-up was not only for the purpose of promoting a friendly rivalry between the classes, but also to prevent some of the serious results caused by the pole-rush, such as injuries to the participants, and to eliminate some of the incidents not intended for the gaze of the public. Instead of relying on brute strength and masses, which were necessary to win a pole-rush, organization and scientific methods of attack are essentials for victory in this newly-initiated contest.

The Freshman Class, in answering the challenge of the Sophomores to meet them on the battlefield, congregated on the turf at Tournament Park in full battle regalia. Shortly after the Frosh had assembled in their designated



place, the Sophomores made their appearance on the scene. They possessed an air of confidence and bravery that the Freshmen seemed to lack; however, this did not intimidate the Freshmen and they proceeded verbally to inform the Sophomores that their end was near.

The committee in charge of the contest went through the necessary formalities of eliminating those with physical disabilities and picked a number of men from the Freshman class equal to the Sophomore group of warriors. The whistle blew and the battle was on. To be sure that the participants would not become overheated, several non-belligerents played the water hose on the struggling mass.

An eighty-foot square was marked off on the turf, limiting the battle zone. At the two opposite ends of the square was a neutral zone fifteen feet wide. When a man was securely tied, he was put into the neutral zone and could not be removed until he was again free from his bonds. Only twenty-five minutes were required for the Sophomores to have every Freshman in the neutral zone.

It was evident that the Sophomores were well organized and their knowledge of rope tying obtained from the Military Department was responsible for their speedy and overwhelming victory. The Freshmen fought valiantly, but they were unable to get more than six or seven Sophomores tied.

By virtue of their victory, the Sophomore class gained the right to reign as king of the lower-classmen. In addition to the penalty of submitting to Sophomore rule, the Freshmen were required to give a dance in honor of the Class of Twenty-six.



## Football Banquet

The dining room of the Maryland Hotel was the place and Wednesday evening, December fifth, was the date of the most successful Football Banquet ever given by the Associated Student Body in honor of a season's football team. That evening a team was being honored that tied with Pomona College for the Conference Championship, the highest achievement that a Tech team has yet accomplished. Although the season was over, football talk was at its height during the evening, everyone discussing incidents of the past and predicting another championship for Tech next year.

Professor Sorensen officiated as toastmaster and it was evident that his many years of experience in this capacity had trained him well for the occasion, in view of the fact that he kept the evening alive until disbanding time, eleven-thirty. Dr. Millikan was the first speaker of the evening. He spoke about the athletic situation at Tech and how athletics develop the participant mentally, morally and physically. One of the guests of honor, Mr. Wheaton, formerly coach at Yale University, reviewed the past history of intercollegiate athletics, vividly pointing out that its future success depends upon the type of coaches selected. Coach Stanton is Mr. Wheaton's ideal of a coach, coaching his teams not merely to win, but to play fair and square for the love of the game. Coach Stanton spoke on the qualifications of an athlete and the state of mind he must acquire before he can be successful. Lieutenant Kramer eulogized the scrub team, pointing out how valiantly it fought against the Varsity in practice games, thereby contributing much to the Championship.

Entertainment during the evening was provided by the Tech Glee Club, the Quartette, and Dwight Degnan with his orchestra. A special Football Edition of the California Tech was at every plate, so the large number of alumni present were well informed on football as it existed at Tech during the season.

Each year new oratorical prospects are uncovered at the Football Banquet as speeches of acceptance are made by members of the team as they are presented with Varsity sweaters in recognition of their valiant services. This year the most likely candidate was Bob Stein. The fifteen men who received Varsity sweaters were, Captain Holly Moyse, Fred Groat, Raymond Alderman, Harold Beck, Floyd Baker, Leroy Newcomb, Robert Stein, Frank Foster, Stewart Seymour, Martin Beeson, Jack Baker, Michael Brunner, Morris Goldsmith, William Herrington, and Roland Thomas. Raymond Alderman was elected captain of the team for next year, and with his leadership Tech should again have the Championship.

Don Morrell and LeRoy Dixon were responsible for the management of the most successful Football Banquet in Tech's history.





### PHAROS HOUSE-WARMING

To celebrate the acquirement of their new home on South Lake Avenue, the members of The Pharos were hosts to the members of the faculty and student body, and their friends, at an informal house-warming on December 7, 1923. In the afternoon tea was poured for the faculty and their wives, and for friends and relatives of the fraternity members.

In the evening the entire student body was invited. Doughnuts, "real" cider, cigars and cigarettes, plus numerous decks of cards, were the excuses for an enjoyable evening. This is the third year The Pharos have maintained a house. Their new home is advantageously located near the college, and was newly decorated and furnished for this year's occupancy.

### THE HOT RIVET

Shortly after the first hour classes were in session on the morning of January seventeenth, loud and piercing shrieks penetrated the peaceful atmosphere of Throop Hall. Upon an investigation of the disturbance, several men were seen to be madly racing up and down the corridors, wildly waving bloody red papers with glaring headlines clear across the page. Just as some members of the student body were preparing an attack on the suspected revolution, it was discovered that the glaring red sheet was the annual issue of the "Hot Rivet." Then the apparent reds were swamped by men eager to procure copies of the scandal sheet to see if their names were among the elite. It is rumored that several professors were severely injured in the early rush to obtain the sheets.

### JUNIOR CLASS DANCE

The Junior Class celebrated the first victory in basketball against Occidental this year by holding an informal dance in Culbertson Hall on Saturday evening, January 19. Dancing was rather late in starting due to the fact that nearly everyone was at the Pasadena Y. M. C. A. cheering the Tech team on to victory, but by 10 o'clock the dance was in full swing.

Good music, excellent punch and the spirit of the dance was the cause of the disappointment expressed by the members of the class and guests when the last dance was announced.

### SIGMA ALPHA PI CAMP BALDY PARTY

Twenty-two members of the Sigma Alpha Pi fraternity and their fair companions attended the Pomona basketball game at Pomona, Saturday, January 26, and after the game journeyed to Camp Baldy for their annual Baldy house party. A number of Alumni members joined the party at Camp Baldy, making about fifty-five in the full party.

Saturday evening was spent in dancing at the Camp Baldy Hotel. Sunday, several hiking parties went on trips to Ice House Canyon, Bear Flats, and San Antonio Canyon. About 3 o'clock in the afternoon, tired and hungry hikers came strolling in for dinner. Snow explorers were sadly disappointed, for only very small patches of snow could be found.

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### DUGOUT DEDICATION

Following the preliminary laying of the foundation by Dr. Millikan, the Dugout fireplace was formally dedicated on February 11. An impressive program welcomed this new institution to Tech student life. Entertainment was furnished by the Band and Glee Club and speeches were given by prominent members of the alumni, Faculty, and Student body. Fred Grcat spoke, recalling the need of a student center and prophesied a realization of the opportunities offered by such a splendid meeting place. The first fire was lighted by Captain Hinrichs and Dr. Macarthur.



### SENIOR HARD TIMES DANCE

On Friday, February 15, fifty members of the Senior Class completely cast aside every spark of dignity that they ever possessed and staged a hard times dance in the Dugout. The dance was unique in many ways. First, the Seniors had the honor of giving the first dance in the dugout; second, the make-up of some of our stately Seniors and professors was rare indeed; third, the "bar" was doing a rushing business in the presence of chaperons; fourth, but it is of no use to continue, for it is a long story.

### ANNUAL SOPHOMORE DANCE

On Thursday evening, February twenty-first, the Class of Twenty-six entertained the members of the student body at the Annual Sophomore Dance held at the Green Hotel. The Class of Twenty-six has a reputation of doing things right, and judging from the number in attendance, almost everyone at the Institute heartily believed in that reputation. To show they were original, the Sophomores presented beautiful leather programs to each couple as favors, marking the first appearance of such elaborate gifts at a class dance.

The scheme of decorations was decidedly patriotic and commemorative of Washington's Birthday. A number of the dances were heartily encored due to the extremely unique lighting features and the alluring strains of the Hollywoodland Orchestra. "Home Sweet Home" was played much too early for the two hundred couples that were present, but they accepted the verdict with pleasant thoughts of what the Class of Twenty-six will give next year.

### INTERFRATERNITY BALL

The most brilliant social event of the season was the Interfraternity Ball, held at the Huntington Hotel on Friday evening of the last week of the second term. The hosts were the Gnome Club, Sigma Alpha Pi fraternity, the Pharos, and Pi Alpha Tau fraternity. All thoughts of studies were cast aside and the 150 couples present entered into the spirit of gaiety that prevailed.

Competition was keen between the attraction of strolling among the beautiful gardens, lighted by the glittering full moon, and the bewitching strains of the nine-piece orchestra in the ballroom. Many couples were late for their dances, trying to enjoy both. Each fraternity man wore his fraternity flower, thereby distinguishing the various groups.

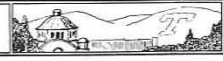
### GNOME CLUB SMOKER

The Gnome Club entertained members of the student body at its house on South Madison Avenue on Thursday, April 3. A large number were present, some playing cards, some getting much amusement out of a pingpong set, while other groups were discussing college events. A men's chorus was spontaneously formed, and with Noll at the piano and the help of several saxophones and a violin, the neighborhood was well serenaded. Apples and smokes were very much in abundance for those who cared to indulge.

All guests of the Gnome Club expressed their hearty appreciation of the club's hospitality.

### TAU BETA PI FORMAL

Approximately one hundred couples attended the second semi-annual formal dance given by the California Beta Chapter of Tau Beta Pi in Culbertson Hall, Saturday evening, April 5. The occasion was in honor of the Junior initiates. Entertainment for the evening was provided by the initiates in the form of a short playlet. It was cleverly staged and the parts well acted.



## Exhibit Day

Approximately two thousand people attended the exhibition of the buildings and laboratory equipment during the Exhibit days, Friday and Saturday, April eleventh and twelfth. Shortly after one o'clock Friday, visitors were being registered in Throop Hall by the Seniors and then escorted through the buildings by the Sophomores acting as guides. During the afternoon, many parties from the Southern California high schools visited the Institute as well as friends the relatives of Tech students.

All the departments conducted special demonstrations in addition to the regular routine laboratory work. The most spectacular displays were the electrical stunts in room 3T and the arc-over and corona discharges produced by high voltage in the Million Volt Laboratory. The operation of all apparatus in the Steam and Hydraulic Laboratories illustrated to the visitors that theoretical work must be supplemented by practical tests, in order that there may be a clear understanding of the fundamental principles of engineering. The usual fantastic attractions of the Chemistry Department interested many people and the synthetic punch was quite a curiosity.

The Military Parade and skirmish at Tournament Park Friday afternoon was an exhibition of the manner in which men are being prepared at Tech to serve their country in time of need. Immediately after the Parade, tea was served by the Faculty ladies in Culbertson Hall.

In the evening, many old grads were back to see the advancement made in the various departments since they graduated. The Alumni Banquet held in the Dugout was well attended and past days were contrasted with the present conditions by the "old-timers." Even the most recent graduates found numerous changes and additions to the campus since they left.

Culbertson Hall was taxed to its capacity Friday evening with people eager to hear Dr. Millikan's lecture on "The California Institute of Technology." His excellent discourse was enthusiastically received by the audience and served in every way to better the impression which the visitors carried away with them. Preceding his address, the Band and Glee Club rendered several selections.

The Exhibit was continued Saturday morning and lasted until one o'clock. The demolition of a military bridge on the campus by TNT provided a very spectacular part of the morning's program. In the afternoon, many visitors were present at the Cal Tech vs. U.C.L.A. baseball game at Tournament Park.

And so the most successful Exhibit in Tech's history has past. It served to let the people of Southern California know something of the work that is being carried on at Tech.



### PI ALPHA TAU HOUSE PARTY

A large party of Pi Alpha Tau members and their friends enjoyed a stag house party at Balboa Beach over the week-end of May 3 and 4. The time was joyously spent in swimming, playing ball and dancing, with a bit of dish-washing thrown in a couple of times a day. Sunburns, sore arms and good fellowship were plentiful.

### VARSITY CLUB DANCE

The Vista Del Arroyo lobby was the scene of much merrymaking during the Varsity Club Dance, Saturday evening, May twenty-fourth. During the year many athletes are compelled to miss some of the big functions of the season because of the training periods, but this date was convenient for all members of the Varsity Club to act as hosts. It was quite interesting to see how well some of Tech's most bashful and blushing athletes entertained their guests. About one hundred and fifty couples enjoyed the Club's hospitality. The music was exceptionally good and the punch was frequently visited during the evening.

### DITCH DAY

One morning the early comers to the Institute saw a very elaborate proclamation in front of the student body office. Upon close investigation it revealed the fact that the Senior Class had defied all authority and had declared this a holiday, for their own use, without dictation from anyone whomsoever.

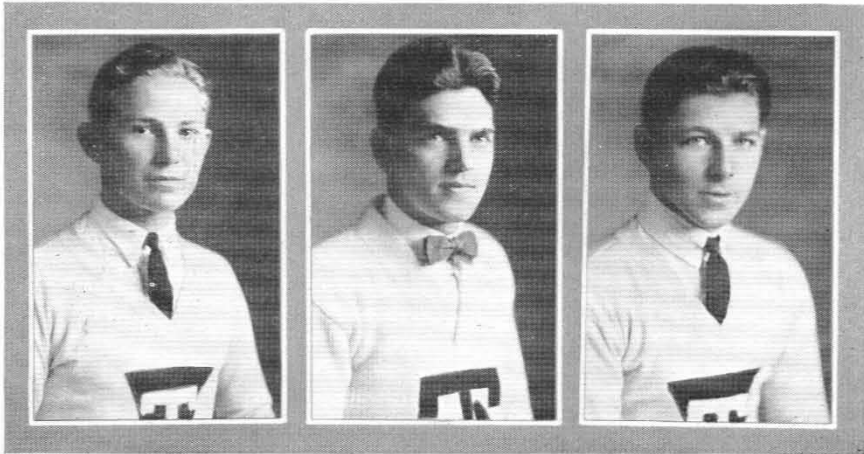
All this meant that the Seniors were observing the old traditional "Ditch Day." The Seniors held such an air of secrecy over their dance and "Ditch Day" that it was impossible to obtain any particulars, but it is probable that they decided that classes were an unnecessary evil after an evening of pleasure and just naturally ditched.

### EMANCIPATION DAY

At the close of the school year, in obedience to a custom inaugurated by the Frosh of Twenty-four, the Frosh of Twenty-seven participated in demonstrations expressing their emancipation from the wearing of the green. This is the event to which all the "greenies" look forward; the day when they cast aside their distinguishing marks of inferiority and assume equal rights with the men of the college.

Impressive ceremonies conducted on the front steps of the Throop Hall marked the formal emancipation and there followed scenes designed to impress the onlookers with the new change of order. The green visors adorning their heads were cast into a bonfire arranged for that purpose and a serpentine of the emancipated proceeded to violate all the traditions which had kept them in insignificance throughout the year. Though a few near riots were precipitated, destruction or undue violence was entirely lacking, thereby lending assurance to the continuance of a worthy custom.





COLEMAN

HENDERSON

WEIGAND

# Yells

C. I. T.  
 C. I. T. rah! rah.  
 C. I. T. rah! rah.  
 Hoo-rah, hoo-rah,  
 California Tech, Rah!

LOCOMOTIVE  
 Motors, Bridges, Bevel Gears  
 C. I. T. Engineers,  
 (Repeat three times)  
 (Whistle) Boom! Ah,  
 Tech! Rah!

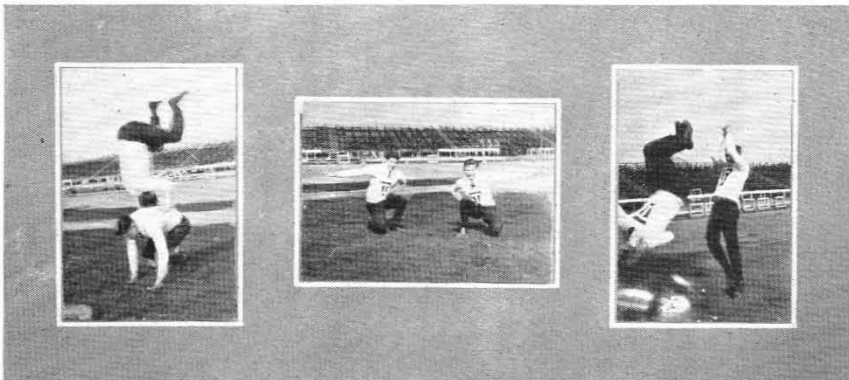
ECHO YELL  
 Whooooo Rah!!!!  
 Whooooo Rah!!!!  
 California Tech  
 Rah!!!

LOCOMOTIVE  
 B-E-A-V-E-R-S,  
 B-E-A-V-E-R-S,  
 B-E-A-V-E-R-S (faster)  
 California Tech Beavers!

KISSKAZEE  
 Kisskazee, Kisskazahoo!  
 Hackawee, Hackawahoo!  
 Siyi, Kiyi, California iyi,  
 Siyee, Kiyee, Teka-Teka-  
 Tee-Tee  
 Kisskazee, Kisskazahoo!  
 Teka Tee, Teka-Tahoo!

CALIFORNIA TECH  
 California Tech,  
 California Tech,  
 C-A-L-I-F-O-R-N-I-A  
 T-E-C-H  
 TECH!

GET 'EM BEAVERS  
 Get 'em Beavers!  
 Get 'em Beavers!  
 Tear 'em! Scratch 'em!  
 Mash 'em Bite 'em!  
 Go get 'em Beavers!





## Songs

### HAIL C. I. T.

(Words and Music by  
Manton M. Barnes, '21)

In Southern California, with grace  
and splendor bound,  
Where the lofty mountain peaks look  
down to lands beyond;  
Proudly stands our Alma Mater, glo-  
rious to see,  
We raise our voices hailing, hailing,  
hailing thee.  
Echoes ringing, while we're singing,  
over land and sea,  
The halls of fame resound thy name,  
Noble C. I. T.

### "FIGHT, MEN"

(Words and Music by  
Manton M. Barnes, '21)

Fight, men, for California Tech,  
Fight, fight, and win;  
Win, men, for California Tech,  
Rush the foe again:  
Rah! Rah! Rah!  
Smash the line of our old enemy,  
Bring home the victory,  
Fight, men, for California Tech  
For Noble C. I. T.

### MARCHING SONG

(Words by Walter W. Ogier, Jr., '18)  
Music—"Stars and Stripes" - - Sousa  
Come, men, we are off to the fray,  
With the fight and the skill of the  
Beaver,  
The glory of vict'ry today  
Must be won with force and pow'r.  
The Tech spirit shall be our guide,  
It is formed to unceasing endeavor.  
We pledge, and to pledge we abide.  
With all our might, throughout the  
fight  
We stand together.

### SUSANNA

(Words by Walter W. Ogier, Jr., '18)

#### I

I left my gal behind me  
And she surely did feel sad,  
But she wanted me to get some sense  
For I needed it most bad.  
So I pulled the choke and cranked the  
bus,  
Headed Westward 'cross the plain,  
Until I struck California Street  
And here I've staked my claim.

#### Chorus

Oh, Susanna,  
Don't you cry for me,  
For I'm out at California Tech  
With a slide rule on my knee.

#### II

The ex'es they were something fierce,  
The grades they were a crime,  
They sold me a whole box of books,  
And left me but a dime.  
But the men are all the best of scouts,  
We are a jolly band,  
And I'm glad I'm here at dear old  
Tech,  
The best in all the land.

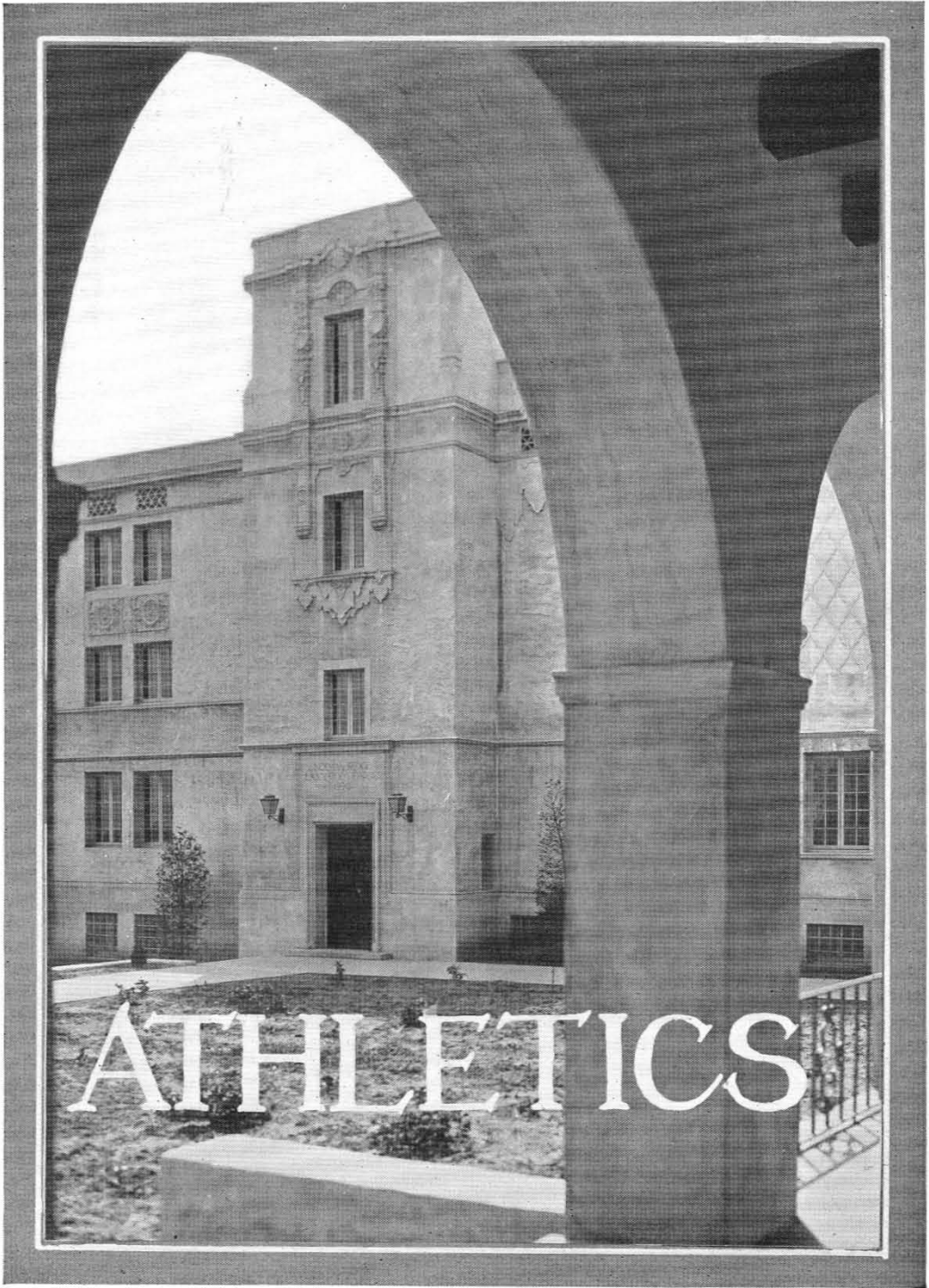
### THE BEAVER

(Words and Music by  
Manton M. Barnes, '21)

Stand up and cheer;  
The Beaver marches down the field.  
The fighting Beaver, fighting path-  
ways clear,  
Breaking through where the foemen  
yield.  
Strong in the fight,  
Marching on to victory,  
With courage go, across the foe,  
And win for C. I. T.

