

THE BIG

“T”

1922

The Big "T"

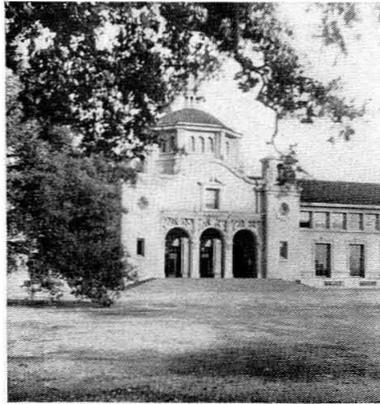


WE are proud of our Big T on the mountain, the achievement of those who came before us, and are glad that we have helped to keep it there. May our successors do the same, so that it shall always stand out, symbolic of the Tech man's love for his Alma Mater.

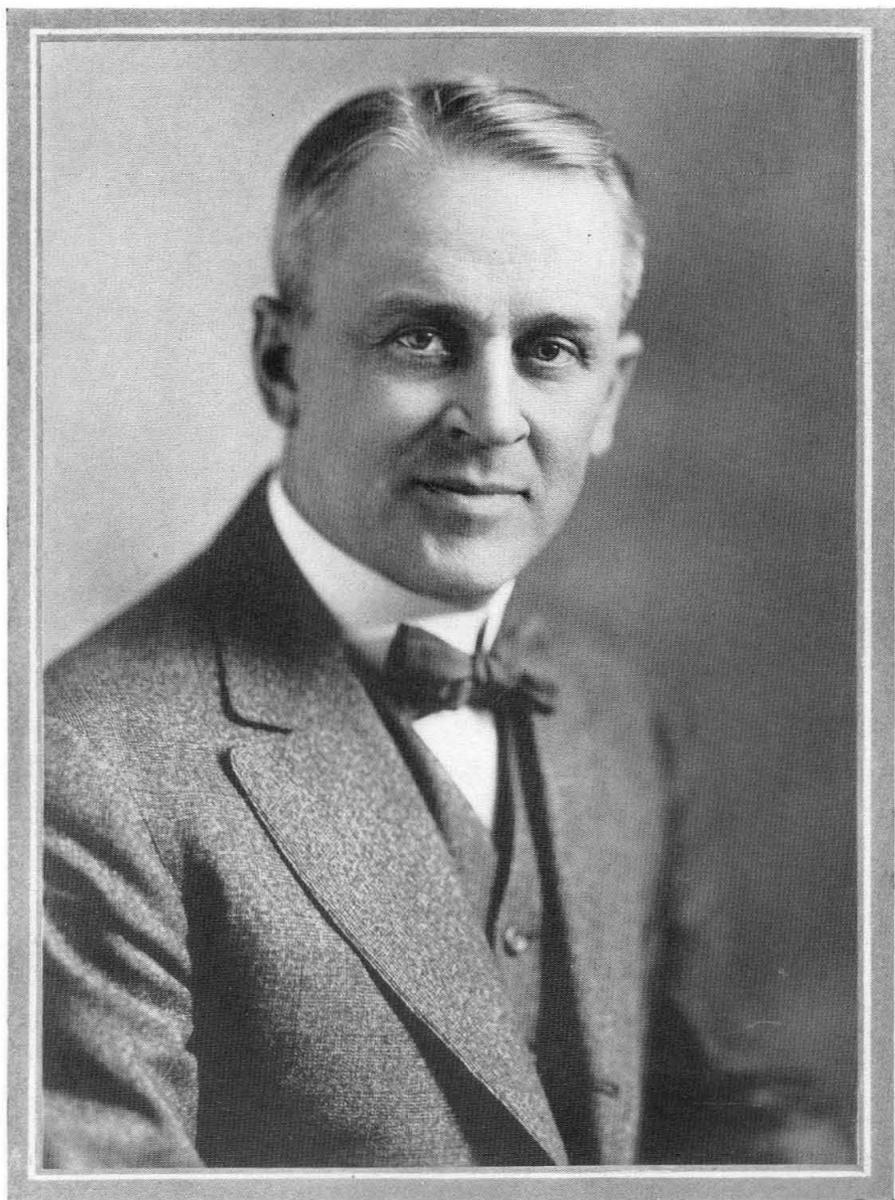
THE BIG

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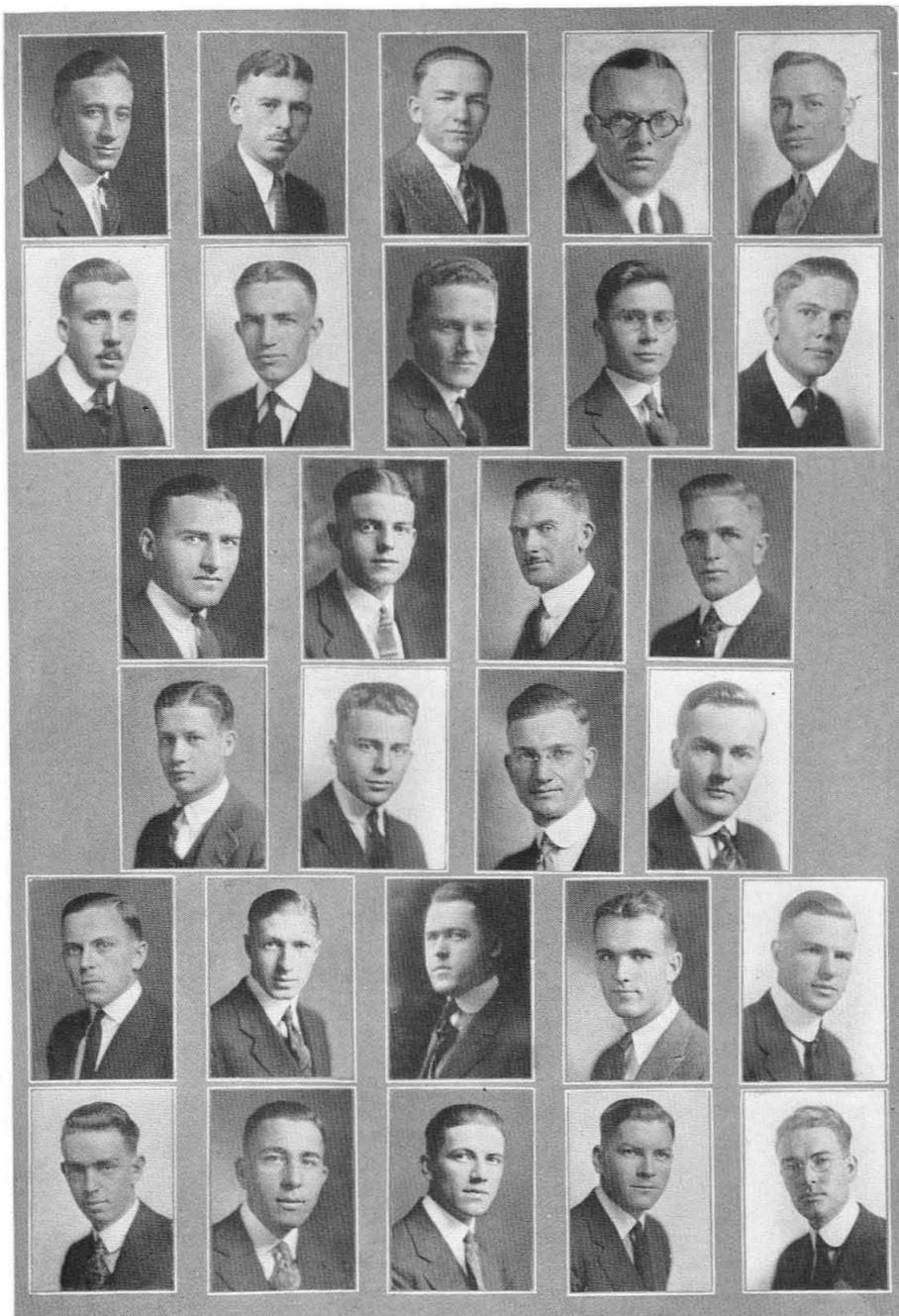
Published by The Associated Student Body
CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA, CALIFORNIA
JUNE, 1922



To

Dr. Robert Andrews Millikan

*In honor of his contributions to Science
and humanity, we respectfully
dedicate this volume.*



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Vol. XI.