## Walter W. Ogier, Jr.

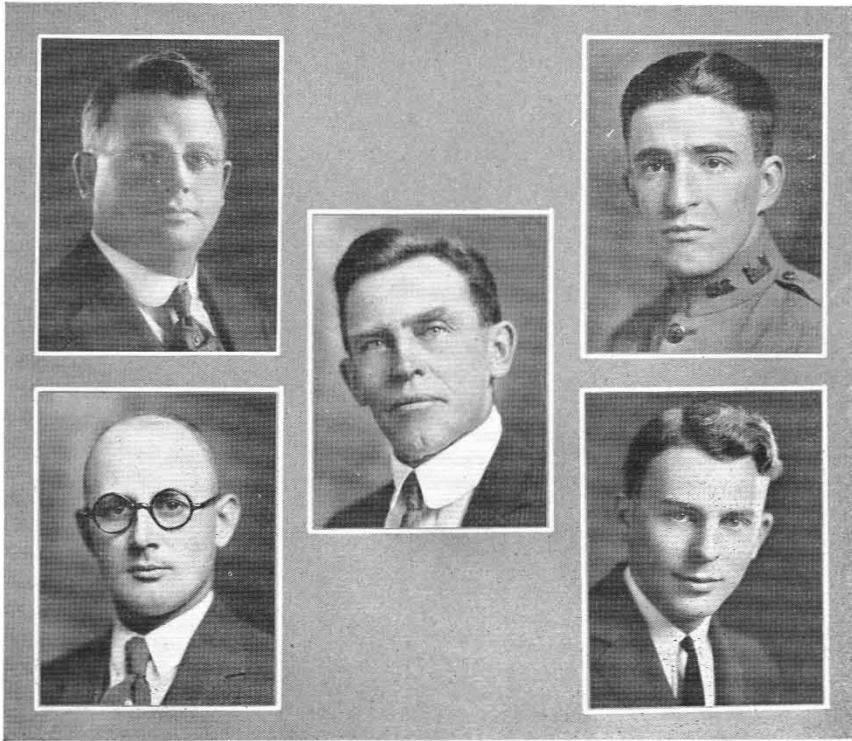
The success that has attended our student body singing this year, both in assemblies and at the athletic contests, has been due entirely to the inspiration and effort of "Walt". Thanks to him we now have a worth-while repertoire of tuneful songs as well as our stirring college songs. "Walt" furnishes an example of the good that may accrue to an institution through the interest taken by its grads in its development.



*One Hundred Forty-seven*



BIG "T" 1924



SORENSEN

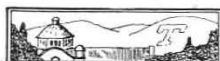
KRAMER

STANTON

MUSSELMAN

MORRELL

The Men Who Are Responsible  
for Our  
Athletic Program



## The Athletic Year

It is an old but sadly true story of the non-athletic type of man which Tech draws to its doors. In spite of this, Tech has gradually built up a reputation for fight, spirit, and clean sportsmanship. In the far past Tech had perhaps its share of "huskies," but, with the advent of the new scholastic standards, the natural-born athletes entering the college decrease in numbers each year.

It is truly fortunate that three years ago the Institute was able to secure "Fox" Stanton to coach football and track and to supervise physical education in general. When we observe particularly the Frosh of this year, we see the extreme necessity of building up these men physically. There is no better method than participating in the sports in season. It is pleasing to see that even though the athletic temper is decreasing, the enthusiasm to take part in and support athletic teams is increasing. Consequently, there is no fear to be expressed for Tech on the athletic field in the coming years.

This is the greatest year in the history of football at Tech. When Stanton came to Tech, he began to build up a system of plays that have since baffled the Conference colleges. Last year at the Football Banquet, Coach Stanton stated that this year Tech would be out to win. That is just what happened. For the first time in the history of football at Caltech her two old enemies, Oxy and Pomona, were beaten, each to the score of 13 to 6. Tech's was undoubtedly the strongest team in the Conference, scoring 119 points to her opponents 26, which is a good 30 point lead over Pomona, the next strongest. The season ended in a tie between Tech and Pomona, and due to a Conference ruling, Pomona has been permitted to retain the cup from last year.

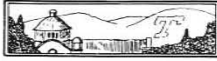
In basketball, the competition was very strong and the season ended with Tech holding fifth place.

Track proved to be more successful, Tech winning two out of the four Conference College meets and holding third place for the title. The season was successful in that there was evidenced a development of good material for next year's team. The Frosh won the Freshman relay cup.

Tech is showing up fine in baseball again this year. Several years Tech has tied for the title of the Conference but never has had a clear title. Although the dope is rather upset in the games thus far, a little conservative optimism will predict at least another tie with U.C.L.A. for this year's title.

Tech has showed up fine in minor sports this year. The swimming team again won the Conference championship. This gives Caltech the Conference title for the fifth consecutive time. The tennis team won two of its five games, placing Tech fourth in the Conference. The Frosh also placed fourth in tennis.

Athletics at Tech have continued to develop in the past years until now there is no sport in which Tech must not be reckoned with. This year the spirit was raised especially high by our winning football team and it is hoped that even more success in all sports will be realized next year.



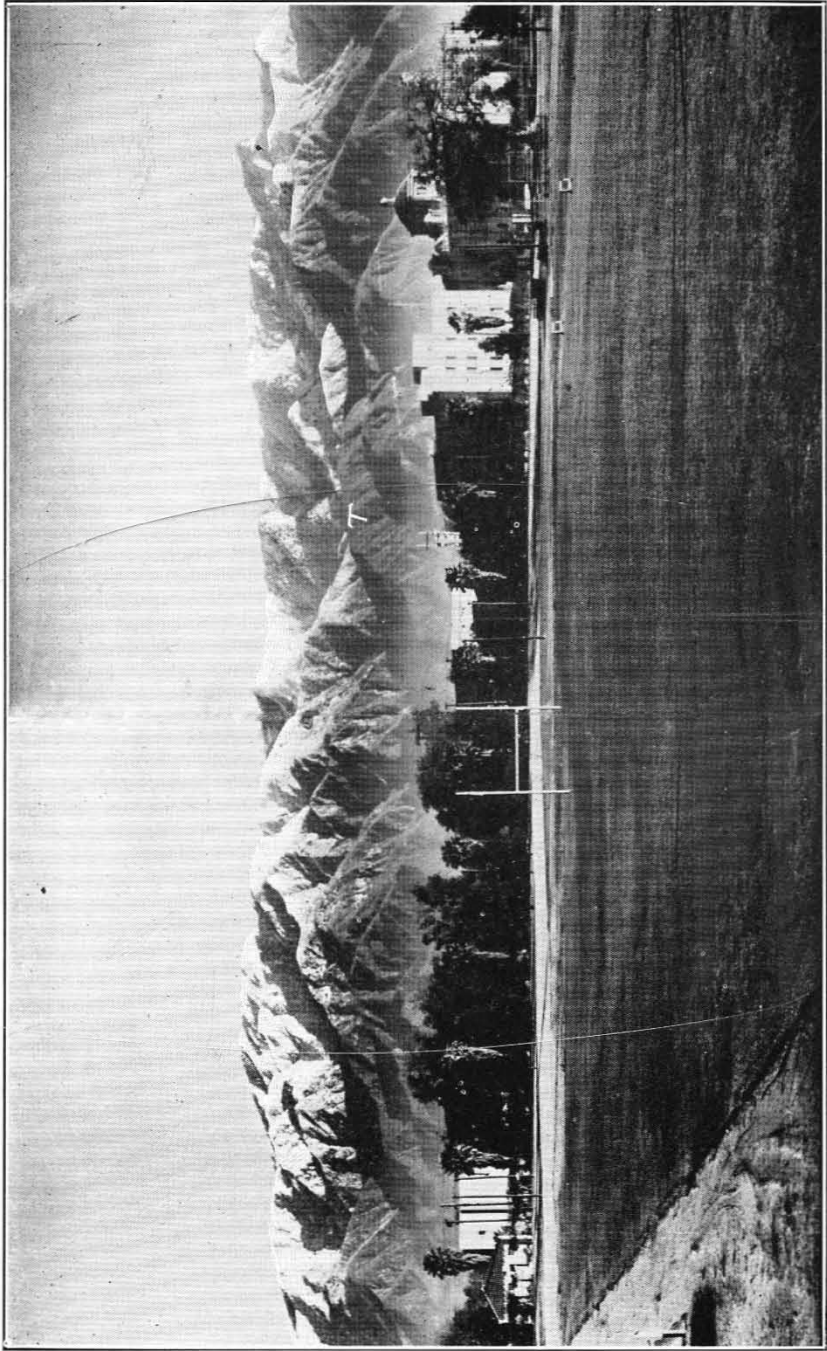
Coach Stanton

To take a football team that has been waltzing around the cellar door for many moons, and in three years of hard consistent work build up a squad that has cleaned up the Southern California Conference, is a man sized job, and yet our own Fox Stanton did it. Fox Stanton has coached Pomona and Occidental, and we always suffered defeat at their hands. Yet, it was a different story after Coach Stanton had gotten his system of coaching and plays injected into the California Tech squad.

Coach Stanton is a man's man, and every player on the squad realizes it. It is a pleasure to work under such a man. Fox Stanton has grown up with the game of football, and now, although he is well along in years, he has a football brain that cannot be equalled on the Pacific Coast.

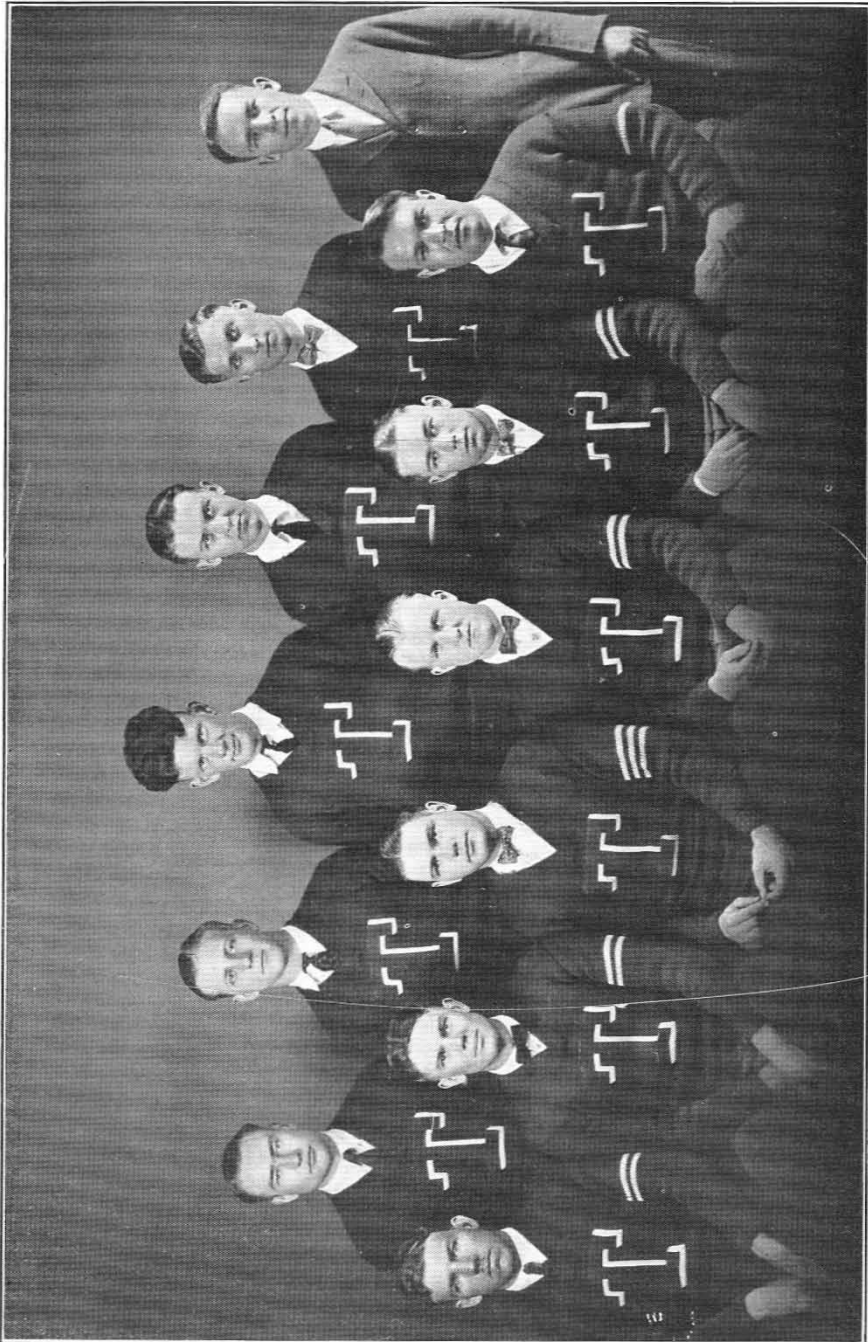
There is not a California Tech man who will ever forget the supreme joy of beating Pomona the first time in years, or the still greater ordeal when our team pulled up from the rear and finally ground Occidental and her fast ends into the turf at the Rose Bowl on Armistice Day with a 13 to 6 score. Our first victory over Oxy. Our thanks and appreciation to you, Coach Stanton, and may you and your men follow through with the same drive in the coming seasons.

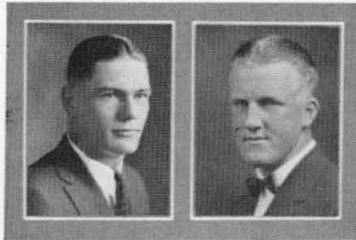






BIG "T" 1924





CAPTAIN  
MOYSES

CAPTAIN-ELECT  
ALDERMAN

## The Season

Of all the college sports, football stands first in exhibiting, in a type, true American spirit. When we have witnessed hard contested football games, we realize the truth of this statement, for football is sharp, short, scientific, intense, no loitering by the road, little enjoyment in the process, no favor, no quarter, but a fight to the death with victory as the end, and everything else as the means. There is no sport which so arouses enthusiasm and creates such interest. There is no sport which brings as much benefit to the player as a clean, hard game of football. And so we look forward each year to the football season.

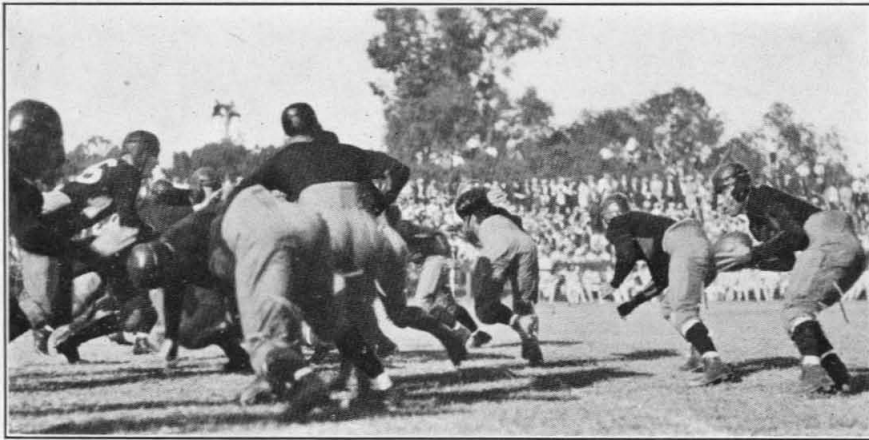
Since Stanton has been coaching football at Caltech, the scientific possibilities of the game have been developed to the limit by the Engineers. Up to this season, Tech had not been able to fully realize this. This season a complete scouting system was organized and every play of importance which all the Conference teams used throughout the season in their games was rehearsed in practice by the Beaver squad, and a scientific defense was prepared by Coach Stanton. Also, this was the first season in which Caltech has developed an offense which was powerful. In the past three or four years Caltech had begun to be recognized as a dangerous contender for the title, and this season both Pomona and Occidental colleges were defeated for the first time by the Engineers. The blotch of the Whittier game does not dim the glory of the victory over Tech's old enemies, Pomona and Oxy.



## Games

### U. S. C. GAME

The first game of the season for Tech was played at Bovard Field after only one week of practice. It was at this game that Caltech was marked as one of the dangerous contenders for this season's title. Tech rooters were very pleasantly surprised at the results of this game, for all remembered the U. S. C. game two years before. This year the wonderful defensive work of the Beaver line held the U. S. C. powerful scoring machine, which later in the season crossed California's line, to only three touchdowns. Groat at half and Herrington at end were the outstanding stars of the day. Groat's passing and kicking amazed the onlookers. A Beaver aerial attack in the last period completely baffled the Trojan backfield and a pass, Groat to Moyse, carried the ball over for Tech's only touchdown. The game ended with the score of 18 to 7 in favor of U. S. C.



### U.S.S. CALIFORNIA

Saturday following the U.S.C. game, Tech met the gobs of the U.S.S. California at Tournament Park. This was the best aggregation on any single ship in the Pacific Fleet, having four All-Fleet team men. The tars were hard players, but good sportsmanship was in evidence throughout the game. The Beaver offense could not penetrate the sailor line, and the powerful scoring machine of the gunboat's men was held to zero score until the final period, when, by a series of determined bucks and runs, the gobs pushed the ball over for their only score.

Conaty, the plunging half of the sailor team, was the star of the day. He could always be counted upon for yards through the line or around the end.

The results of the game were very pleasing, for with Capt. Moyse and Freddie Groat out of the line-up, the Beaver squad worked well and proved that the spirit of the team could be kept high with some of the best men out. The game ended with a score of 7 to 0 in favor of the gobs.



### WHITTIER GAME

To have a team which is inferior in every department of the game win by following the ball and taking advantage of the breaks, which Caltech never failed to make at a crucial moment, is not pleasant. In the first half, Whittier made only about three yards from scrimmage, while Tech made first downs time and again only to lose the ball on fumbles. In the second half the Poets scored 2 points on a safety. Tech became desperate and tried to score in the last few minutes on passes, but Whittier intercepted a lateral pass and scored a touchdown. The game ended 8 to 0 in favor of the Quakers.



### POMONA GAME

The Caltech squad was mad clear through over the defeat they suffered at Whittier and they went into the Pomona game with a determination to win. The Beavers hit the line fast and hard from the first whistle and completely swept the Pomona eleven off their feet in the first five minutes by recovering a fumble by Merrit of Pomona on the kick-off and with bucks and runs carried the ball to the fifteen yard line. A beautiful tackle-round play by Moyse netted ten yards, which was followed by a center buck by Alderman, and the ball was across the line for a touchdown. Groat failed to convert.

The Beavers learned their lesson well at Whittier and successfully followed the ball throughout this game. At the beginning of the second quarter, a pass, Groat to Goldsmith, placed the ball on Pomona's 9 yard line. Groat then went through tackle for the second touchdown and converted. In the second half, the Sagehens came back with lots of fight. They had not been beaten by Caltech for years. They fought hard and completed many passes, Bell to Merrit. Their aerial attack netted them many first downs in the final period and one touchdown, but the Sagehens could not overcome the lead which Tech piled up by hard running football in the first half. This victory, 13 to 6, started the Engineers towards the Conference championship.



## BIG "T" 1924



### U. S. S. NEW YORK GAME

This game showed that the Pomona game was not won on breaks. In the first half the Engineers scored a touchdown on the far heavier Navy team and held the "gobs" to a zero score. The Beavers made consistent gains through the sailors' line and completed several short passes. Foster replaced Groat, whose knee was injured in the first few minutes of play. A pass, Foster to Goldsmith, immediately following the substitution, carried the ball across the Navy line. Foster converted. Twice in the first half the Beaver line showed its metal by holding for downs when backed against the goal. The first half ended with the score 7 to 0 in favor of Caltech.

The entire second team upheld the honor of Tech throughout the second half. This light and inexperienced team could not resist the onslaught of the "gobs" and the big Navy plungers made yards at will, piling up five touchdowns.



### REDLANDS GAME

The Beaver eleven showed power in this game at hard, running football. Groat was not playing, due to his injured knee, but his place as punter and passer was well filled by Foster. Goldsmith came through with the goods in this game and made many gains running back punts and bucking the line. Also his defensive work in breaking up Bulldog passes was most commendable. Alderman at full-back made consistent gains through the line and carried the ball over for three touchdowns.

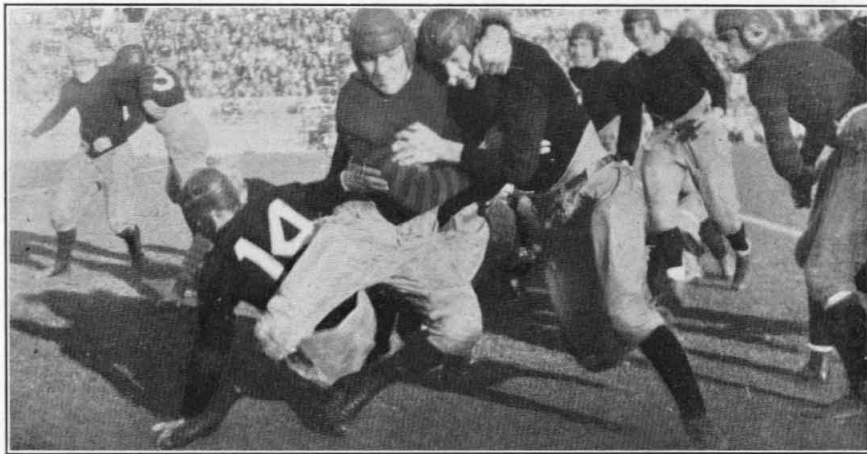
In the second half, Redlands, seeing that the Beaver line could not be successfully rushed, opened up on passes. It looked as though the Bulldogs would score, but the Engineer backfield buckled down and successfully broke up this aerial attack. Goldsmith intercepted a pass and ran 35 yards for a touchdown. This was followed by bucks from the Beavers which resulted in another touchdown. The game ended 34 to 0 in favor of Tech.