June, 1922.

The Big "T"

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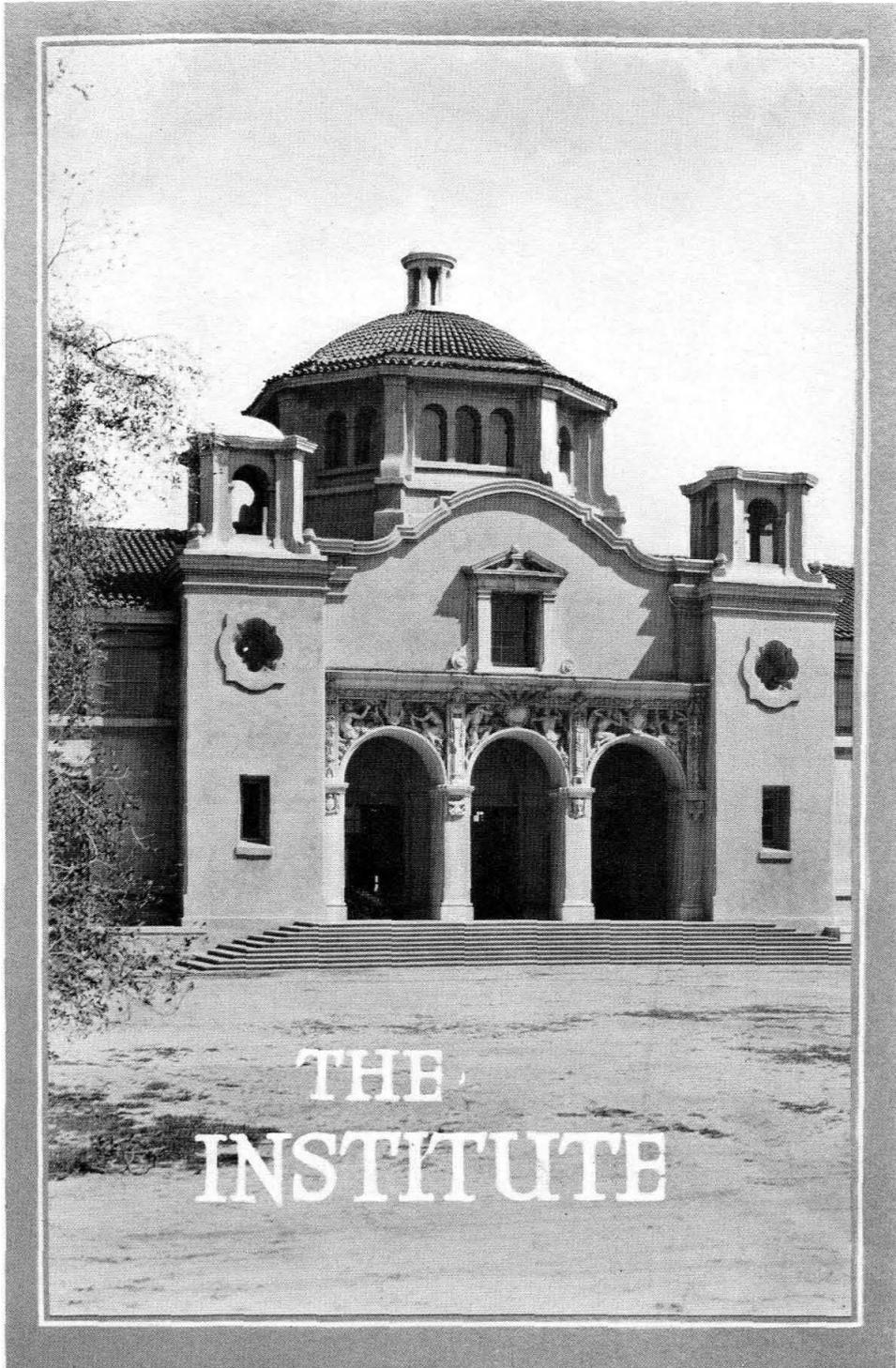


The Arrows of Endeavor



TO make myself the Master of my Work, but not its Slave; To bow my Head reverently to the Daily Task, but never to bow my Soul, except to God and His Goodness; To be patient but unflinchingly Resolute; To drive my will with a strong Bit; To take Victory with a pinch of Prudence, and accept Defeat like a Man; To seek Peace, but never to run from a Fight; To risk all on Friendship, but to stake not a Farthing on Popularity; To think as straight as I can, but to keep a Tolerant Judgment; To cherish a Clean Heart and Pure Lips, but to hate Cant and Sham and all Falsehood; To keep an Open Mind and to follow Truth whithersoever She leads; To let Imagination out of His cage now and then for a buoyant flight into the Wider World; To love all of God's Creatures, but to like only those that deserve it; To cut a clean line between Bravery and Bravado, Principle and Policy, Economy and Parsimony, as between all other False and Real values; To keep Means, such as Money, where they belong, and never to exalt them into Ends; To bear my Ultimate Burdens philosophically and alone, but never to let the Springs of Sympathy run dry; To stand erect on my own Feet, but to keep my hand in God's; To be the Best that He will let me be, and center everything in Truth—This is the Target at which I undertake to aim the Arrows of my Daily Endeavor.

—DR. JAMES A. B. SCHERER.



THE
INSTITUTE



Hail C. I. T.

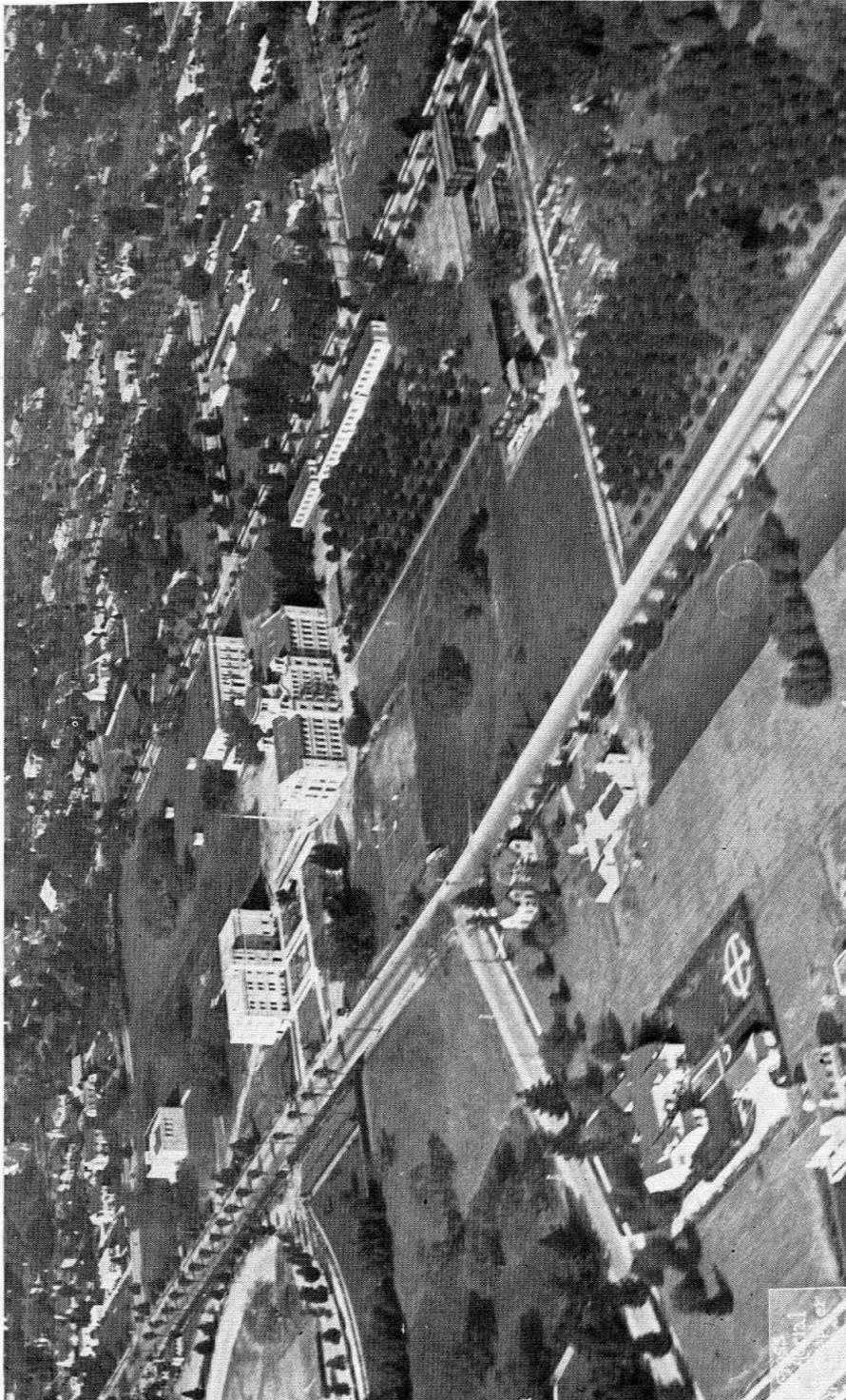


In Southern California
With grace and splendor bound,
Where the lofty mountain peaks
Look out to lands beyond.

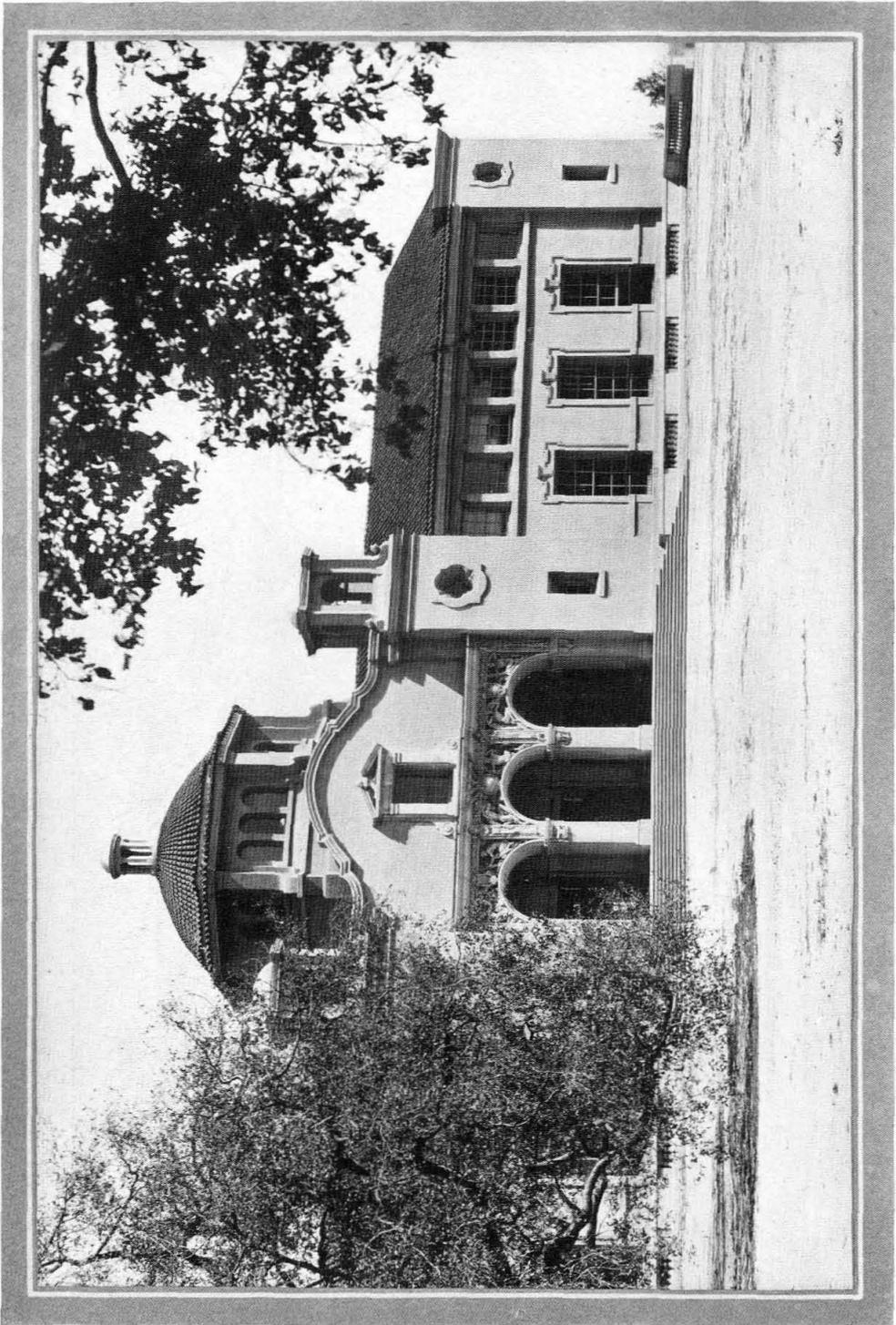
Proudly stands our Alma Mater,
Glorious to see.
We raise our voices hailing,
Hailing, hailing thee:

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

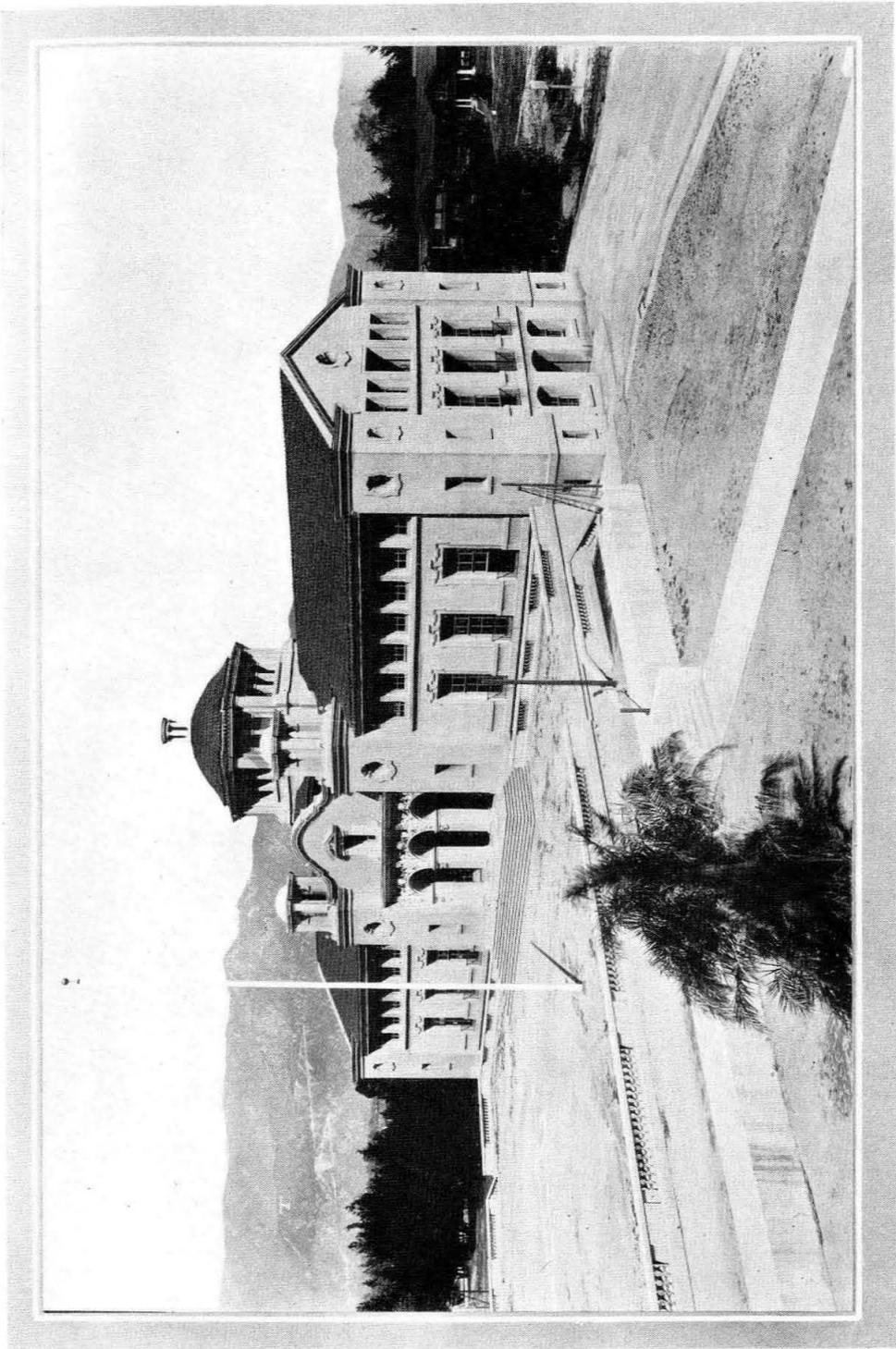
—MANTON M. BARNES, '21.