## OXY GAME

This was the greatest game in the history of football at Caltech. For the first time the Engineers succeeded in defeating their old enemy at football. In the first quarter all did not look well for Tech. The players were on edge, because they knew they had the superior team and because they knew that Oxy had beaten superior Tech teams before. Both teams were playing a kicking game, with the Engineers fumbling and Oxy recovering. Neither team showed any driving offense. The second quarter was not much improvement, but on several occasions the Beavers made substantial gains. Bob Stein and "Stew" Seymour were very much in evidence in the first half. The Beavers rushed the ball to Oxy's fifteen-yard line, but a fumble gave the ball to Oxy. The half ended with no scores.



The first minute of the second half was very depressing to Tech rooters. Ebers, Oxy half, caught the kick-off and ran about 90 yards for a touchdown. Now the Oxy team and bleachers bristled with confidence. They thought the game was on ice. But they failed to consider the Tech spirit. At the beginning of the fourth period, the Beavers began to show some real football. The backs plunged for yards at a time. The team was wonderfully directed. By a series of bucks passes and runs, the ball was placed on Oxy's one-yard line. Alderman carried it over. Groat failed to convert and the score was a tie, 6 to 6, with only four minutes to play. Tech met the occasion. The ball was rushed again to Oxy's fifteen-yard line and a pass, Groat to Alderman, scored. Groat converted and the game ended 13 to 6 in favor of Tech.



INDIAN GAME

Only thirteen second team men went to Riverside to uphold the honors of Caltech at this game. With only two subs, "Doc," and the coach, the second team came through with the goods. In the first half Tech scored and converted, making the score 7 to 0. No changes occurred during the second half, although on several occasions the Redskins almost succeeded in crossing the line.

U. C. L. A. GAME

This game showed conclusively that Caltech's was the strongest team in the Conference. The Beavers started with the first whistle. A line buck by Alderman, following the kick-off, netted some thirty yards; a second buck accomplished about the same, and within a few minutes Tech scored. Shortly after this Tech fumbled and a Cub player ran for a touchdown. The Beavers rallied quickly and secured four more touchdowns before the half ended. The Cubs showed one good point, they held strongly when against their own goal line. Several times it required three or four plunges by Alderman to cross the line. The score in the first half was 34 to 6 for the Engineers.

The Beaver aerial attack in the second half made large and consistent gains and the defense was perfect. Poor headwork made what few gains the Cubs secured useless. The Engineers scored four times in the third period. The Beaver second team played the fourth quarter and succeeded in holding the advantage over the Branch, although they failed to score.

This was a great game for the Seniors. Even Tommy Thomas, a line man, snagged a pass and ran for a touchdown. On one occasion, if Beck had been just a little lighter, he would have made a touchdown on an intercepted pass. The game ended with the one-sided score of 59 to 6 in favor of the Beavers.

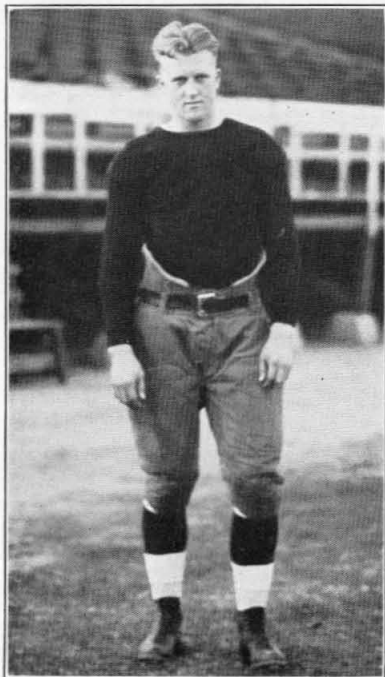
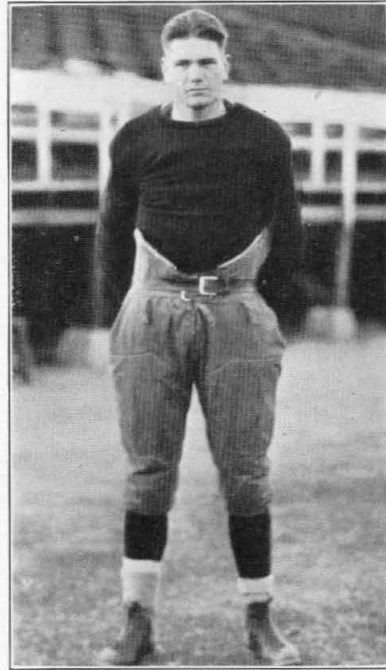
CONFERENCE STANDINGS

	Won	Lost	Pct.
CALTECH .....	4	1	.800
Pomona .....	4	1	.800
Occidental .....	3	2	.600
Whittier .....	2	3	.400
Redlands .....	2	3	.400
U. C. L. A.....	0	5	.000



## The Varsity Squad

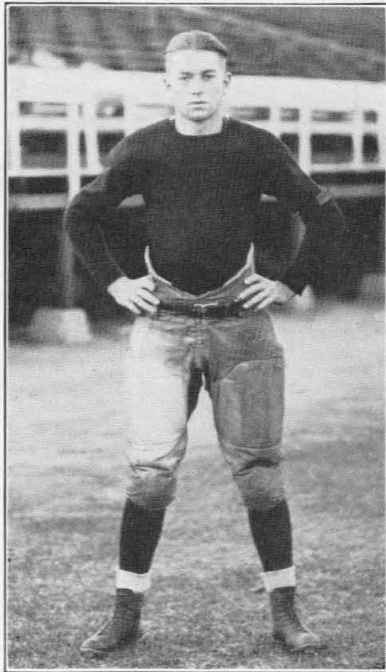
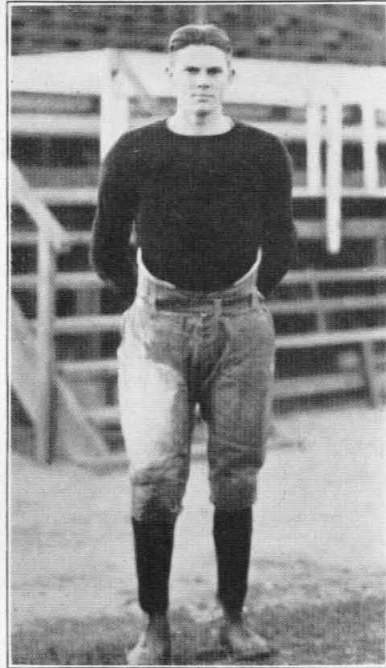
**CAPTAIN HOLLIS "HOLLY" MOYSE:** "Holly" realized the fulfillment of his desires this year in leading the team to victory. "Holly" has played three years on the Varsity at left tackle. He was also captain of the strongest Frosh team that Tech has ever had. It will be difficult to get another "stone wall" to take "Holly's" place next year. "Holly" was an excellent leader and kept the spirit of the team very high.



**CAPTAIN-ELECT RAYMOND "HORSEY" ALDERMAN:** Last year as a Sophomore, "Horsey" played in the line, but this year he did noble work as full-back. His speed and weight are great assets to him and although it took "Horsey" some time to get used to the backfield, he did well toward the end of the season. A great deal is expected of Alderman next year as plunger and Captain of the team. Here's for another championship team.



FRED "FREDDIE" GROAT: Fred has been the star of the backfield for two years, due to illness he could not play in his Sophomore year. His passing ability has never been surpassed in the Conference and his punting was always a feature in every game. He was always a good ground gainer carrying the ball. Fred's graduation this year leaves a great vacancy in the backfield.

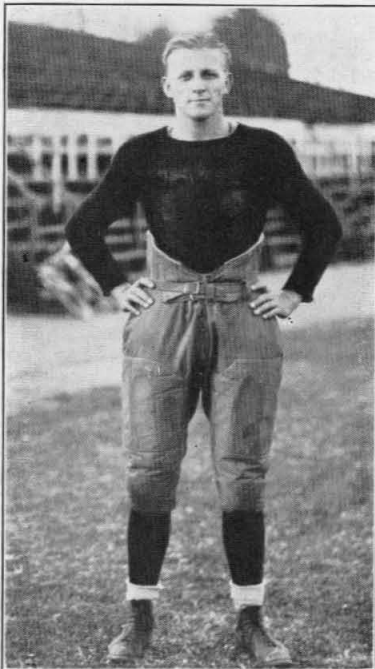
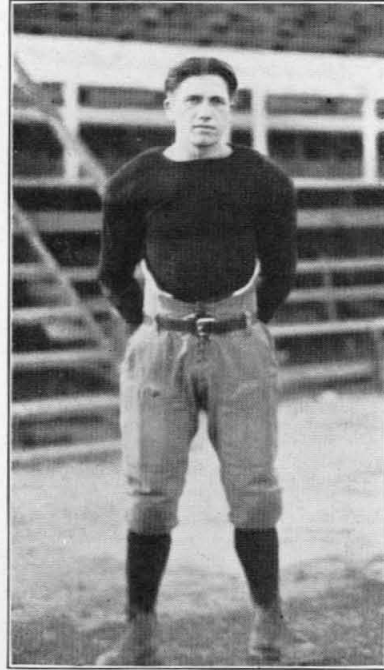


FRANK "STUPE" FOSTER: "Stupe" has made his letter two years. He is a great utility man and can do justice to any backfield position. His punting ability will even surpass "Freddie's," and he will undoubtedly carry on next year as Tech's punter and passer. Frank is a Junior and his consistent playing will add much to next year's team.





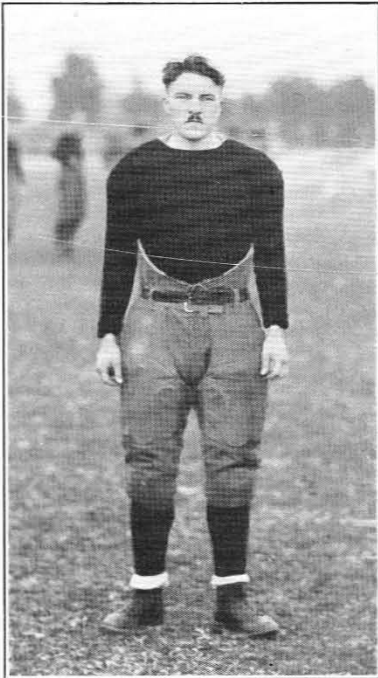
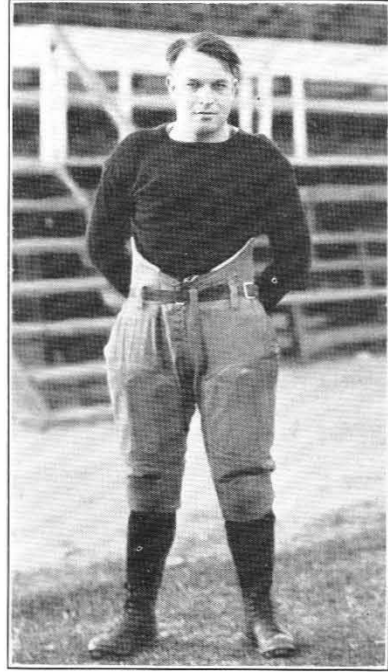
MORRIS "MORRY" GOLDSMITH:  
"Morry" has for three years been the Varsity quarterback. He has acquired considerable skill at this position and never failed to choose his plays wisely. Although he is small, "Morry" can carry the ball, and his backfield work at breaking up passes has been a feature in the games. This is "Morry's" last year.



JACK "BULLET" BAKER: Jack is only a Sophomore and will be on hand next year. He played right half this season and was perhaps the most consistent ground gainer on the team. Jack has speed, weight and fight in good proportion and will be a strong man in the backfield next year.

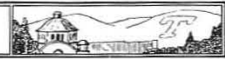


ROLAND "TOMMY" THOMAS: This is "Tommy's" first year as a letterman at Tech. He could not play as a Sophomore because he was a transfer, and due to a severe injury of his knee as a Junior he could not complete the season as full-back. This year "Tommy" played in the line as offensive guard and defensive roving center. "Tommy" backed up the line remarkably well, and it will be difficult to get a man next year to take his place.

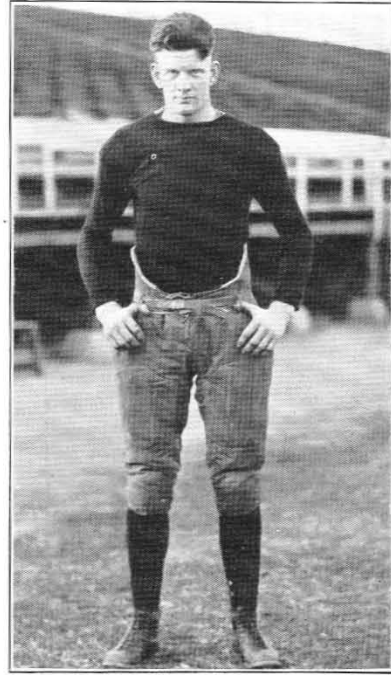


WILLIAM "BILL" HERRINGTON: This is "Bill's" first year on the Varsity, but he is only a Sophomore and has two years to go. "Bill" certainly held down his end of the line. He played right end and was always in the thick of the fight and was down on every punt.





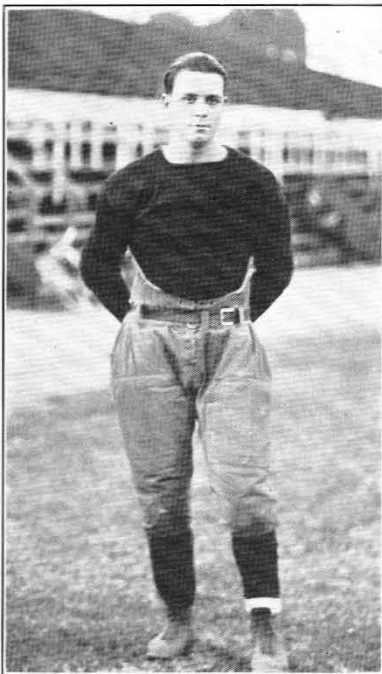
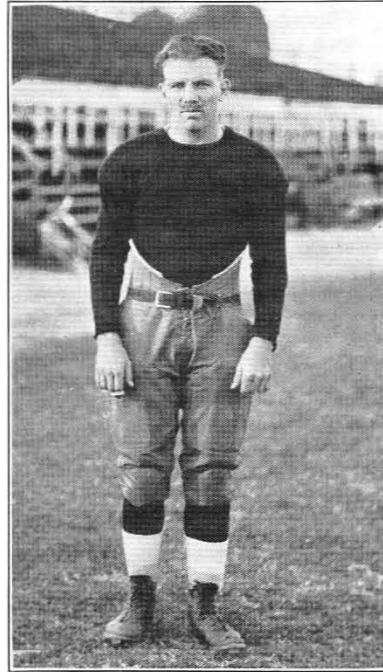
ROBERT "BOB" STEIN: "Bob" is only a Sophomore, but his 200 pounds of beef was a wonderful asset to the strongest team in the Conference. "Bob" played right tackle this year and was always in evidence charging into his opponents. With this pair, "Bob" and "Holly," at tackles, the line was invincible. "Bob" will be the nucleus of the line next year.



LEROY "NEWK" NEWCOMB: This is "Newk's" first year on the Varsity. He was the fastest man on the team and his work at end was commendable. "Newk" has plenty of fight and real ability and has delivered the goods. He is a Junior and will be back next year.



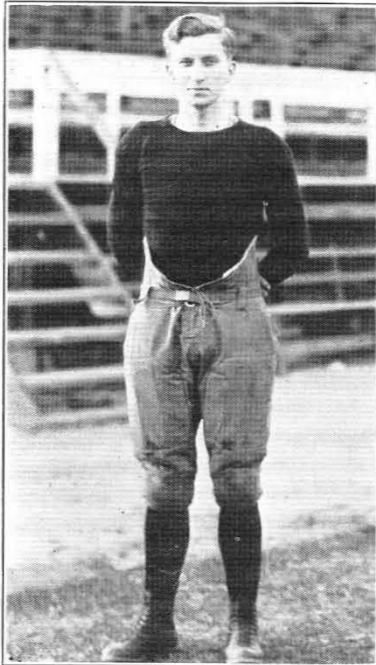
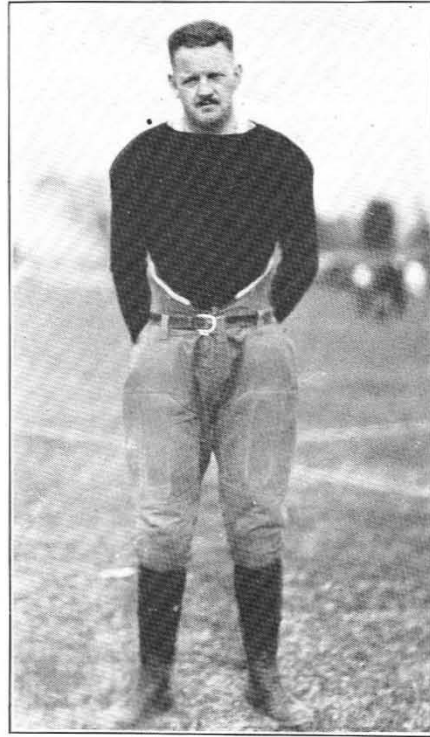
MARTIN "SHORTY" BEESON:  
"Shorty" is a two-striper. He played on the frosh team, and in his sophomore year was a sensation at full-back, acquiring the name of "Ploughboy Beeson" for his wonderful plunging ability. An appendicitis operation kept "Shorty" out of his junior year, but this season he came back despite his low physical condition. His tactics on defense have put fear into the hearts of many Conference backs.



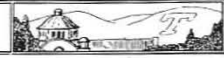
FLOYD "FAT" BAKER: This is Floyd's first year on the Varsity, although he is a Senior. His playing at left guard was above par and he will surely be missed next year.



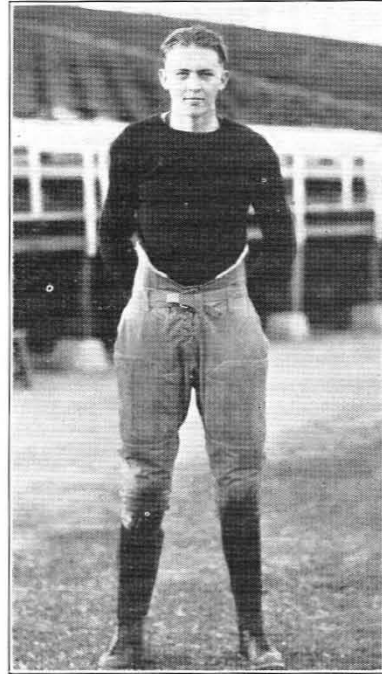
HAROLD "HAL" BECK: "Hal" has been the Varsity center for three years and has certainly been a bulwark in the line. The morale of the team depends greatly upon the coolness and steadiness of the center. "Hal" is a big man with lots of ginger and fight and this is the hardest combination to buck. It is going to be more than difficult to fill the vacancy "Hal" leaves next year.



MICHAEL "MIKE" BRUNNER: "Mike" has played Varsity left end for two seasons. "Mike" is a good example of a fighter. Fight is essential to football and "Mike" puts all he has into the game and delivers the goods. "Mike" is a Junior and will be back next season to hold down his end of the line.



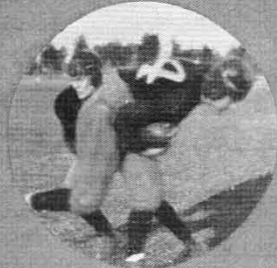
STUART "STEW" SEYMOUR:  
"Stew" is a Junior and has had two years Varsity experience at guard. He is long and "stringy" but full of charging spirit. To his elbows must be given the credit for many busted noses. "Stew" will be back next year to take his place in the line.



JOHN "JACK" MAURER: "Jack" "did his stuff" this year as the football manager. This is a difficult job, requiring tact and energy, but "Jack" always kept the team supplied and provided transportation to the out-of-town games.



BIG "T" 1924



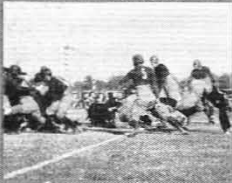
Action-



Morry gets a pass



Working a covey of Sage Hens



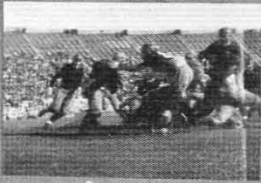
Sage Hens.



Touch down on So. Berkley.



Fred and his famous leg.



Oxy-



U. S. C.



Bovand Field



Poor Dummy



## The Second Team



BEED

HENDERSON

JOHNSON

HELMS

BRYANT

BEED

## The Season

The second team men deserve much credit for the success of the Varsity this year in turning out a championship team. These men were out for practice every night and fought hard without much glory. Many of them played creditably in Conference games and deserve special mention. Anderson all but made a letter and Helms, Hill and Copeland got into many struggles. This team upheld the honors of Tech very successfully at Riverside against the Sherman Indians, defeating them to the score of 7 to 0.

Nearly all of these men are underclassmen and will undoubtedly have many other chances to play varsity football before they graduate.

Insignia winners are: Anderson, S. Beed, C. Beed, Bryant, Copeland, Hill, Helms, Henderson, R. Heilbron, Johnson, Moody.



HILL

COPELAND

HEILBRON

ANDERSON

MOODY





## Scrubs



The scrub team is made up of men with little or no football experience, but with lots of fight and spirit. Despite the knocks and bruises which they received, they came out night after night scrimmaging, first the Varsity, and then the second team. To these men goes a great deal of credit for turning out the strongest team in the Conference.

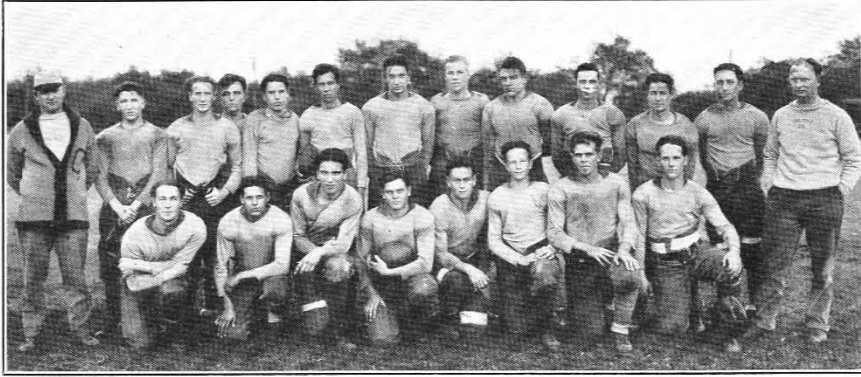
Squires was the nucleus of this team and at the football banquet, when Coach Kramer called for a vote for captain, he was unanimously elected by the popular acclaim of the Scrub team.

Insignia winners are: Austin, Atherton, Ball, Fulwider, Griswold, Hayward, C. Heilbron, Hastings, W. Jones, Leavitt, Moore, Parker, Pope, Squires (Captain), and Templin.



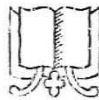


## Freshman Football Squad



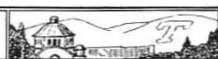
This season there was a good turnout for Frosh football. Coach Musselman is handicapped in that this college does not draw the best athletes from the high schools. We do say that things look favorable, however, if the Frosh are willing to come out and learn. This year there were always enough Frosh to make two teams, and this is exceptional. Few of these men have had football experience, and they lack the team work which is the product of practice together. But they showed fight, which is the prime requisite of a football player, and many of these men evidenced that they will develop into good, consistent players for the Varsity in their coming years at Tech.

Numeral winners are: Stanton (captain), Jones, Nickell, Cloyes, Logan, Metz, Powers, Murai, Ward, Russell, Whittington, Capon and Jackson.

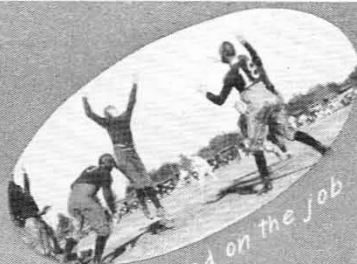




BIG "T" 1924



*U.S.C. with ball*



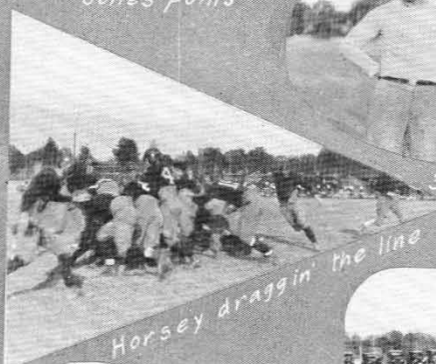
*Fred on the job*



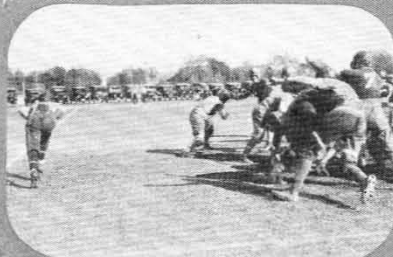
*Jones punts*



*3 That got there*



*Horsey draggin' the line*



*Doing a sneak*



*Beat it-*



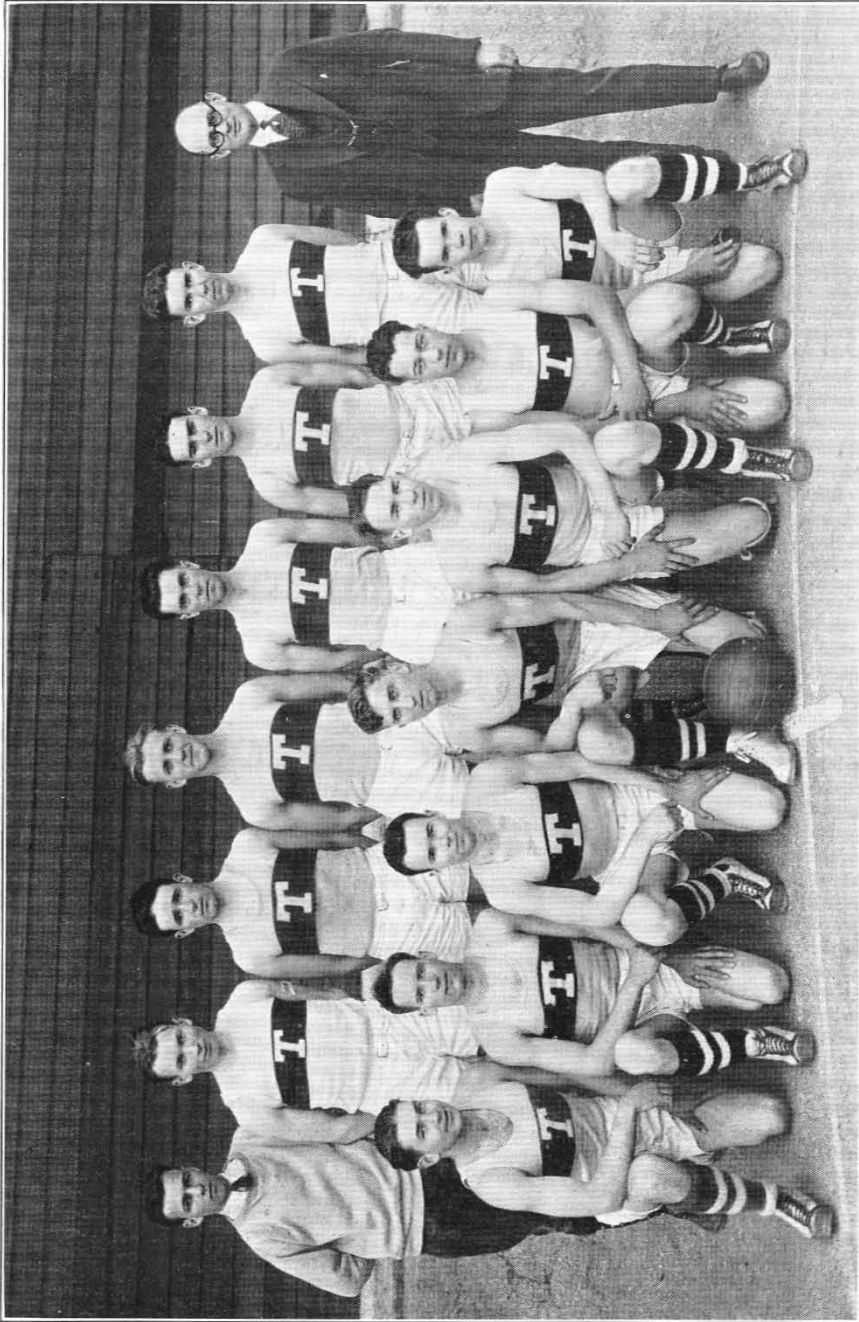
*Signals!*

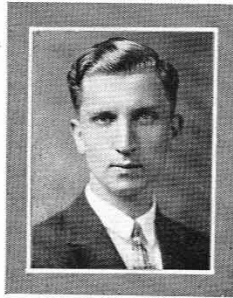


*Touching S.B. down*



BIG "T" 1924





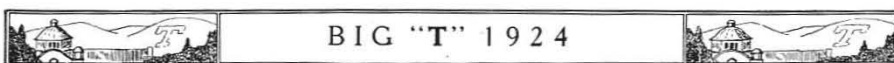
CAPTAIN BRUNNER

## Varsity

Caltech finished the season with fifth place in the Southern California Conference. Although this position is not a prominent one, the season was most successful. The opening of the 1923-24 basketball season found four lettermen, Captain Brunner, Smith, Maltby, and Schaffer, back to form the nucleus of the team. To aid them were several members of last year's Frosh team.

Although the material with which Coach Musselman worked was capable and conscientious, it was some time before he was able to find a combination which worked to the best advantage in both offense and defense. As a result, the opening games of the season did not result in as many victories for Tech as we were accustomed to. The team practiced every night on the local Y. M. C. A. floor, thus losing a great deal of time in travelling back and forth. This, accompanied by the lack of sufficient time for practice, proved to be a handicap to the team. Despite these facts, Tech's basketball season was a most successful one. Four lettermen who played this year will be back again to start the season off with a bang. Coach Musselman has developed a system which will not be new to the men next year and so will allow him more time to dwell on the finer points of the game.

The men who received letters were, Captain Brunner, Werden, Smith, Maltby, Baker, and Schaffer. Those men who were invaluable in the molding of the team, and who worked faithfully throughout the season were, Larabee, Pyle, Streit, Maurer, Young, and Hanson.



## BIG "T" 1924

### Games

#### CALTECH vs. SOUTHERN BRANCH, 20-51

Tech's Conference schedule started by Coach Musselman's men meeting the Cubs on the latter's floor.

After the first few minutes of play the Beaver's defense weakened and allowed the Bears to score; the score read 31-8 at the end of the first half. In the second half the Beavers came back strong and played an excellent brand of basketball and held the Cubs to 20 points. Captain Brunner, Werden, and Larabee did some stellar playing for the Beavers, Goertz was the Cub's individual star.

#### CALTECH vs. OXY, 21-17

The Beavers entered the second game of the season with a grim determination to win, and, as a result, the game was featured by many thrilling incidents. Both teams played hard basketball throughout the game; the score at the end of the second half being 15-15.

An extra five minutes was played to decide the game, from which Tech emerged the victor. Brunner, Baker, and Larabee were stars for the Beavers. Wagner was high point man for the Tigers with a total of 12 points.

#### CALTECH vs. POMONA, 14-25

With the basketball season well under way, and the competition keen among the various colleges, Caltech's team travelled to Pomona for its third fracas of the season. The game ended in favor of the Sagehens, due mainly to their speed and ability to use that speed throughout the game.

The Beavers were handicapped in the second half without Mike Brunner, who was unable to play as a result of an injury received in the game. Werden and Maltby did some great work in passing and putting up a scrappy game and so prevented the Sagehens from attaining a higher score.

#### CALTECH vs. REDLANDS, 14-23

The Bulldogs, after a hard fought game, emerged the victors with a score of 23-14. Captain Brunner and his men fought hard to the end, but were unable to stop the Bulldog's offense. Redlands displayed rare ability in using the five man defense and as a result the game was not as fast as it might have been.

Brunner played his usual steady game at a forward position. Werden played a good game at a forward position and displayed some very fine floor work. Schaffer and Maltby played a good game at the guard positions.

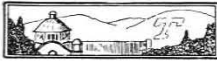
#### CALTECH vs. WHITTIER, 19-31

In one of the most exciting games of the season, the Beavers pulled a surprise by holding the league-leading Poets to a 31-19 score.

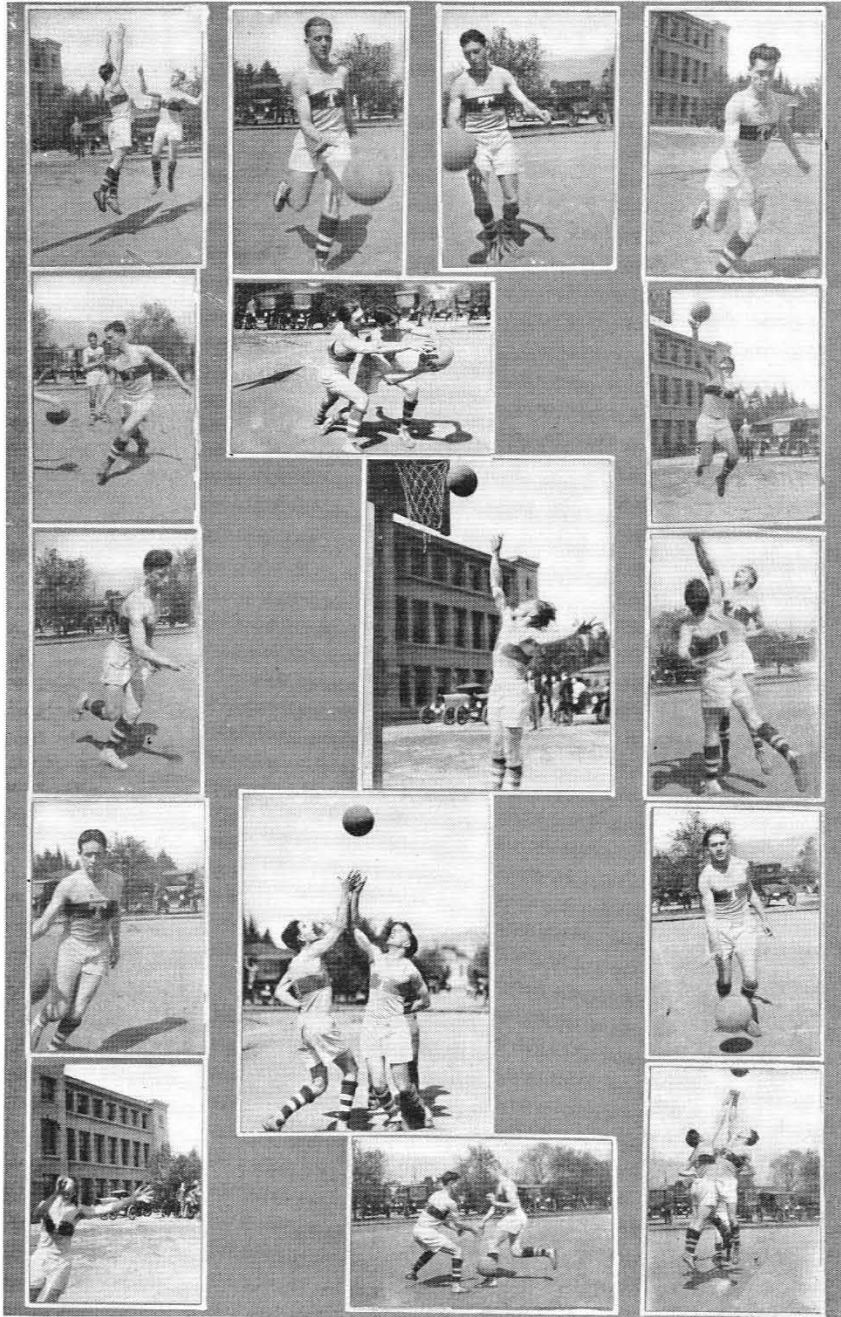
The game was a thriller from start to finish as both teams played hard basketball. Whittier was forced to the limit throughout the game, and used her best men. Although the first half ended 13-12 in Whittier's favor, the half was featured by Tech leading most of the time.

The Poets stepped out in front in the second half and held the lead until the final whistle blew. Baker was high point man with 7 points to his credit, while Brunner was right behind with 6 points.





BIG "T" 1924





CALTECH vs. SOUTHERN BRANCH, 24-46

The first game of the second round was played at the local "Y" gym and was a thriller from beginning to end. The Beaver team in making 24 points against the Conference leader accomplished something that no other team in the Conference could, excepting Pomona.

The Cubs scored consistently throughout the game, while the Beavers scored at intervals. Brunner was high point man for Tech; while Breesee was high point man for the Branch.

CALTECH vs. OXY, 12-5

In the second game with Oxy, the Tiger fell before the terrific assault of the Beaver. It was only fitting that the Beavers should win the second encounter as they did the first.

The Engineers showed a complete reversal of form from their previous games this year and put up a fight that would make any college proud. Tech's passing work showed improvement and their guarding was all that could be desired. Tech accomplished the unusual by not allowing Oxy to score a single basket in the second half. Brunner and Werden played a great game for the Beavers, while Wagner put up a good scrap for Oxy.

CALTECH vs. REDLANDS, 16-35

The fighting Engineers were forced to take the small end of another basketball encounter, this time at the Redland's Y. M. C. A., and to the tune of 35-16. The first half was a nip and tuck affair, the score being 17-12 at the end of the first period.

In the second half, however, the superior basket shooting of Redland's men came into play and won the game for them. Jack Baker played his best game of the season, being high point man with 7 points. Werden found the basket twice and scored 4 points. Thompson was stellar man for Redlands, scoring 14 points.

CALTECH vs. WHITTIER, 15-35

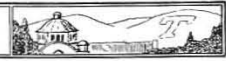
The last game of the season was played with the Poets on their home court. The Engineer five were prepared to give Whittier a fight which she would long remember, and as a result the men were on their toes every minute of the game and forced Whittier to do her utmost until the final whistle blew.

The game started off with a rush by Tech making the first two baskets. The Poets soon realized that they had a hard game ahead of them and tightened their defense. Eckles of Whittier started a scoring streak which the Beavers could not stop throughout the rest of the game; the score at the end of the second half was 35-15 in favor of the Poets.

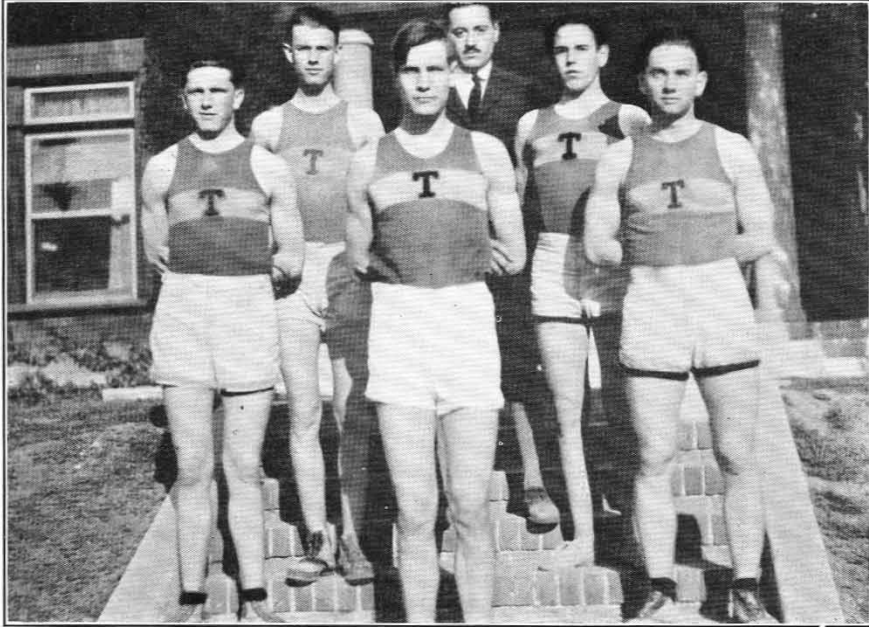
Art Werden was high point man for the Beaver five and played the best game of his career. Brunner also played a consistent game, breaking up more than one Quaker play during the contest. Pyle at guard played a defensive game which would be hard to surpass.

CONFERENCE STANDING

	W.	L.	Pct.
Whittier .....	9	1	.900
U. C. of L. A. ....	8	2	.800
Pomona .....	6	4	.600
Redlands .....	5	5	.500
Caltech .....	2	8	.200
Oxy .....	0	10	.000



## Freshman Basketball

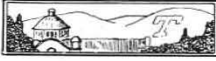


### The Season

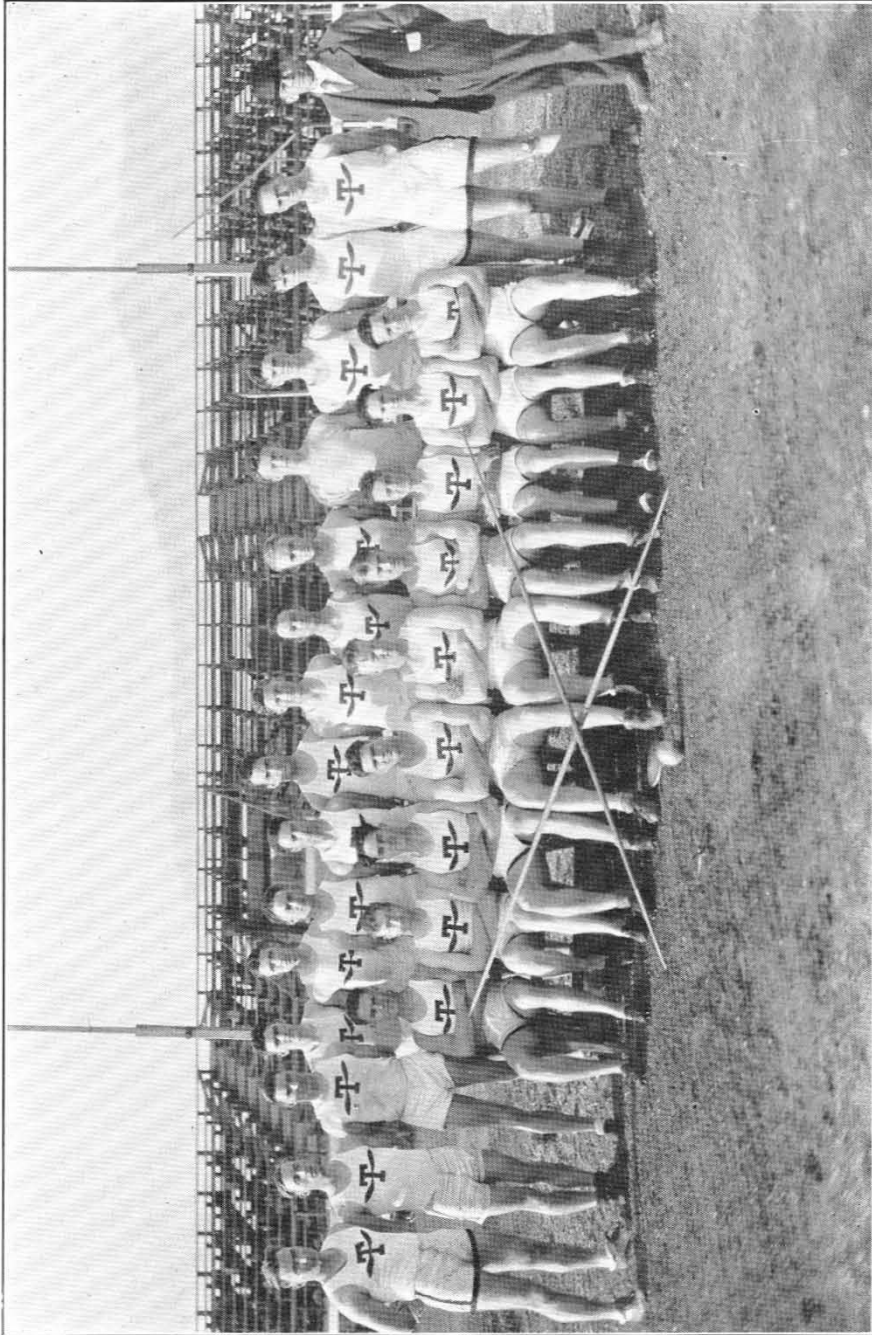
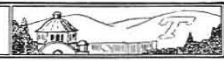
This year's Fresh basketball team was one of the best peagreen aggregations ever turned out by the College. Before the season was over they developed a passing attack which was very effective. Their ability to shoot baskets also deserves praise.

There were but two Fresh Conference basketball games, one with the Southern Branch and the other with Pomona. In the game with the Branch Fresh, the fracas was all in favor of the Branch; the score at the end of the second half read 59-22, in favor of Southern Branch. In the Pomona conflict the Fresh quintet played in hard luck, missing some baskets which cost them the game. The score when the final whistle blew was 22-21 in Pomona's favor. However, the loss of both Conference games did not prevent the Fresh from having a successful season. They were of invaluable service to the Varsity squad by scrimmaging with them at the Y. M. C. A. gymnasium. As a result of this year's experience they will be able to aid materially next season in rounding out a Varsity squad.