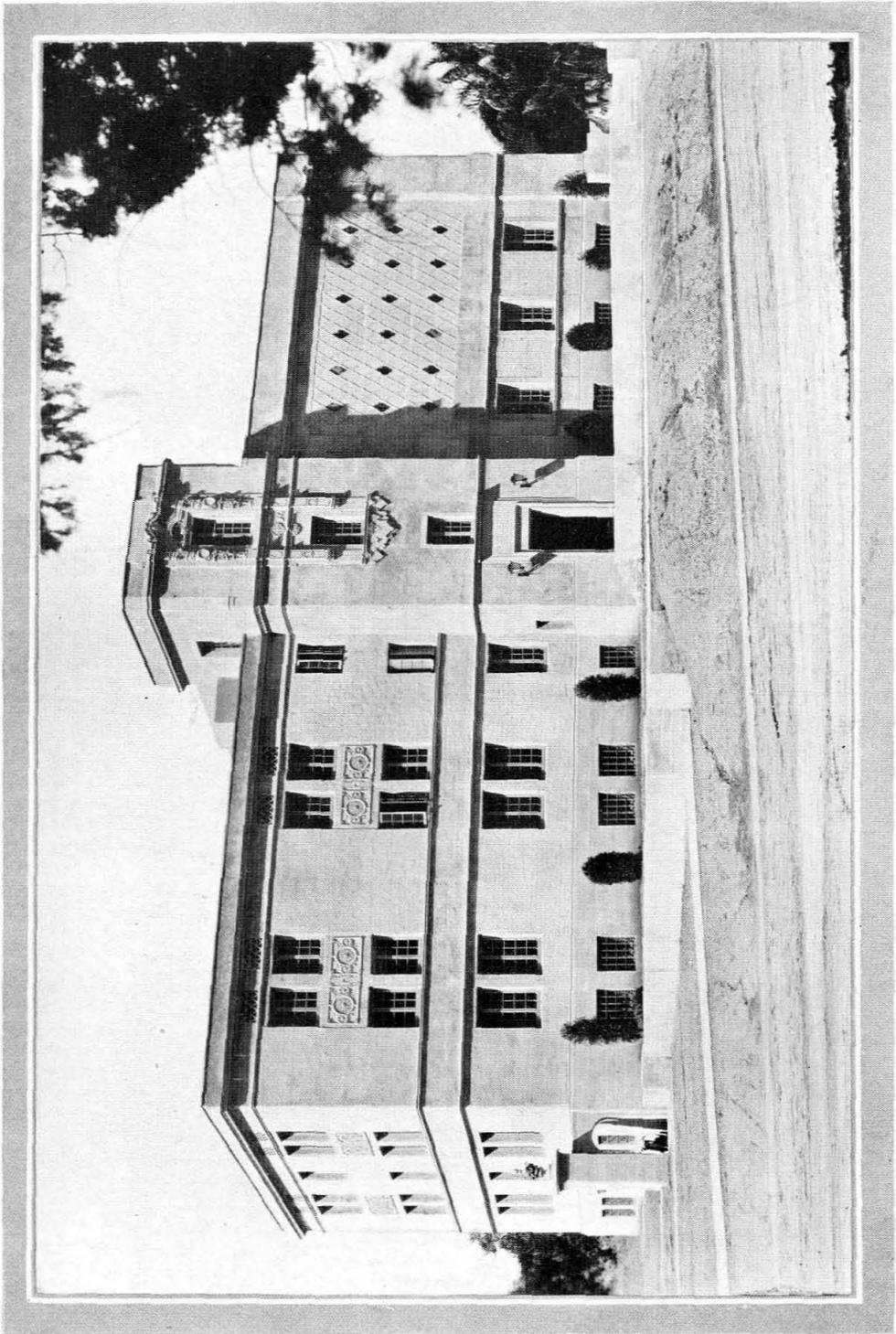
AEROPLANE VIEW OF THE CAMPUS



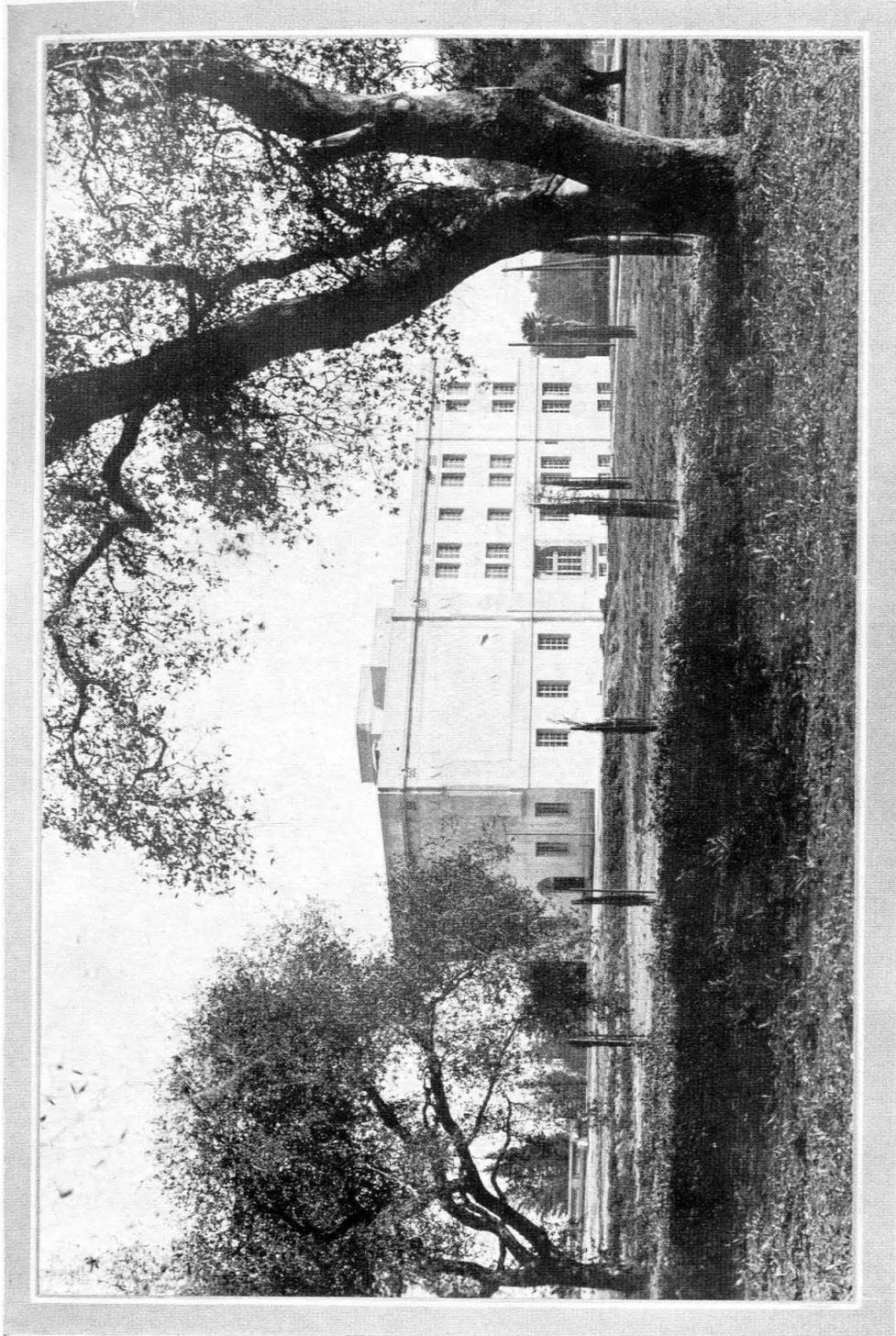
THROOP HALL



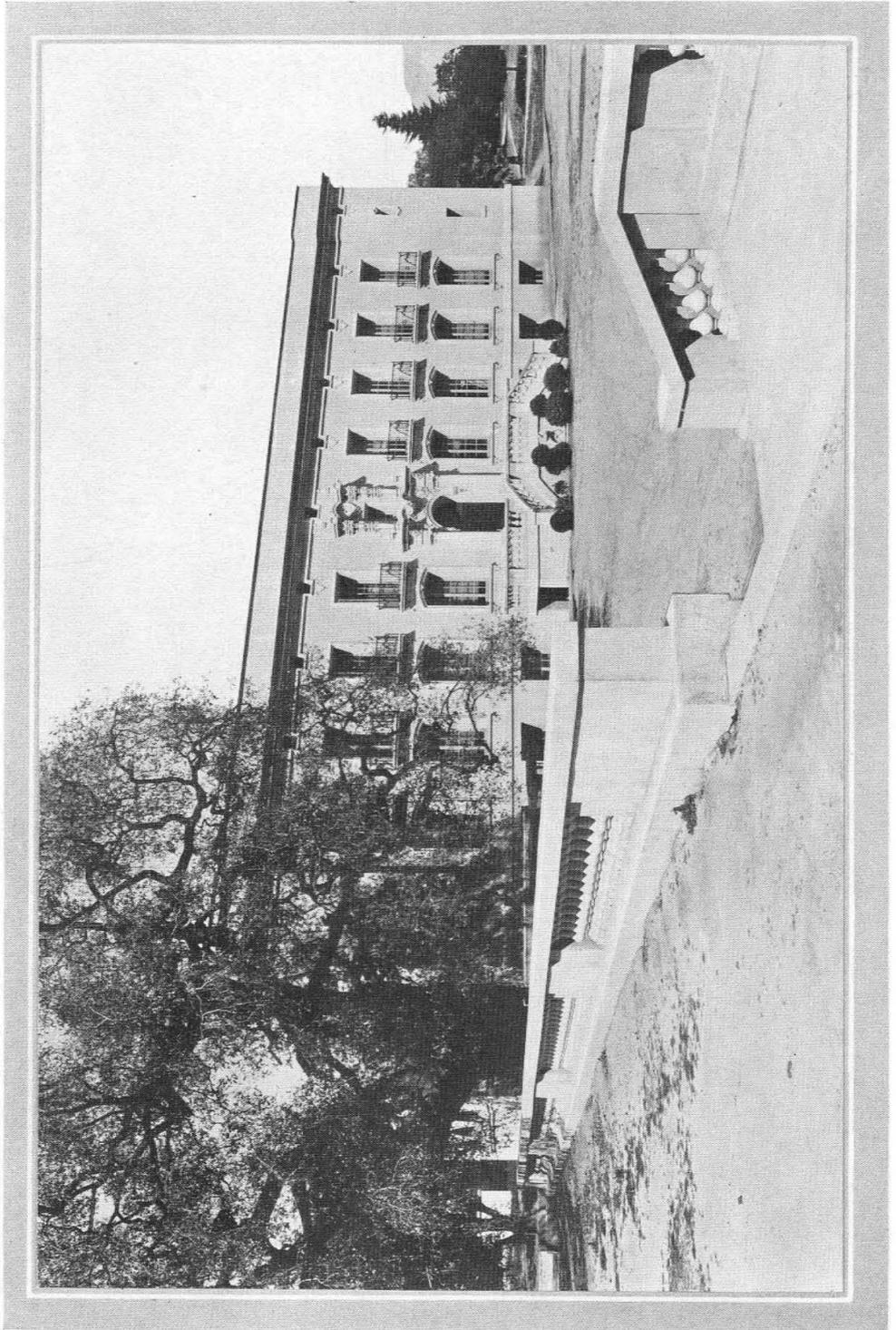
THROOP HALL.



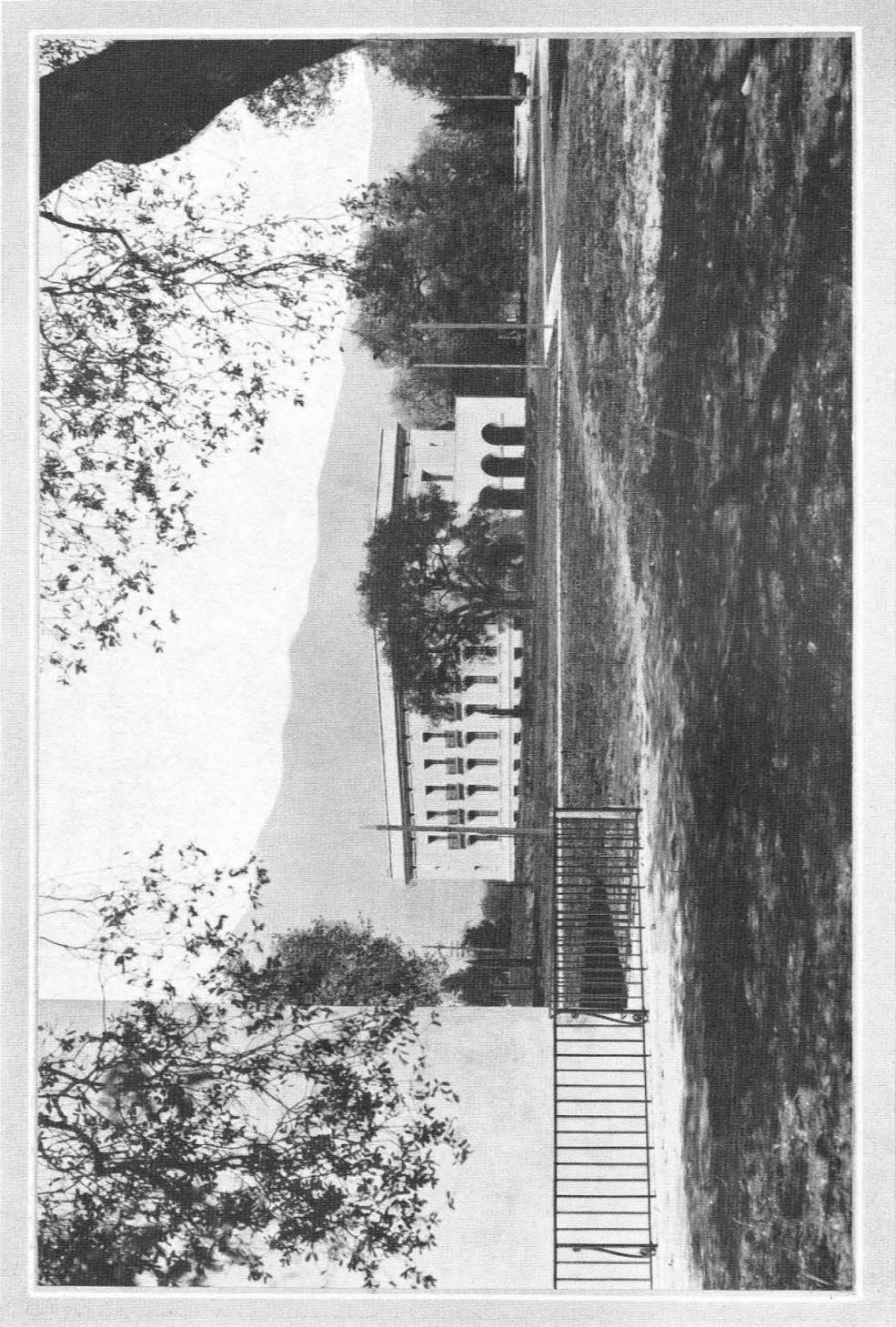
NORMAN BRIDGE LABORATORY OF PHYSICS



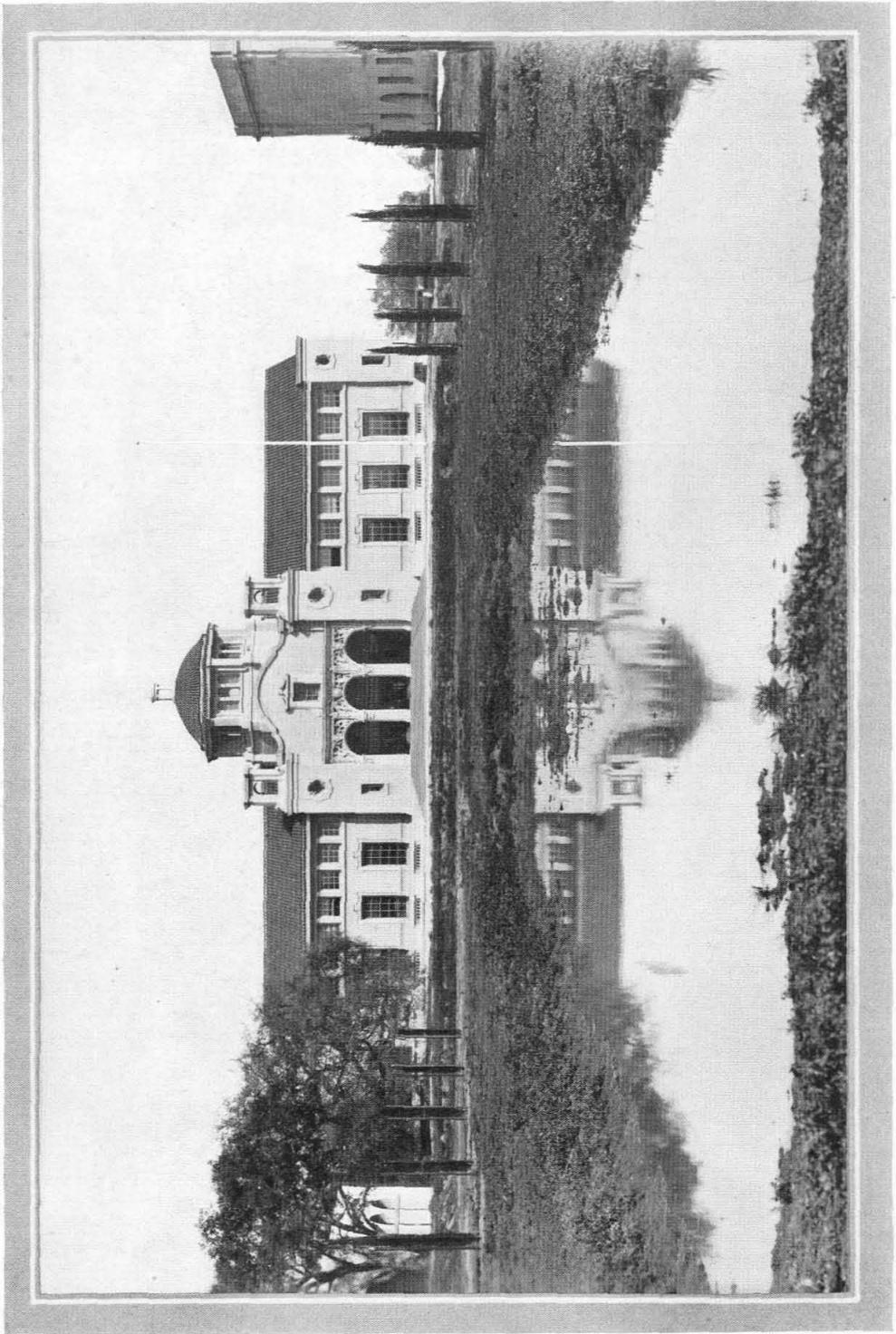
NORMAN BRIDGE LABORATORY OF PHYSICS



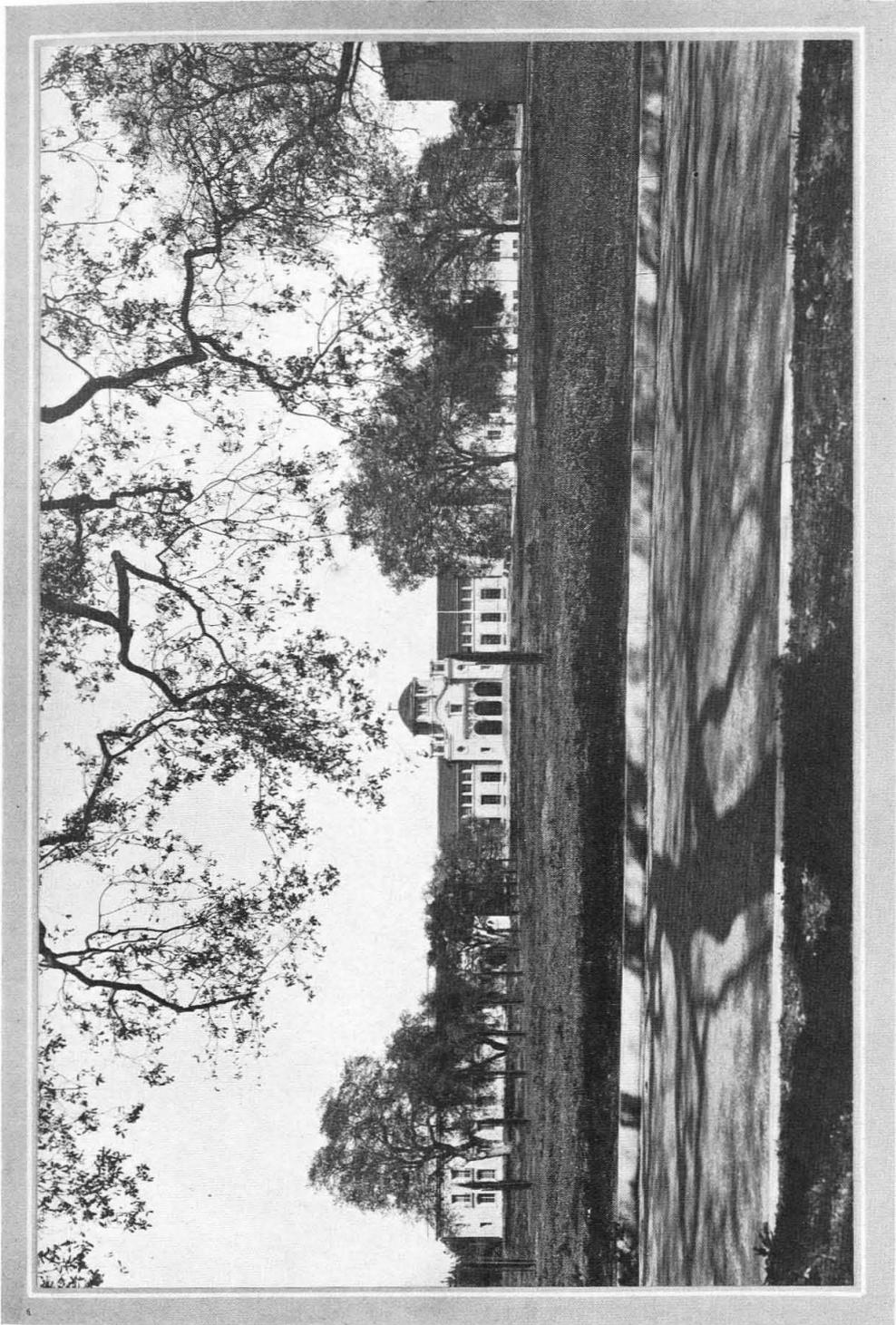
GATES CHEMICAL LABORATORY



GATES CHEMICAL LABORATORY



THROOP HALL



GENERAL VIEW



History

Institute founded by Amos G. Throop. 1891.
Charles A. Keyes, president.

Walter A. Edwards installed as president. 1897.

James A. B. Scherer assumes presidency. 1908.

Curriculum revised and standards raised. 1909.

Throop Hall dedicated. January, 1910.

Theodore Roosevelt visited the college. March, 1911.

Dr. Arthur A. Noyes named as director of Chemistry. 1913.
First issue of the "Tech" printed. 1913.

Dormitory erected and occupied. 1915.

Pole Rush inaugurated. 1915.

Big T cleared. December, 1915.

Gates Chemical Laboratory erected and occupied. 1916.

Dr. R. A. Millikan named as director of physical research. 1917.

Aerodynamics Laboratory built as the gift of Mr. Tod Ford. 1917.

War Laboratory erected. 1917.

Dr. Arthur A. Noyes came to Tech to remain permanently. 1920.

Gift of \$1,000,000 received for endowment. January 6, 1920.

Gift of \$150,000 for Norman Bridge Laboratory received. January 12, 1920.

\$75,000 made available for erection of Music Hall. January 19, 1920.

Mr. and Mrs. R. R. Blacker made gift of \$50,000. January 26, 1920.

General John J. Pershing reviewed Throop battalion. January 29, 1920.

Endowment of \$200,000 apiece given for chemical and physical research.
February 9, 1920.

Name of institution changed to the California Institute of Technology, and
Pasadena Hall renamed Throop Hall. February 10, 1920.

Dr. R. A. Millikan became head of the Institute. 1921.

New Auditorium used for first time. October 6, 1921.