The men to receive their numerals were: Peterson, Stark, Cutler, Gottier, and Copen. The other men who helped to develop the team were: Burke, Case, Jackson and Farrar.



BIG "T" 1924





CAPTAIN MOYSE

The outstanding feature of the 1924 track season was the remarkable success that attended Coach Stanton's athletic policy of developing athletes, not acquiring them. At a college like Tech, where scholarship requirements are so strictly adhered to, one can hardly expect to find a wealth of developed athletic ability, but we find at just such colleges that supreme virtue—"a fighting spirit." It requires sand to tackle Tech, and more sand to stay by it, so what the teams lack in ability, they atone for in fight and grit. This was strikingly brought to one's attention by the great increase in individual ability shown by the men on the squad who had participated in last year's track events, but the distance journeys, and the jumps were not much in evidence when the final score was computed. Graduation will disrupt the weight section for next year's squad, the losses being Groat and Moyse. The Frosh delegation should, however, furnish several additions to the heavy end, to replace these two, and with the Sophomore sprint section back, next year's prospects look exceedingly bright.

#### THE A.A.U. CONFERENCE MEET

The fact that Tech tied with Oxy, at four points, showed that Tech was to be reckoned with when indulging in that most mysterious of subjects, dope; and the fact that Tech annexed four points against Olympic competition, should speak for itself. Graham and Mayhew were responsible, the former placing third in the pole vault of 12 ft. 6, while Mayhew upset the best of dope by taking second with his mighty heave with the javelin.

#### TECH vs. OXY

The first Conference meet did not turn out as well as Tech's rooters hoped it would, the score being rather one sided, with Oxy on that side. Graham



did his usual high mark, but due to Goodenough of Oxy, the five points had to be divided between Tech and Oxy. Moyse brought home first in the hammer and second with the discus, while Groat walked off with first in the javelin at 162 feet. Groat also gave Tech the second honors in the shotput, third in the hammer, and tied with Spangler of Oxy for second high point man at ten points. The final count showed Tech to be on the unfortunate end of a 31 to 107 score.

#### TECH vs. POMONA

The second Varsity meet showed that, although on the lower end of the tally, the team was fast working into mid-season shape. Schultz of Tech, and Maxwell of Pomona were the sensations of the day, Schultz making the 220 in 22 seconds flat, the fastest time for the year, to that date, to be made on the coast. Maxwell broke the Pacific Coast record in the low hurdles to the time of 23.8 seconds. Tech ran true to form in the weight events, and Graham took an easy first in the pole vault, at eleven and a half feet. The score card gave Tech only 40 points to range alongside Pomona's even 100.

#### TECH vs. U. C. OF L. A.

Tech scored her first victory by defeating the Grizzlies of Los Angeles, 74 to 66 being the final count. Tech claimed nine firsts, with Groat as high point man. Lownes showed up well by taking an easy first in the century, while Bidwell brought the top honors in the high hurdles home to Tech. Henderson



gave Tech another upper berth in the form of first in the 880. The weight men, as usual, did their stuff. The meet ended with a hotly contested relay on which the meet hinged. Tech won this event, much to the delight of the howling hundred.

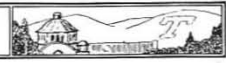
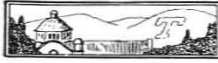
#### TECH vs. REDLANDS

The meet with Redlands came as a climax to examinations, which was easily discernible by the poor times made in the sprints by Tech men. Groat was high point man, while Moyse took first in the hammer at 126 feet, fifteen feet under his best. Tech annexed nine first to Redlands' six, winning the meet to a score of 82 to 58.

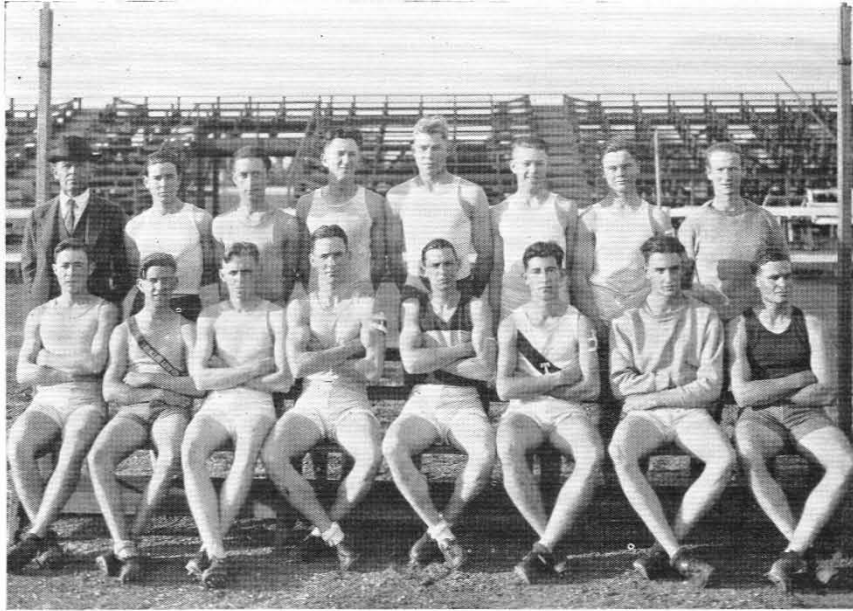
#### THE CONFERENCE MEET

The Conference meet proved to be another disappointment to the howling hundred, in that Tech placed only fourth. Graham brought to the Tech sheet a first in the pole vault, while the only other tally made for Tech was a third in the relay.



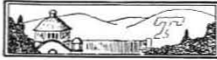


## Freshman Track



### The Season .

The Frosh team showed its strongest events to be the high speed contests. The chief contenders for the laurels in these entries were Jones, Meserve, and Combs, while Ralston displayed his tenacious properties in the longer journeys. Except for the shot and javelin, the weight events were rather weak. These two strong events, however, were able to bring the weight section through the season very creditably. Hoover, Olsen and Andrews were the high lights in these activities and in several of the high school meets this group was able to account for all three places. Mayhew was Tech's best bet when the javelin was to be thrown, and was able to show up in the finals against several varsity aggregations. Anderson and Hoover were also active in the spear throwing event. Stanton started out in fine shape for the pole vault, but due to an injury was unable to complete the season. Bogen and Jones were the contestants for high jump supremacy. Jones and Combs were the broad jumpers. The relay team was composed of Upward, Feely, Meserve and Combs. Although the squad did not meet much college competition, the high school meets gave promise of a strong varsity for next year's track season.



## Intra-Mural Athletics

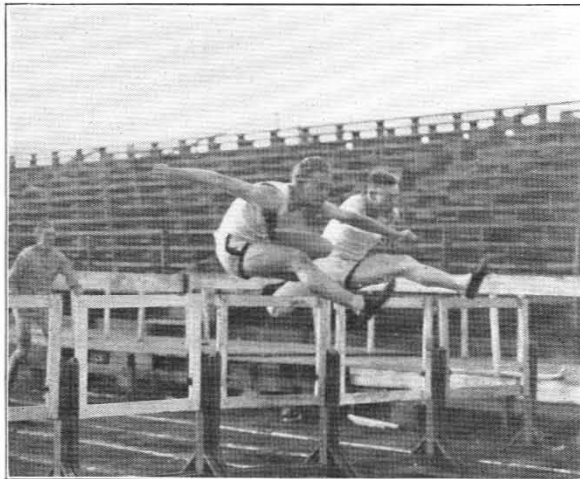
The Intra-Mural football season was rather deplete of games this year owing to the shortage of teams, the only game of the season being played for the Inter-Class Football Championship. This game was between the Sophomores and Juniors and was more of a grudge fight legitimized under the name of football. The Juniors, under the guidance of "Beef Trust" Kinsey, won by a score of 13-0. The less said about this game the better.

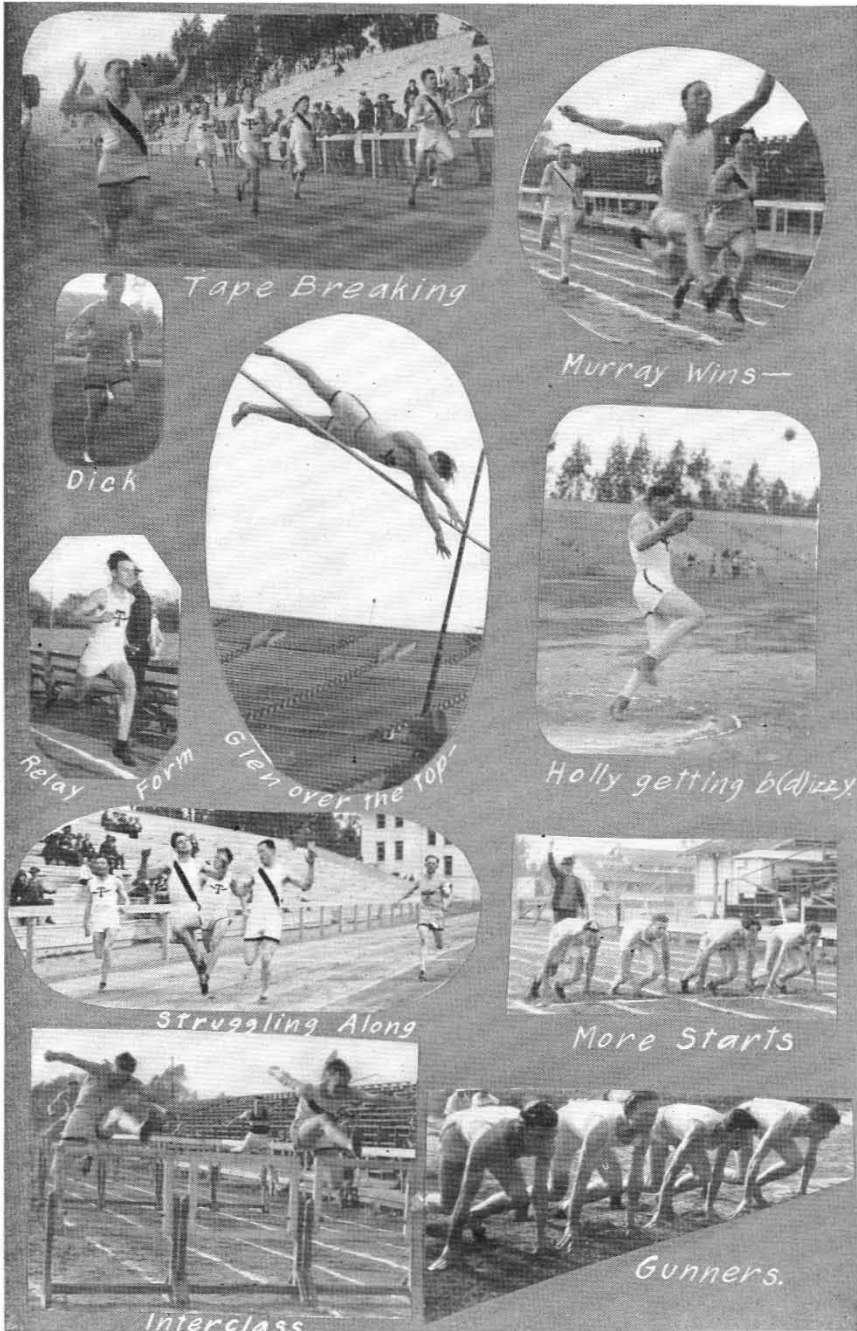
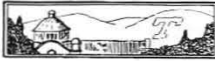
The greatest amount of enthusiasm shown so far has been for basketball. This is a culmination of the ambitions of the noon hour "mellon tossers." Certain flocks of ambitious young men monopolize a ball at noon, sometimes for a period of three or more weeks. As soon as these groups assure themselves that they are the acme of physical and basketball perfection, they enlist in the Intra-Mural Basketball League. The World War has nothing on the wild and hectic struggles that ensue. Coach Musselman, the Judge Landis of the Intra-Mural League, arranged a schedule calling for four games a week for the professional supremacy between these embryo bricklayers and lawbreakers.

The championship teams in the Intra-Mural Leagues were the Civils (an aggregation of ex-street cleaners and sewer sweepers) and the Gnomes (a motley crew of panhandlers and ex-blacksmiths). Unfortunately, these teams were unable to meet in a play-off game. Ringside seats would have sold at a premium.

The Inter-Class Track Meet was a sorrowful spectacle won by the Sophomores, who scored eleven more points than was scored by all the other classes combined. The score was: Sophomores 74, Frosh 27, Seniors 28, Juniors 18.

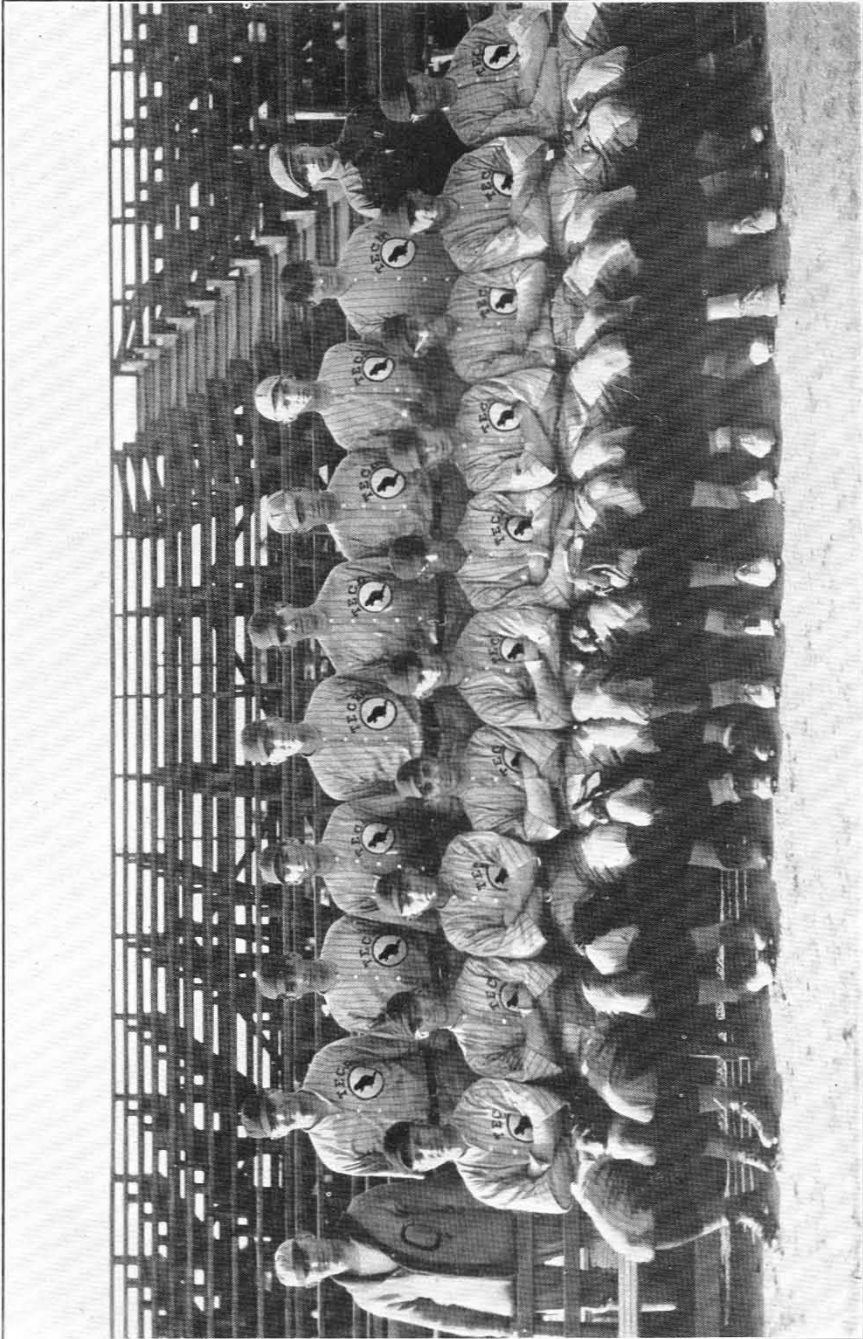
According to all reports it appears that the Sophomores will romp away with the Intra-Mural cup this year. The dope sheet accounts for this as follows: Second place in football, 4 points; first in track, 6 points; second place in basketball, 4 points; first in handball, 4 points; first in tennis, 6 points; first in baseball, 6 points. This gives them a total of 30 points, a lead of 12 points over their nearest competitor, the Frosh.







BIG "T" 1924





CAPTAIN WEITEKAMP

## Varsity

Baseball has always ranked second only to football at Cal Tech. During her stay in the Southern California Conference she has never placed a team lower than third place in the percentage column. The 1922 season was the most successful of all seasons. The Southern Branch was extremely fortunate in that year to share the divided honors of the Conference championship with Cal. Tech. Last year Tech put a somewhat inexperienced team on the field and took third place at the end of the season.

This year finds the team with the dreadnought combination of Moyse, Groat, and Weitekamp. These men are seasoned veterans in all respects, and in fact, are past master in all departments of the game. With some very promising recruits from last year's scrub team, and Frosh team, Coach Musselman ought to have a smooth functioning and formidable machine before very long.

The more promising of last year's players now eligible for the Varsity are: Fricker at first base, Allyn at second base, Maechtlen in center field, Carl Beed at third and Crocker in the field and relief pitching. This prospective line up together with a little conservative optimism might enable one to foresee a championship ahead.



## Games

### SOUTHERN BRANCH GAME

From a scribe's point of view, this game was a hard luck contest in the original. Despite the fact that Groat pitched an excellent game the Branch won by the score of 4-1.

	Summary								
	1	2	3	4	5	6	7	8	9
Cal Tech.....	0	0	1	0	0	0	0	0	0—1
Base hits.....	0	1	1	0	0	1	0	0	0—3
Southern Branch.....	0	0	0	0	0	0	4	0	0—4
Base hits.....	1	1	0	2	0	2	0	0	0—6

### POMONA GAME

Given the necessary impetus, namely the loss of the Branch game, Cal Tech played consistently good baseball and defeated the Sagehens on their own diamond to the tune of 8-5. Moyses and Fricker played first class ball.

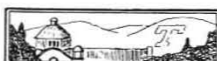
	Summary								
	1	2	3	4	5	6	7	8	9
Cal Tech.....	0	4	0	0	2	2	0	0	0—8
Base hits.....	0	4	1	2	3	3	2	0	0—15
Pomona.....	0	0	0	2	0	1	0	0	2—5
Base hits.....	0	2	0	3	0	2	0	0	3—10

### REDLANDS GAME

This game was played on the home grounds. Cal Tech took advantage of Redlands' "Comedy of errors" in the first and second innings and built up a four run lead which was not overcome. The final score was 6 to 4 in favor of Cal Tech. The boys showed a marked weakness at bat in this game.

	Summary								
	1	2	3	4	5	6	7	8	9
Cal Tech.....	1	3	0	0	0	0	0	2	0—6
Base Hits.....	0	1	0	0	1	0	0	2	0—4
Redlands.....	0	0	0	0	2	0	0	0	2—4
Base Hits.....	0	0	1	1	3	0	0	1	2—8





## OXY GAME

This game was marked by a great many errors on both sides, and some poor headwork on the part of the Engineers. Nevertheless a most gratifying revelation was the consistent and timely hitting orgy in which the Beavers engaged. Throughout the present season Caltech supporters have been waiting for this period to arrive, as it has been the only quality which kept us from having a superior ball team. The score which should have been 6 to 0, was 6 to 3 in favor of Caltech.

	Summary								
	1	2	3	4	5	6	7	8	9
Caltech .....	5	0	0	0	0	0	1	0	0—6
Base Hits.....	5	0	1	0	0	1	1	3	0—11
Oxy .....	0	0	0	1	0	2	0	0	0—3
Base Hits.....	1	1	0	0	1	2	0	2	2—9

## WHITTIER GAME

The Engineers inveigled Whittier out of a tie for second place in the Conference standing, and in the meantime, retained the undisputed position of runner up for first place honors. The game was primarily a pitcher's set-to between Groat of Caltech and Jessup of Whittier. During the melee, Groat disappointed some fourteen ambitious ball players, by sending them to the bench with nothing but wild swings to their credit. However, weak hitting seems to be a predominating characteristic of our team at this writing. This matter must be remedied immediately if we are to hope for a championship team.

	Summary								
	1	2	3	4	5	6	7	8	9
Caltech .....	0	0	0	0	0	2	0	0	1—3
Base Hits.....	0	1	0	1	0	2	1	0	1—6
Whittier .....	2	0	0	0	0	0	0	0	0—2
Base Hits.....	1	0	0	0	1	1	1	0	0—4

## SOUTHERN BRANCH GAME

In the best game of the season, the Beavers lost to the Southern Branch Grizzlies, thus practically assuring the latter of the championship. This was the first game of the second round of play. There were very few errors on either side, the outcome being simply a matter of a win for the best team. Groat lacked the support that Montgomery had.

	Summary								
	1	2	3	4	5	6	7	8	9
Caltech .....	0	0	1	0	0	0	0	0	0—1
Base hits .....	0	0	0	2	0	1	0	0	1—4
Southern Branch .....	1	0	1	0	0	1	0	0	0—3
Base hits .....	1	2	0	1	0	2	0	1	0—7

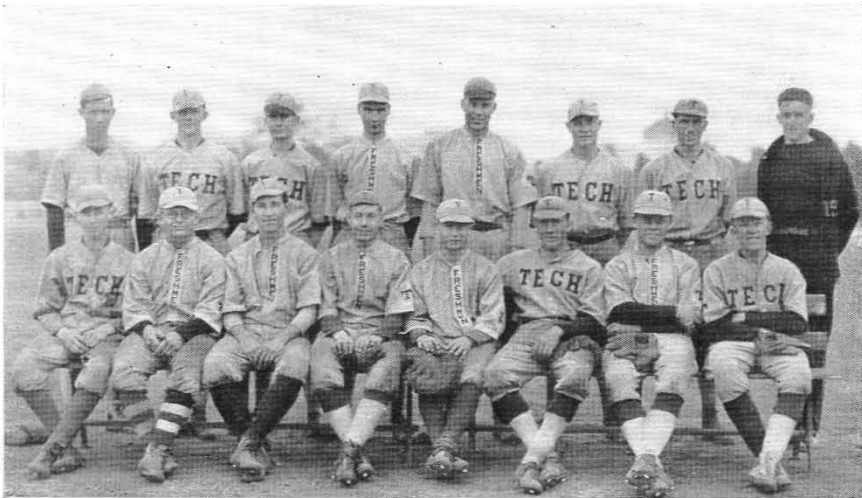


Coach Musselman

One of the main factors in Cal Tech's athletic boom during the past three years is Coach Musselman. Although facing extremely heavy odds, he turns out some remarkable products in the way of teams. Since he has been with the College he has coached Freshman football, Varsity basketball, and Varsity baseball. His ability for turning out first class baseball teams has been proven by the record of the teams of the last two years. Moreover, he promises to startle the Conference this year with a team of championship calibre.



## Freshman Baseball

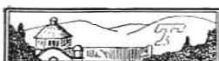


### The Season

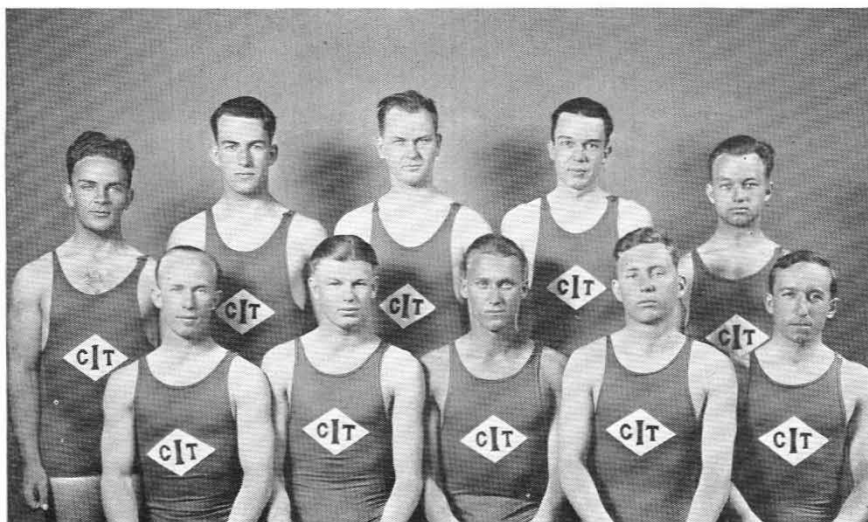
Freshman Baseball occupies a more important place in Freshman athletics this year, than previously. This fact is made clear by the selection of Lieut. Kramer for Frosh Baseball Coach.

Lieut. Kramer has some fine talent in the way of baseball material, and with his knowledge of the game and his coaching ability he will set something on fire.

To date the Frosh have been very successful, having beaten Monrovia High School by a 9-5 score, and lost to the powerful Pasadena squad 6-2. Considering Pasadena as one of the best prep teams in the South this is a very creditable showing for a pre-season game. The infield consists of Upward at first, Stanton at second, Peterson at short and Paul Mayhew at third. The battery is the formidable combination of Olsen and Snyder. Bradley, Scheck, Randolph and Gilly are the best prospects for outfield positions. A close study will reveal some potential Varsity men among this group.



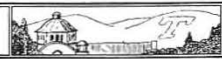
## Swimming



BALL            ANDERSON            THOMPSON            BURTON            VAN DEN AKKER  
WINGFIELD            BRYAN            MAYER            MATSON            ATHERTON

## Varsity

This year's swimming team was captained by Joe Mayer and coached by Joe Matson. The dashes were featured by the excellent work of Mayer and Wingfield. Bryan, Buxton and Mayer participated in the distance events and made the long trips in remarkable time. Thompson and Ball performed the plunging stunts and showed lots of form and dash. Van den Akker did remarkably well in the relay, as did Matson, Mayer and Wingfield. Matson and Van den Akker also took care of the dives. The former appeared in the back stroke and the latter in the breast stroke as well. The greatest opposition of the season was furnished by U. C. at L. A., Oxy not placing in many events. Tech, Oxy and U. C. L. A. were the only colleges in the Conference to enter teams in the aquatic sports this season. Our team was fortunate in a remarkable amount of material from last year's Frosh teams around which to build a well balanced Varsity. Advantage was taken of the neighboring plunges of the "Y" and the High School for practice, but it is sincerely hoped that a big tub will soon adorn the campus.



## Meets

### TECH vs. U. S. C.

That a strong team was developing at Tech was evidenced by the way the squad held the strong Southern California aggregation to a score of 45 to 26. Baker Wingfield showed ability for speed when he took first in the 50 yard swim, the time being recorded as 25:0 seconds. He had the best of competition in the form of Kalabeanu, the speed demon from Hawaii, who won over him by a small margin at Brookside the week previous. The relay was won by U. S. C. by a small margin, an inch to be exact, and was as exciting an event as has been seen in Southern California swimming circles for some time. Kalabeanu was the high point man, amassing eleven points. The highest score for Tech was credited to Captain Mayer, although Matson and Wingfield each chalked up five.

### THE CONFERENCE MEET

The Southern California Conference meet was a decided success as far as the Tech rooters were concerned, inasmuch as the Tech Varsity accumulated more tallies than did all the other contesting teams combined. This championship came as the fifth consecutive one to be brought home by the aqua-men and was a fitting aftermath of the football season. The team scored a noticeable coup by taking first place in all the events, but the breast-stroke and the relay, not to mention the numerous other places won by the Engineers. Joe Matson and Roger Bryan were high point men, amassing ten units each, more in fact than Oxy and Pomona together. Wingfield, the sprint man, lived up to his reputation for speed by breaking the Conference record in the fifty-yard dash, the time being twenty-six and four-fifths seconds. Bryan won the 100 and 220-yard dashes; Mayer the 440; Matson the dives and backstroke, while the plunge for distance was annexed by Thompson. The Frosh relay team upheld the reputation gained by the Varsity when they won the Freshman relay, along with which went a silver loving cup. Undoubtedly more units would have been collected had the men been allowed to enter more than two events, exclusive of the relay, however, the score seems to indicate that the team was hitting on all eight cylinders. Atherton, Fulwider, Stewart and Macfarlane helped in making things gloomy for the other teams entered and deserve credit for faithful work on the Varsity. The final score was Tech 46, U. C. L. A. 24, Pomona 5, and Oxy 3.

## Freshman Swimming



This season the Frosh were only able to participate in one meet, that with University of California at Los Angeles on May 8. The meet was lost by the close score of 36 to 41, the extra 5 points being annexed by the Branch relay men. Fisher, Lohse, Ward and Andrews were the stars of the affair. Fisher netted 12 points by first in 220 yd. dash, tie for first in 50 yd. and second in 440 yd. Ward claimed 10 points with first in 100 yd. and 50 yd. back stroke. Lohse ran up a total of 9 points with first in 440 yd., second in 220 yd. and third in plunge. Kenny Kemp with a tie for first in 50 yd. and third in 100 yd. claimed 6 points.

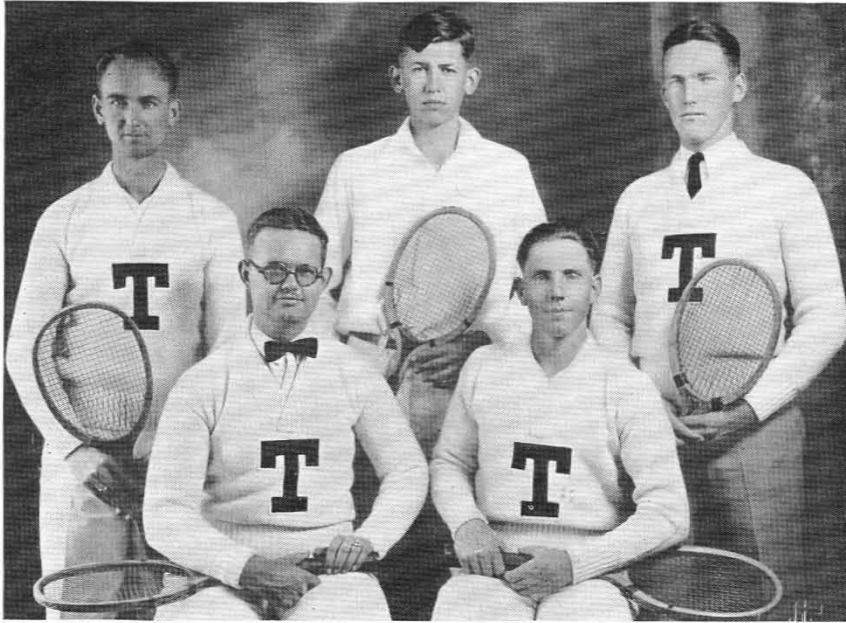
The outstanding achievement of the squad was the winning of the Relay Cup at the Conference Meet May 9, held at the Branch tank.

With all these men back next year prospects are good for some excellent Varsity material.





## Tennis



### The Season

The Varsity tennis team started the college year with the handicap of having none of last year's team to call upon for talent. However, the team showed up well, and with all the men expected back next year, the prospects are exceedingly bright for the 1925 season. This season's team was chosen as a result of an elimination tournament, and a round robin tournament which followed. The purpose of this schedule was to give to those men who were defeated by players in the finals, another chance to make the squad. This allowed a man, who was able to beat a player on the squad, to replace that man in subsequent meets.

The elimination tournament gave to Parker, Ranney, Sheffield, and Schmid the first honors, while the round robin clash gave the next two places to Gilbert and Adams. As Schmid left college after the first match, Gilbert was elevated to fourth place on the squad, Adams to be his alternate.

#### CALTECH vs. OXY

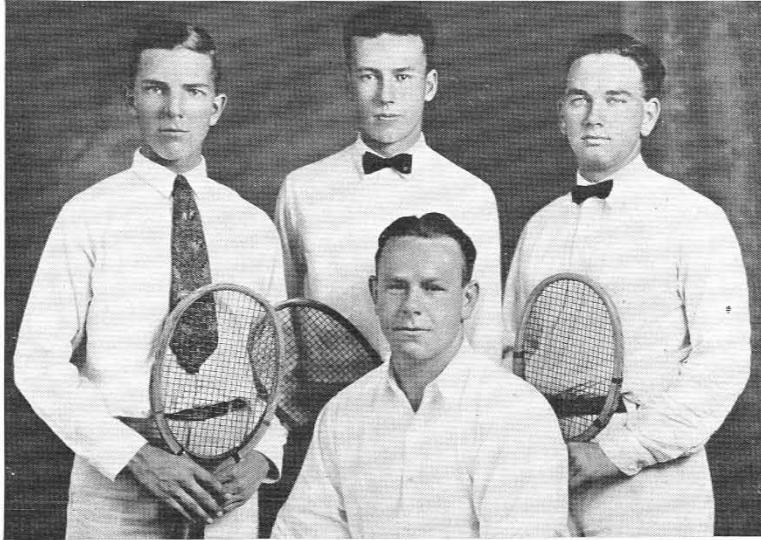
The first Conference game brought the Tech racquet wielders back to earth with a jolt in the form of a two to five defeat. The C.I.T. digits were annexed by Schmid in the singles, and Parker and Schmid in the doubles. This defeat, however, served as a gentle reminder which bore fruit in the next meet with Whittier.

#### CALTECH vs. WHITTIER

The grief at the close of the Oxy match induced the team to redouble its effort to the extent of defeating the Poets to the tune of seven to nothing. That



## Freshman Tennis



The Frosh tennis squad was chosen in a manner similar to the Varsity, i.e., as a result of two tournaments. The first singles was won by Burrell; Coffee, Gunning, and Gottier placing in the order named. Burrell and Coffee played first doubles while Gunning and Gottier held the second doubles. A widespread interest in tennis was evidenced by the fact that more than thirty Frosh competed for berths on the squad. The work of the men at the close of the season gave promise of good Varsity material for 1925.

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not a set was lost proved that the team was showing the famous old Tech comeback that was so much in evidence during the football season.

### CALTECH vs. U.C. of L.A.

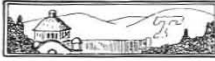
The next venture was into the land of the newly announced Grizzlies, the erstwhile cubs. The team met with defeat in six hard fought contests, and was able to elope with but one victory, thus returning to offer a one to six score on the altar of the great Tech god, Apollo.

### CALTECH vs. POMONA

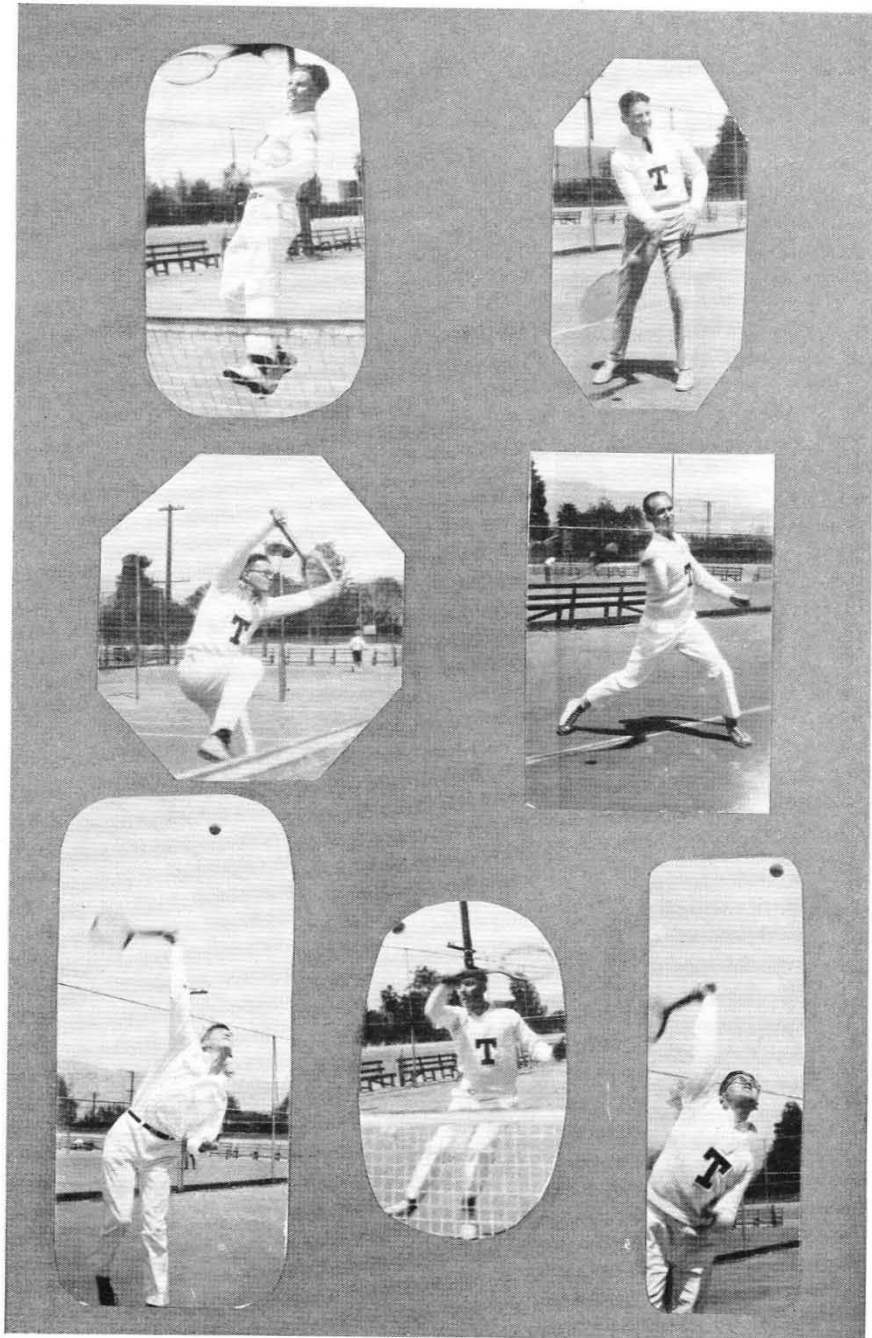
The rubber swatters suffered defeat at the hands of the Sagehens when they carried the attack to that front. The line-up for Tech was as in the previous game, but the men were not running true to form, and Pomona was able to carry the match on the heavier end of a two to five score.

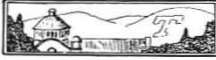
### CALTECH vs. REDLANDS

Every road hath a turning point quoth the great Apollo as the score of the last meet ascended to Olympus, so fortune attended the next contest of the Techmen. Redlands went down to the mighty blows of a furious onslaught, five to one being the final count. Adams participated in the fray and did his share of the slaying right nobly.



BIG "T" 1924





## Boxing



### The Season

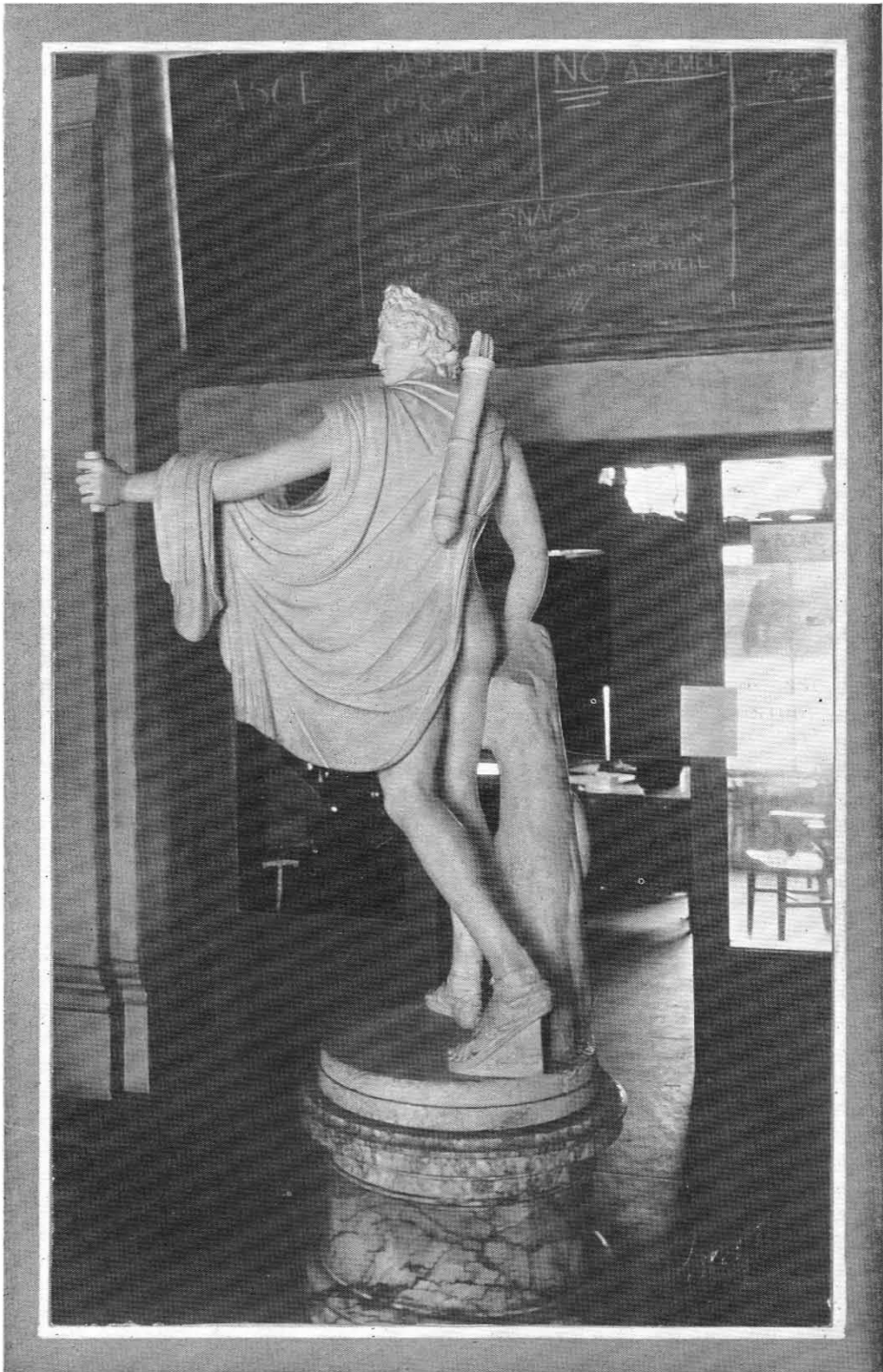
Boxing is growing in importance as a sport at Tech. Fifteen men turned out for this year's squad. From this number ten were chosen by Coach Gridley to represent Tech in the U. C. L. A. meet. The meet was lost by a score of 9 to 1, which is not disappointing, for the Branch later defeated California twice and Stanford once.

Russel Powers, '27, 175 pounds, won his bout decisively, and William Houghton, '27, 128 pounds, lost a close decision to the U. C. L. A. captain, who is the Coast champion in his class.

Engle Randolph, '27, 145 pounds, deserves special mention because he put up a fight against an opponent who had the advantage of reach and height, which called forth public commendation from the referee.

Willie Henderson, '25, was elected captain of the squad, and to him and Coach Gridley is due considerable credit for making this a successful season.

Men on the squad were: Howard Goodhue, '24; Willie Henderson (captain), '25; Hawley Cartwright (manager), '26; Dan Dinsmore, '26; George Moore, '26; Horton Williams, '26; Maurice Jones, '26; Ray St. Clair, '27; Frank Nickell, '27; Engle Randolph, '27; Ray Lchse, '27; Russell Powers, '27; Dave Metz, '27; William Houghton, '27.





"\$70 PER TERM, PAYABLE IN ADVANCE"

"Why keep that school girl complexion?" asked Newton, as he brushed off his coat lapel.

May I kiss your hand, he whispered,  
 And she answered soft and low;  
 It's easier to lift my veil  
 Than take off my gloves, you know.

Foolish Question 483,059—How did you get such wavy hair?  
 Oh, turning somersaults on a corrugated roof.

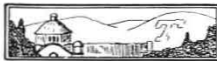
This week's song hit: "Pure and White as Snow, but She Started to Drift."



There was a young girl named  
 Stella  
 Fell in love with a bow-legged  
 fella.  
 But the silly young flap  
 Tried to sit on his lap,  
 And she fell right through to the  
 cella.

You just know she wears 'em.





My love has flew,  
He did me dirt;  
I did not know  
He were a flirt.

To those unschooled  
I do forbid  
To be not done  
As I were did.

He cannot come to I  
I cannot went to he;  
It cannot was  
Oh, cruel world,  
To I unkind  
Is take he away  
And leave I behind!  
—Whirlwind.

If I see some good lookin'  
Dame, that I would like to  
Know, and I do not know just  
Where to find her, all I have to  
Do is let my beard grow, put on  
my old  
Suit, a dirty collar, and a dirtier  
shirt,  
Then I am sure to meet her. Am  
I right?

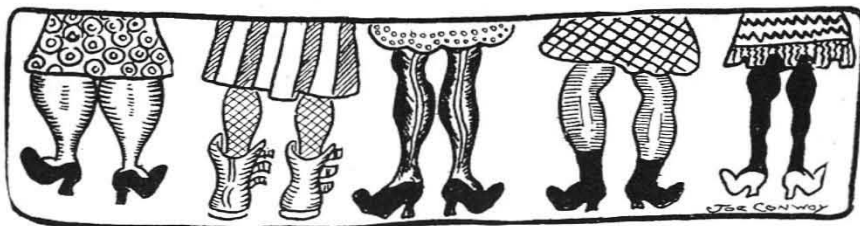
Springer—What do you do  
for a living?

She—I'm a dairy maid in a  
candy kitchen.

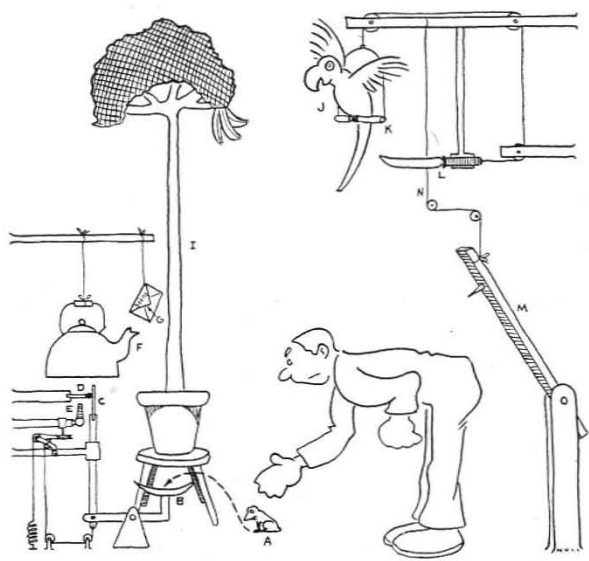
Springer—Dairy maid in a candy  
kitchen? What do you do?

She—Milk chocolates.

A hick town is one in which you can't go any place where you shouldn't.



Some sorority pins we have seen.



A BOON FOR FRATERNITIES

Automatic spankers for initiates. Direction for using:  
 Let the initiate try to catch frog (A); the frog will jump to scale (B)—  
 sending sandpaper (C) up lighting match (D) at the same time gas will be  
 turned on at (E). The gas will heat water in kettle (F) the steam will  
 loosen the envelope seam (G). The seeds will drop on fertile soil. Seeds  
 should be for Pine, Banana or some other suitably tall tree. Tree will grow  
 up (I). Parrot (J) sees tree and jumps over—reaction pushes perch (K)  
 down. The motion will draw knife (L) across cord (N) cord is cut releasing  
 spanker (M)—which then performs its duty.

—Medley.

A hero in proper fight  
 Will never know his blows;  
 A wise man modest in the right  
 Will never blow his knows.

We wonder if the man who paints those Holeproof Hosiery advertisements  
 from life gets paid besides.



For every girl who jumps out of an automobile at midnight, ten ought to, but don't.

"But?"  
"No."  
"Just?"  
"No."  
"Once?"  
"No."  
"Please?"  
"No."  
"XXX."  
"Oh, Freddie, why didn't you shave?"

Waiter—Yes, sir, we're very up-to-date in this hotel. Everything is cooked by electricity.

Ammon (trying to cut his meat)  
—I wonder if you'd mind giving this steak another shock.—Woodward Oracle.

Spring back:  
Goldilocks and the Three Bares—bare chest, bare back, and bare knees.  
Such is love.



Moses takes the tablets on the mount.

One day a poor little ant was trying to pull a huge carcass, but our poor little ant was unsuccessful. He had a wife and ten little ants at home and they needed food. Did they? Yea bo! Well our poor little ant could not move the dead body, and he was about to give up. A man passed by and dropped a few drops of corn whiskey. Our little hero sniffed the fumes—sang a little song to himself—danced the dance of the Seven Whales, and shook himself from stem to stern.

Seizing the carcass of the dead horse he said, "Come on big boy, let's go home."



## Our Portfolio

RUDOLPH BECK, of the Traveller's

Broadoaks, 1, 2, 3

Fullerton, 4

Hollywood, 1, 2, 3, 4

*"He covers the field"*

FRED GROAT, alias Jeremiah

Men's Auxiliary Chi Omega, 4

Chief Penny Tossler, 3, 4

Teacher's Pet, 4

CARLTON ECKERMAN

Hoof and mouth disease 1, 2, 3, 4

Musical Artists' Assn. 1/2

Barret's Bonanza 1, 2, 3, 4

AL GOULD

Business Office 4

MOLLY MOYSE

Pomona Night School 1, 2, 3, 4

Arm & Hammer Co. 3, 4

Prohibition Party 2, 3

BILL HOLLADAY

Cub reporter 3, 4

Sorenson's understudy 3, 4

Military Cloak Model 2, 3, 4

EUGENE SMITH, Our Toolie

Purity League, 2x10—23

Crime Commission, 4

High Pilot of the Toreadors, all the time

Spelling, 1, 2, 3, 4

SHORTY BEESON

Mah Jong Team, 4

Whiskey Sampler, 0, 1, . . . . ., n,

LEON ATHERTON

Cow Pasture Pool, 4

King of the "California Bungalow Type," 4, 5

GRANT V. JENKINS

Political failure 3

Dugout heat engineer 4

Stinking Organic 1, 2, 3, 4

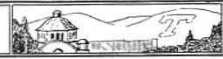
Riscontented Musicians' Union 3, 4

EDGAR LAYTON

P. A. T. political boss 4

Peddler of Honor Keys 3, 4

Czar of Glee Club 2, 3, 4



Editor Large "T",  
Kind Mr.

As Japanese school boy who are now freshman aluminus I write to inform you why I no longer in Troop Tech School where once was. When some make vacation by weakness of eyes, I leave by more democratic way as you know. This are way which circumstance errup on me like like teapot of hot oil Fall on dome of Hon. Gop.

I rise up one A. M. & gallup to lecture by chemistry. Here are one (1) Hon. Chem. & Assts.

"This are Ancient & Hon. Chem which you take again next yr." snarrul Hon. Prof.

"Banzai!" ywoull students.

"I now do experiment which cannot be understood but I will explain," narrate Hon Prof. with cat's whisker grin, "This now turn blue."

He hold-up tube which do not.

"Can all see?" this from Hon Prof.

"Fake!" rore Hon Class with revolution aspect peculiar to sleeping Mexican. Hon Prof. sneek behind tube & look. It are not.

"This are most annoying," he renig, "This work well too (2) yrs. ago."

Hon Lecturer now hide tube & snag many apparatuses out from case. He pour in from bottle.

"Bang! Crashes!" this from apparatuses which now are not.

"This are principle of equilibrium which you all know," corrode Hon Prof. taking flash from ear where it are in thirteen (13) or sixteen (16) pieces.

"Please Most Kind Hon Sir what are equilibrium illustrate?" I ask to know.

"Shut up. It are too deep for simple mind. I can tell but will not." This from Hon Prof. with jagged look.

Hon Prof. now by extended mouth & pace behind table for one half ( $\frac{1}{2}$ ) hr. have spoke more & more.

"Now what are this reaction?" Hon Prof. gargle looking like census taker.

"Skee-snor skee-snor," this from all.

"Please Hon Dr. Sir I do not know," I quake from where I was.

Hon Prof stare with walled eye. "You have been awake?" he explode.

"Yes, thank you, hardly," I corrupt jokishly.

"You have disgrace my grey hares," skretch Hon Prof., "You have remain awake in hard seat purposely. Leave ingeniously," he titrate, opening third (3rd) story window.

I quick-sneak out door while he are wating. I now have no honest work but live from hoof to mouth in Hari-kari soda fountain as twister of soda pops.

Hoping you are the same.

Yrs. Trly.

HASHAMURA TOGO.  
(*Apologies to Wallace Irwin.*)



## Calendar

- Sept. 24 Mon. The Frosh get stung at the bookstore. Pay day.  
26 Wed. Beginning of the "grief."  
27 Thurs. "Tech" blossoms out.  
29 Sat. Football team surprises everybody.
- Oct. 3 Wed. The first of its kind a six-page issue. A. S. M. E. meeting.  
4 Thurs. News of death of grad., De la Rocha.  
5 Fri. A. I. E. E. holds business conflag.  
6 Sat. Tau Beta's hold an elevated business wrangle.  
Caltech takes on the tiny Cal. gobs.  
8 Mon. Capt. Perigord tells of his experiences abroad.  
9 Tues. Frosh squelched and water-soaked in annual scrap.  
10 Wed. Y. M. C. A. starts drive.  
11 Thurs. Barrett sues the Sophs. A. S. M. E. meeting. Radio Club meeting. Bookstore razzed.  
12 Fri. Frosh have their first game. "Tech Nite" at Neighborhood House.  
13 Sat. Coach fails to find a penny but, "Revenge Will Be Sweet."  
15 Mon. Kirk & Don tell of Paris and the Mademoiselles.  
17 Wed. Death of Prof. Auburn.  
19 Fri. A. S. B. Assembly on the Honor System.  
20 Sat. Coach finds a penny, the jinx is busted. Dorm rats dance to celebrate.  
22 Mon. Assembly: Ralph Arnold speaks on the oil situation.  
24 Wed. Chemists begin old tricks.  
25 Thurs. Interfrat Smoker at Sigma House. A. S. C. E. meeting.  
26 Fri. "Tech" night at the Presbyterian Church.  
27 Sat. Frosh get first taste of professional football. Navy heavies walk on second team in second half.
- 31 Wed. Chemists at it again.
- Nov. 1 Thurs. A. I. E. E. gets together for something.  
Bookstore is razzed by scientific methods.  
2 Fri. Bookstore opens on time. Locksmiths hold ex's for candidates.  
3 Sat. Bulldog fails to bite. More apple sauce.  
5 Mon. Assembly feature: Gridley is razzed.  
6 Tues. Sorenson tells the juice sharks some secrets.  
7 Wed. Chemists persist.  
8 Thurs. Pi Kappa Delta meeting for argument.

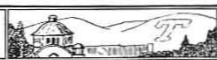




## BIG "T" 1924



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10 Sat. "And Yell to Hell with Oxy" at huge Football Rally.  
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17 Sat. Redskins scalped by the second Varsity. Varsity enjoyed a rest.  
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Chemists are there.  
Civils hold delight meeting.  
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- Jan. 2 Wed. Bets are placed with the business office.  
3 Thurs. Casualty list crops out from roll call.  
4 Fri. Frosh looking weary.  
6 Sun. Derm Rats combat terrific fire.  
7 Mon. Mr. Wilfred Lucas breaks a record, he gave an enjoyable Assembly.  
8 Tues. Tolman swears off using coffin nails.  
9 Wed. Seniors' last chance. Mechanicals have a wild disorder while chemists throw a fit. Irish confetti displayed and given away for a dollar apiece.  
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12 Sat. Branch gets an increment of revenge.  
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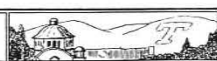


## Calendar

- Sept. 24 Mon. The Frosh get stung at the bookstore. Pay day.  
26 Wed. Beginning of the "grief."  
27 Thurs. "Tech" blossoms out.  
29 Sat. Football team surprises everybody.
- Oct. 3 Wed. The first of its kind a six-page issue. A. S. M. E. meeting.  
4 Thurs. News of death of grad., De la Rocha.  
5 Fri. A. I. E. E. holds business conflag.  
6 Sat. Tau Beta's hold an elevated business wrangle.  
Caltech takes on the tiny Cal. gobs.  
8 Mcn. Capt. Perigord tells of his experiences abroad.  
9 Tues. Frosh squelched and water-soaked in annual scrap.  
10 Wed. Y. M. C. A. starts drive.  
11 Thurs. Barrett sues the Sophs. A. S. M. E. meeting. Radio Club meeting. Bookstore razzed.  
12 Fri. Frosh have their first game. "Tech Nite" at Neighborhood House.  
13 Sat. Coach fails to find a penny but, "Revenge Will Be Sweet."  
15 Mon. Kirk & Don tell of Paris and the Mademoiselles.  
17 Wed. Death of Prof. Auburn.  
19 Fri. A. S. B. Assembly on the Honor System.  
20 Sat. Coach finds a penny, the jinx is busted. Dorm rats dance to celebrate.  
22 Mon. Assembly: Ralph Arnold speaks on the oil situation.  
24 Wed. Chemists begin old tricks.  
25 Thurs. Interfrat Smoker at Sigma House. A. S. C. E. meeting.  
26 Fri. "Tech" night at the Presbyterian Church.  
27 Sat. Frosh get first taste of professional football. Navy heavies walk on second team in second half.
- 31 Wed. Chemists at it again.
- Nov. 1 Thurs. A. I. E. E. gets together for something.  
Bookstore is razzed by scientific methods.  
2 Fri. Bookstore opens on time. Locksmiths hold ex's for candidates.  
3 Sat. Bulldog fails to bite. More apple sauce.  
5 Mon. Assembly feature: Gridley is razzed.  
6 Tues. Sorenson tells the juice sharks some secrets.  
7 Wed. Chemists persist.  
8 Thurs. Pi Kappa Delta meeting for argument.



## BIG "T" 1924



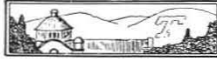
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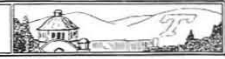
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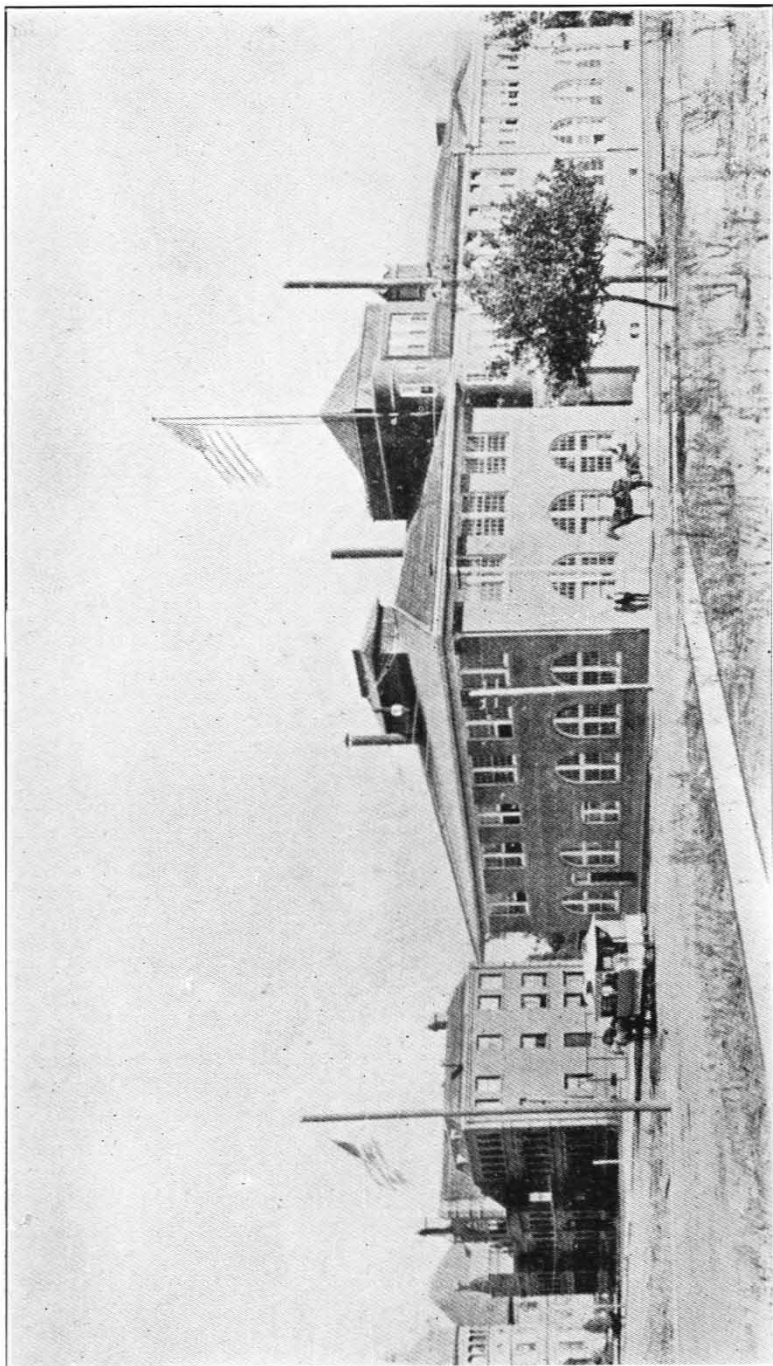
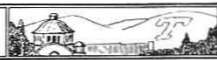
- Jan. 16 Wed. A. S. C. E. has a pow-wow and likewise the stink raisers,  
17 Thurs. Annual razz sheet breaks out with scarlet fever.  
18 Fri. Waller subsides.  
19 Sat. Tiger's tail is twisted.  
21 Mon. The Dugout fireplace is dedicated.  
22 Tues. George McKee answers a question.  
23 Wed. Chemists have a very important R. F. (Royal Function).  
24 Thurs. Radio and Aero Clubs get together.  
25 Fri. Moved and seconded that champicns get Gold Balls.  
26 Sat. Sophs run wild on field day. Cassaba tossers lose to Pomona.  
28 Mon. Dr. Reisnyder tells of the Japanese earthquake.  
29 Tues. The Dorm phone is razzed.  
30 Wed. Only the Chemists.  
31 Thurs. Hollywood High smothered by Tech tracksters.
- Feb. 1 Fri. "Audition and the Human Voice," motion pictures and a lecture by Mr. Thomas.—A. S. B.  
2 Sat. Bulldogs grab the casaba game.  
4 Mon. Motion pictures of McCook Field shown and explained by a Tech grad.  
5 Tues. Interfrat council of war.  
6 Wed. A. I. E. E. has a squabble while Chemists have their weekly.  
7 Thurs. U. S. C. wins over Tech in a hot debate.  
8 Fri. Tau Beta Pi exams for aspirants. Track men walk on L. A. High.  
9 Sat. Whittier has the smallpox.  
11 Mon. Dugout officially cracked. Hambrook's intentions were good!  
12 Tues. Sellers has ideas on Free Love.  
13 Wed. Millikan Tea given for the Juniors and as usual the Chemists are up to form. Cubs sew up the second game.  
14 Thurs. Newton has taken Free Love seriously. MacMinn remonstrates.  
15 Fri. A. S. B. assembly holds discussion on Goat Glands. Seniors have a very hard time.  
16 Sat. Oxy takes the count.  
18 Mon. Frosh Dorm Rats manicure Millikan Highway.  
19 Tues. Dorm Rat dies of ptomaine poisoning.  
20 Wed. Nothing but the Chemists.  
21 Thurs. Sophs hold a mean scud.  
22 Fri. Washington's Birthday.  
23 Sat. Bulldogs again tally. Tech ties Oxy in A. A. U. meet.  
25 Mon. Some people are using Apollo's column to get their name in the paper.  
26 Tues. Debate with Whittier. Assembly Cards and Dorm phone are razzed.



## BIG "T" 1924

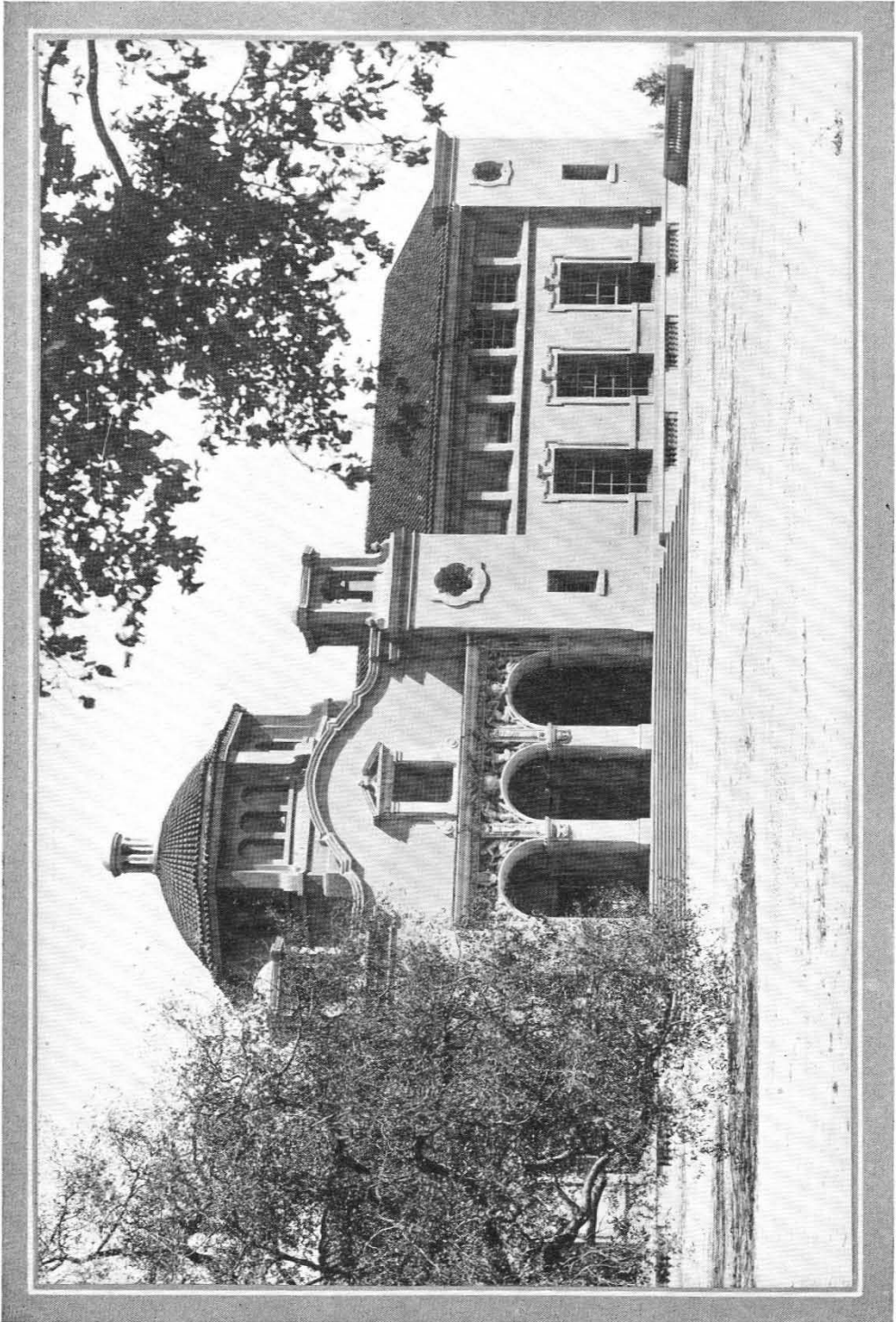


- Feb. 27 Wed. Sophs entertained at Millikan Tea but Chemists entertain themselves.
- 28 Thurs. A. S. C. E. smoker. Philoctetes makes its debut.
- 29 Fri. Greek play again in action. Assembly cards again razzed.
- Mar. 1 Sat. Oxy does the unexpected and wins the meet. Poets forced to fight hard for their game.
- 3 Mon. Hal and Don debate at Stanford. Varsity gets Gold Balls.
- 4 Tues. Prof. Laing plays billiards. Willie "Hoppie" Squiers defeated.
- 5 Wed. Seniors given a Millikan Tea and Chemists give a synthetic tea.
- 6 Thurs. Dorm smoker for the benefit of the rats.
- 7 Fri. Frosh have class dance upstairs.
- 8 Sat. Poets win again, and Pomona grabs a lopsided track meet.
- 10 Mon. Sleepy engineers listen to bed-time stories and a line of bull.
- 11 Tues. Dorm talks about a "golph" runway.
- 12 Wed. Dorm builds an expensive golf course. Apollo razzes the Sophs. Chemists again.
- 13 Thurs. Advance sale on this volume begins. Raymond theater given to Tech.
- 14 Fri. Under pressure of 14.7 lbs. to sq. in., Frosh begin to kick through.
- 15 Sat. Track team takes a close meet from the Cubs.
- 17 Mon. Assembly cards and Faculty razzed.
- 18 Tues. Faculty starts to get even.
- 22 Sat. Several bets lost.
- 31 Mon. More betting, but bank accounts are getting low.
- Apr. 1 Tues. Ole raises hell with the Frosh.
- 2 Wed. Ole swears off swearing.
- 3 Thurs. Gnomes have an open house smoker.
- 4 Fri. Dorm patrons play golf. Announcement that credit will be given for assemblies. No cards.
- 5 Sat. Dope upset. Tech loses Conference Meet.
- 7 Mon. Upper classmen decide to go to assembly. David Starr Jordan talks on evolution.
- 8 Tues. Talk of making "goloff" a minor sport.
- 9 Wed. Golph's are plentiful and so are windows.
- 10 Thurs. Y Skate is held notwithstanding.
- 11 Fri. Exhibit opened up full blast but Apollo does not meet the visitors face to face.
- 12 Sat. Beavers lose a hard luck game to the California Teddy Bears. Kate does it.



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*Two Hundred Nine*



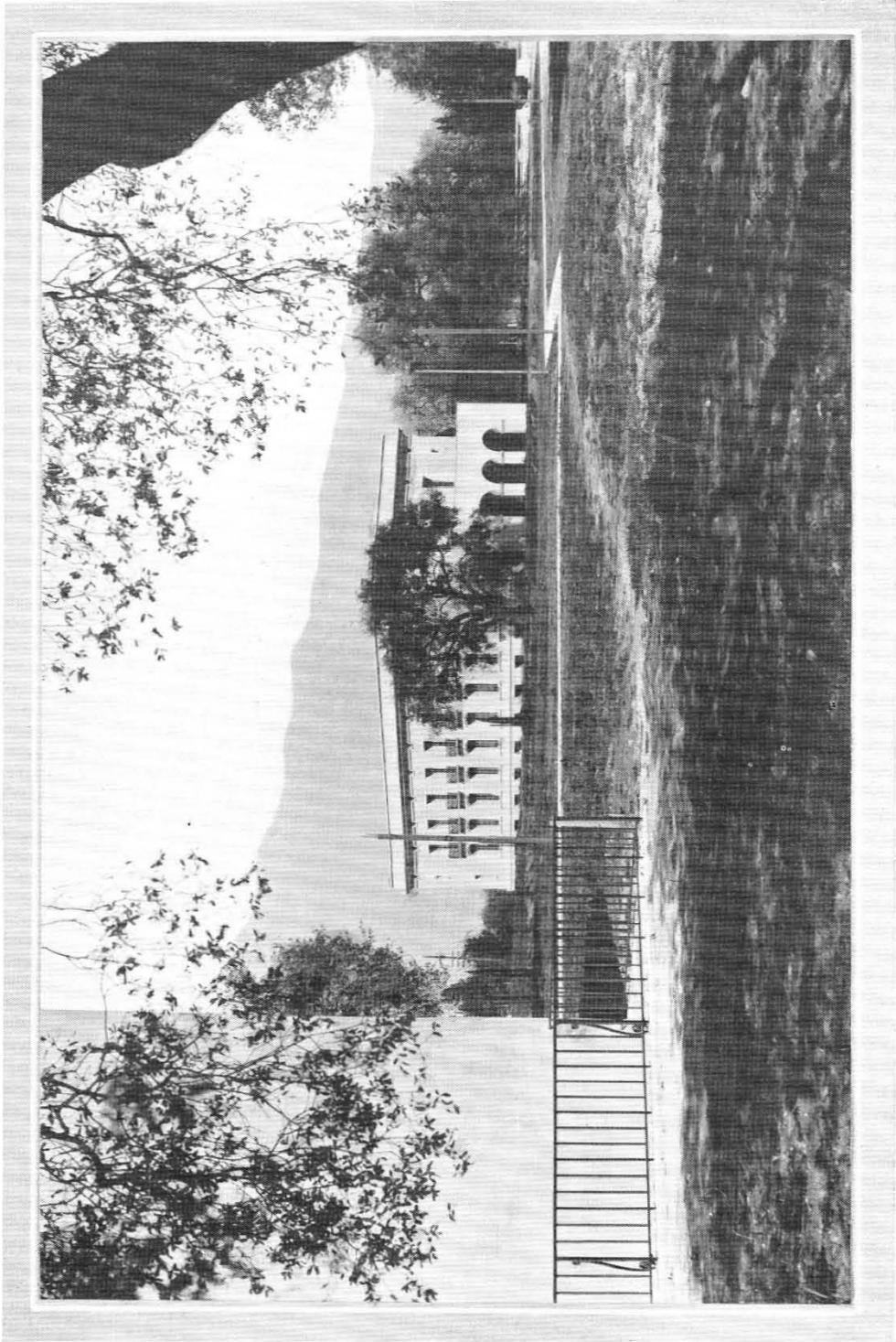
BIG "T" 1924



CULBERTSON HALL

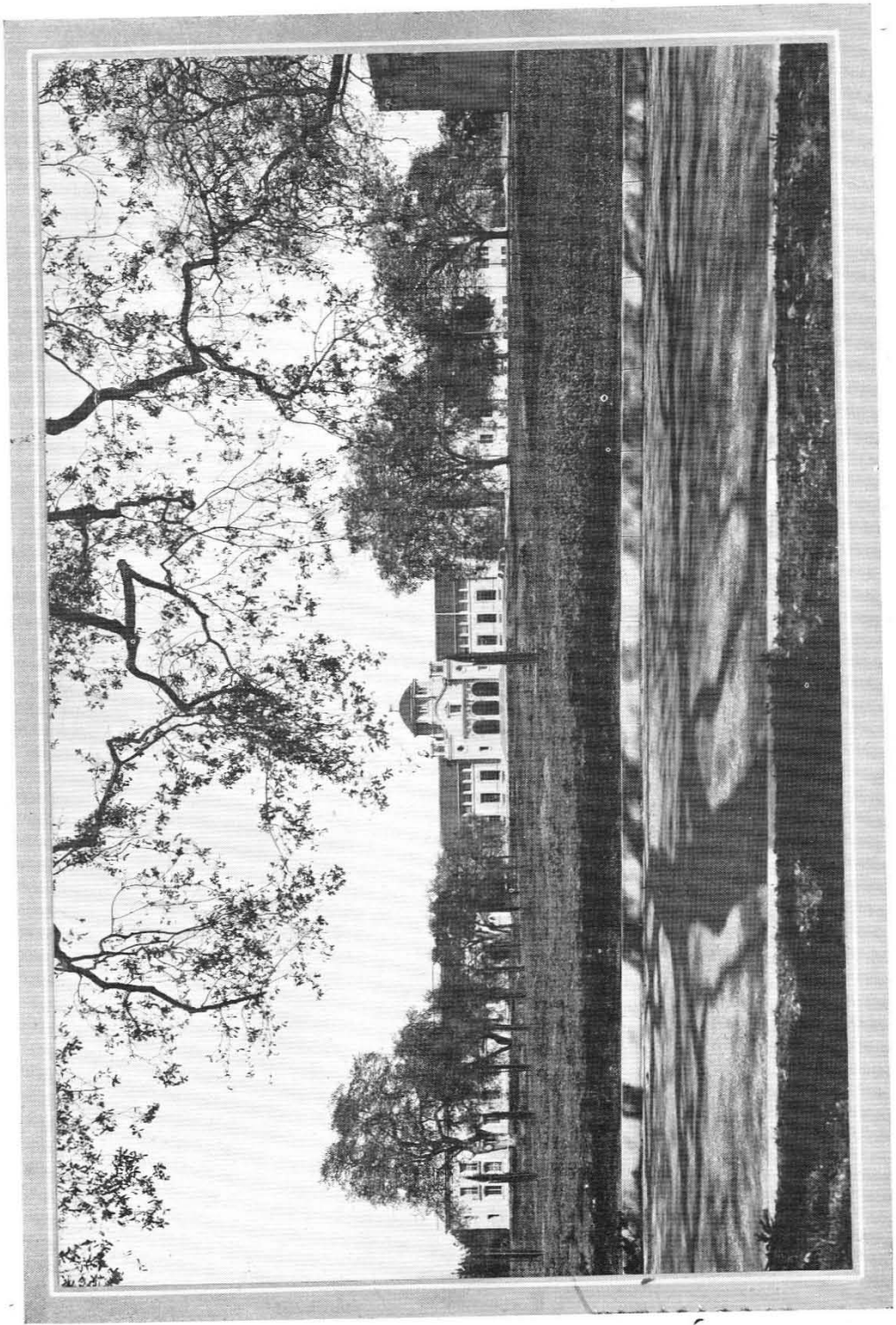


GATES LABORATORY



*Two Hundred Twelve*





*Two Hundred Thirteen*



BIG "T" 1924



Bob

Doc

Dear Editor

Pinky

Joe

THESE CAME OUT AHEAD

Biddy

Fred

What Kirkwood did to a camera.

Hellen

L.P.

Smut.

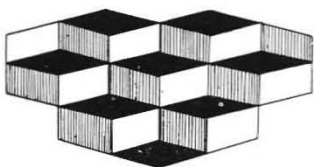
T.B.T.

Bob.

Sindel-Smith R.I.P.  
MAR. 20 '99  
MAR. 20 '24



You can count  
Seven



You may count  
Six

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Gassa—Does your sweet mama know anything about automobiles?

Lean—I should say so. She asked me last night if I cooled the engine by stripping the gears.—Awgwan.

We read in history of the Hebrews that the prophet Jeremiah set up two calves for worship. Old Jerry sure started something.—Awgwan.

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WITH THE GREEKS

He—You live in the next house, don't you?

She—Yes.

He—I haven't seen much of you.

She—No; I live on the other side of the house.

Emma (in chapel)—Gee, the acoustics here are awful.

Gertrude—I know it, but I'm not letting on that I smell anything.

The Big T's new song is entitled: "Father, Buy Me a New Pair of Pumps; I'm Going to the Firemen's Ball."

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Ivory Ware  
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Colo. 2600

From the diary of a debutante:

"February 30—I've decided not to marry, and I am going to bring up my children to do the same."

Two cockroaches met on a box of Grape-Nuts.

"What's your hurry?" said the first, "going to a fire?"

"Nope," the other called back, "but it says, 'Tear along this dotted line.'"

"We will now adjourn to the music room while Grandpa eats his soup."

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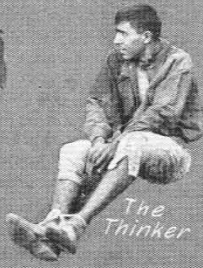
BIG "T" 1924



Fall housecleaning at the Dorm.



Before Adam



The Thinker



Travel, Niggab, Travel

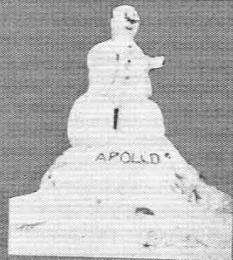


Keep this dark.



361-400

'Im Tired'



Rinkyaints!



GUILTY!



Balboa-

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Where the Latest College Styles Are Shown First

SUITS AND TOP COATS

\$25      \$30      \$35

Breathes there a man with soul so dead

Who never to himself hath said,

As he cracked his dome on the upper bed

\*-!!.\*!\*( ) :::-||!??

He—Hey, there's no swimming allowed here!

Mermaid—Why didn't you tell me that before I got undressed?

He—There's no law against that.—Virginia Reel.

She—Don't you love driving?

Al—Yes, but we're in town now.

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And we're glad you keep us alive to your requirements, for it helps us to make Brenwood Clothes "live" Clothes.

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A cross eyed girl may be virtuous, but she doesn't look straight.

#### A FAIR QUESTION

Census Taker (to middle-aged spinster)—And what is your age, madam?

Spinster (cooly)—I've seen just twenty-five summers.

C. T.—How long have you been blind?

"Is this the Fire Department?" yelled Lucas over the phone.

"Yes, what do you want?"

"How far is it to the nearest alarm box? My laboratory is on fire, and I must turn in the call at once."

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Fraternity and Class  
Inserts for Annuals

Bill—He may not be much good, but he certainly has money to burn.  
Helen—Well, I never suffered from the heat when I was out with him!

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The professor was showing a young woman the heavens — through his telescope.

He directed her gaze to a bright planet.

"That's Venus," said he.

"How perfectly lovely; now show me Adonis," said the sweet young thing.

Teacher—Spell cloth, James.

James—(Silent).

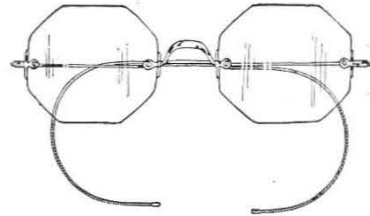
Teacher—Well, what is your coat made of?

James—Father's old pants.—Ex.

Falb—Awful accident last night —car turned a corner.

Mosby—No reason for an accident, was it?

Falb—Sure. There wasn't any corner.



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"I've just got hold of a tender piece of meat."

"Impossible!"

"Yes, I just bit my lip."

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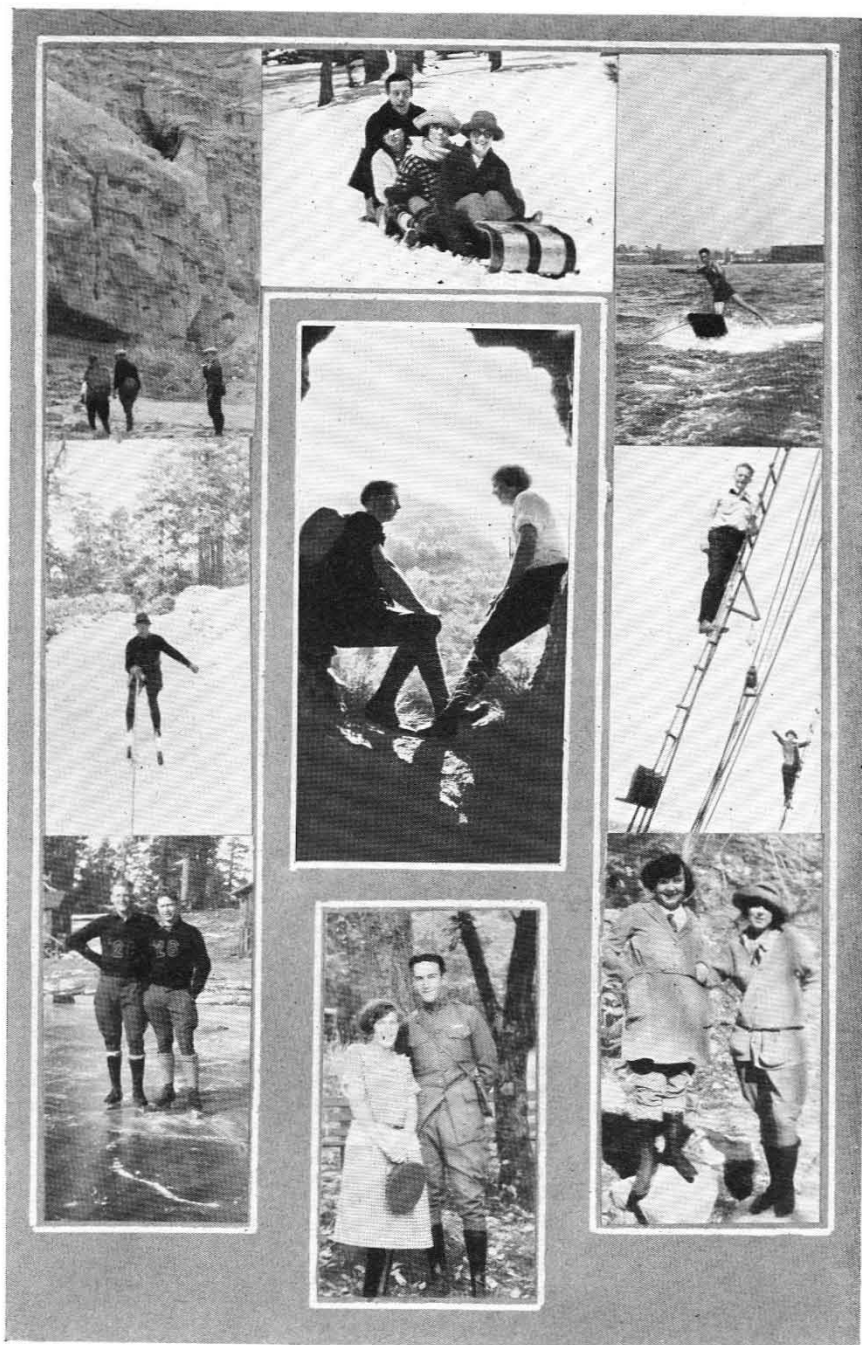
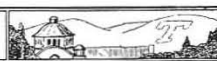
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Ben Benioff '22

Edison R. Hoge '18

I kissed her in the moonlight,  
My head was in a whirl;  
My mouth and eyes were full of hair—  
My arms were full of girl.

"Confound it! We've run out of gas!"

"Oh, Don! Do drive up beyond those trees, the hotel folks are bound to see us here!"

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Diner—I want some raw oysters. They must not be too large or too small; not too salty or not too soft. They must be cold and I want them in a hurry.

Waiter—Yes, sir. Will you have them with or without pearls, sir?

Dear Editor:

I went out with a young man a few nights ago, and drank two gin fizzes, five glasses of red wine, a taste of moonshine and two coffee royals. Did I do anything wrong?

*Innocent.*

Answer: You probably did.

### MORE IN EVIDENCE

At Mary's lamb  
We do not longer laugh;  
Interest now  
Is all in Mary's calf.

**Fraternities**  
at  
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You will find our service and prices are right on

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"The next person who interrupts the proceedings will be sent home," declared the irate judge.

"Hurray!" yelled the prisoner.

## *O. B. Kendall and Co.*

John R. Lee

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## East Side Hardware Company

*Sporting Goods, Paints, Oils and Glass*

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Sporting, Outing and Athletic Goods

WE ENDEAVOR TO CARRY THE BEST IN EVERY LINE.  
THE BEST MERCHANDISE IS USUALLY THAT WHICH  
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PASADENA, CALIFORNIA

A clear conscience is rewarded  
in the Afterlife; a clear complexion  
doesn't have to wait so long for its  
reward.

\* \* \*

The sky is blue,  
The ocean's hue,  
Horses neck,  
I do, too.

\* \* \*

## AT THE THEATRE

Patroness: Where is my seat?  
Usher: Your seat is on the end  
of U, madam.  
Patroness: Sir!

—*Purple Cow.*

\* \* \*

## MAXIMS

A sock on the foot is worth two  
in the jaw.

Two old maids went out for a  
tramp; the tramp died.

When you feel in need of a  
helping hand, take it out of your  
pocket.

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IN THE WEST

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*Builder*

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Mother—Did that fellow kiss you last night?

J. K.—Well, mother you don't suppose he came out to listen to our victrola, do you?

Snow Ball—We've got a new baby at our house.

Timmy—Yeh? Is he gonna stay?

Snow Ball—I guess so; it had its things off.

Nora—If I marry you, will I have to take in washing?

Jim—No, just wash and hang out. I'll take 'em in.

“Who is at the top in the Industrial Football League, now?”

“I don't know, but the Nevertear Hosiery Company's bunch have made the longest runs.”

## Wm. Lane Sporting Goods Co.

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From a barge rounding Cape Cod one night a negro fell overboard. Though he repeatedly yelled, "'Ere me am, Cap, on the starboard," the owner of the barge, directing the rays of a pocket flashlight here and there, could not detect the brunette, who treaded water. Finally in exasperation, the white man thundered: "Grin, darky, grin, and roll your eyes!"



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Phone F. O. 358 Col. 1080

*The*  
**FLORSHEIM  
SHOE**

He who laughs last, laughs last.  
"There's something in that, too,"  
said the burglar as he put his hand  
in the bread pan."

*Oh, You Radio Fans! Listen in—  
We've Got It*

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on the occasion  
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Phone F. O. 421

738 E. Colorado St.  
Phone F. O. 957

### A CO-ED'S PRAYER

Give me a fellow who has a car,  
but doesn't go too far;  
Who has snappy clothes and knows  
how to wear them;  
Who doesn't expect you to smoke  
all his cigarettes;  
Who pets like a veteran, but  
Who has the enthusiasm of a be-  
ginner;  
Who has a varsity letter or two;  
Who admires a girl who can cook,  
sew and still be a sport.  
If there be such a fellow, oh, Lord,  
I want his heart and his fra-  
ternity pin.

\* \* \*

Judge (reprimanding girls for scanty attire on the beach)—I see no reason why you girls should wear those one-piece bathing suits. When I was young they never did. Spokesman for the Defence—But you must realize the times have become stricter.

--You will  
always find--

the correct and smart  
things in footwear  
"for the occasion"

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## CROWN CITY SHEET METAL WORKS

150 West Union Street

She (as it is beginning to rain)—Oh, dear! It's beginning to come down.  
He (absent mindedly)—Will a safety pin help?

Tommy—What would you do if a boy kissed you on the forehead?  
Gladys—I would call him down a little.—Ex.

Mary had a little lamb,  
Her father shot it dead.  
Now Mary takes her lamb to school  
Between two hunks of bread.

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I stood at my window at midnight  
Staring through the air,  
When a comely maid pulled down her shade,  
And left me standing there.

Father (greeting wayward daughter at 3 a. m.)—"Good morning, child of Satan."

Daughter—"Good morning, father."—Ex.

Vera Scobey—I once knew a man that stayed at home with his wife every night for thirty years.

Carp—Say! that *was* true love.

Vera Scobey—No. He was paralyzed.

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Phone Colorado 69



BIG "T" 1924





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