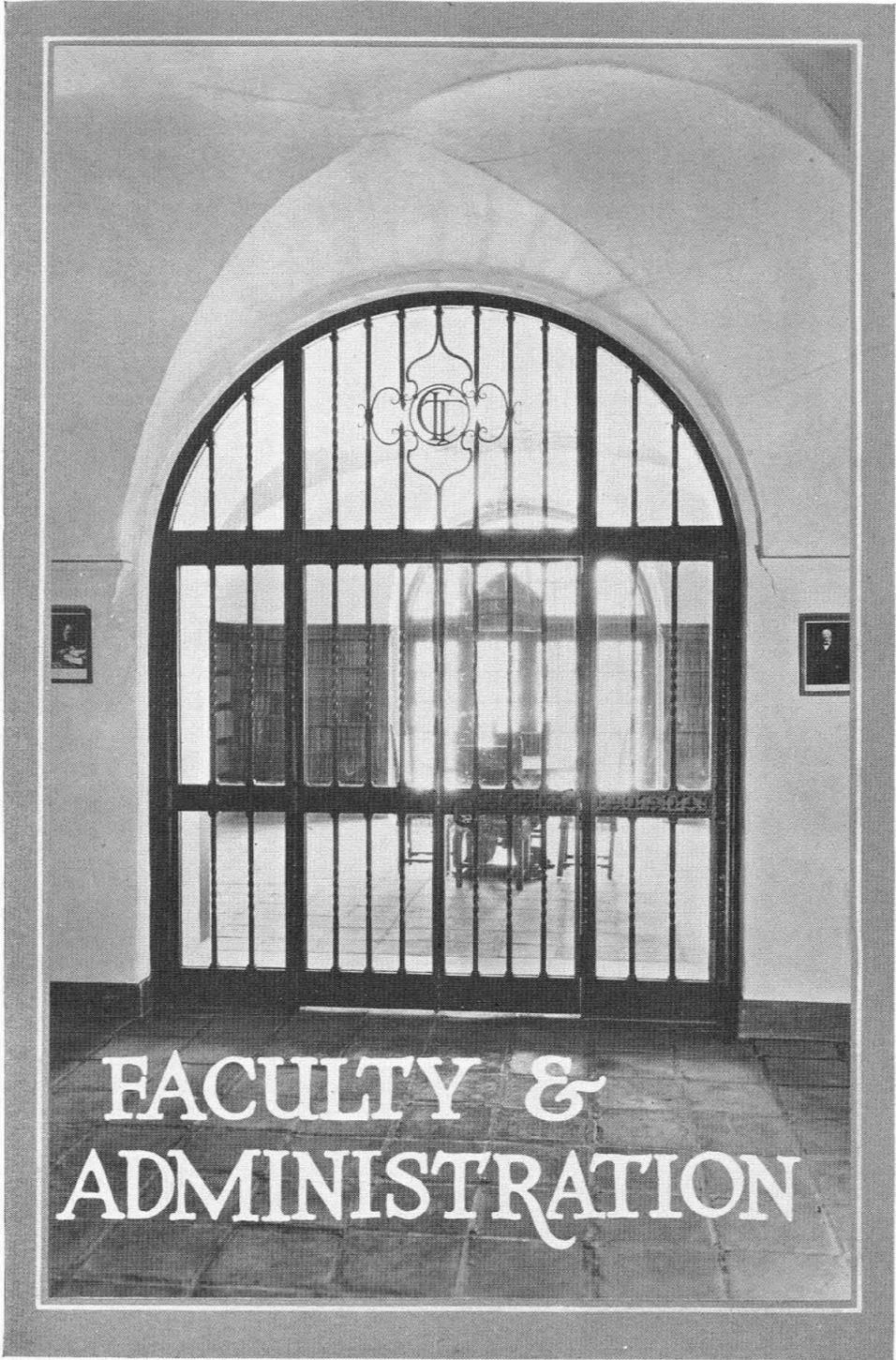
Carnegie endowment for retirement annuities received. November, 1921.

Dr. Lorentz arrived from Holland. January, 1922.

The Norman Bridge Laboratory of Physics dedicated. January, 1922.

Gift of \$250,000 for second Norman Bridge Laboratory received. March, 1922.

High Tension Electrical Laboratory erected. 1922.



FACULTY &
ADMINISTRATION



The New Form of Administration of the California Institute of Technology

By ROBERT A. MILLIKAN



Executive Council

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EDWARD C. BARRETT



THE California Institute of Technology is in certain respects in an exceedingly favorable position for taking forward steps in the development of higher education in the United States.

For, in the first place, it has the advantage, possessed by all private institutions, of being freed from all political influences, and hence of being able to keep pace with the best intelligence of the community, rather than the average intelligence, as, in the very nature of the case, all bodies which are subject to legislative control in a democracy must expect to do.

Secondly, the Institute has just now the supreme advantage of *youth*, and hence of freedom from the traditions and customs which by their inertia check the progress of many private institutions quite as effectively as political influences interfere with the development of public ones.

Thirdly, the Institute has the extraordinary advantage of having to deal with, and plan for, a relatively *small*, and a very *homogeneous* group of men all of whom are inspired by a serious purpose, and all of whom believe in and want for themselves the most thorough kind of education which can be built upon the basis of the fundamental sciences. Few institutions have ever had such an opportunity to demonstrate the quality of the education which can be built upon an essentially scientific foundation.

One of the Institute's first and most interesting innovations has been to dispense with a president, replacing him by an executive council composed of three members of the faculty and three members of the Board of Trustees. This is not so radical a departure from the recognized practice of the oldest and best of the world's universities as it may seem to be to most Americans, for the college or university president is a strictly American functionary



unknown in connection with the world's greatest centers of learning, like those in France, Germany, and England. He has come into existence in America partly, no doubt, because of our paucity of outstanding scholars, and because of the need, accentuated, if not created, by that paucity, for a promoter and money-getter, or better still for a person, if he can be found, who combines the qualities of the outstanding scholar with those of the promoter.

But the university at its best is not a one-man institution. It is instead simply a group of pupils gathered about men who are masters in their fields and who are passing on their mastery to younger men, chiefly by the power of example. Such were the universities of Greece, and such have been the greatest universities of both medieval and modern times. Among such a group of masters means should clearly be found for making leadership follow natural rather than artificial lines, as it has done in general in all of these old-world universities. Even in American educational institutions, autocratic though their form of government has been, departments headed and controlled by one man are already practically in the discard. For it has now become the general practice in America to eliminate the position of "departmental head" and to let a group of professors, of altogether co-ordinate rank, direct departmental policies, the routine of administration being conducted through a departmental chairman who is frequently one of the youngest and least important members of the department. All of the considerations which make this a sound departmental policy make it also a sound university policy.

The Trustees of the Institute do not wish it to be, even in the form of administration, a one-man institution. They wish it to have a whole faculty of outstanding men and they believe that in the long run it will gain the friends and the financial support which it needs just in proportion to the creativeness of its whole faculty, the quality of the work which it does and the character of the men whom it produces. These should be its credentials, and these should constitute the introduction to the public which a president is some times supposed to make. It is therefore to these things that the Trustees have been and are now directing all their energies and their resources.





DR. JAMES A. B. SCHERER

THE debt of gratitude which the Institute owes President Emeritus Dr. J. A. B. Scherer can hardly be repaid in the fullness of time. For the twelve years from 1908 to 1920, Dr. Scherer gave all of his energies to the up-building of an institution here which should be unique and unsurpassed in educational history. His was the inspiration which guided this institution in its growth from a secondary school to a college of science and engineering. During his presidency, the changes, first, from the Throop Polytechnic Institute to Throop College of Technology, and later to the California Institute of Technology were conceived and executed.

Not only have Dr. Scherer's contributions to this institution been magnificent, but his service to humanity has been of the highest magnitude. Known throughout the world as an educator, author, critic, speaker and administrator, he is lovingly remembered by all those who have had the good fortune to come in contact with him.



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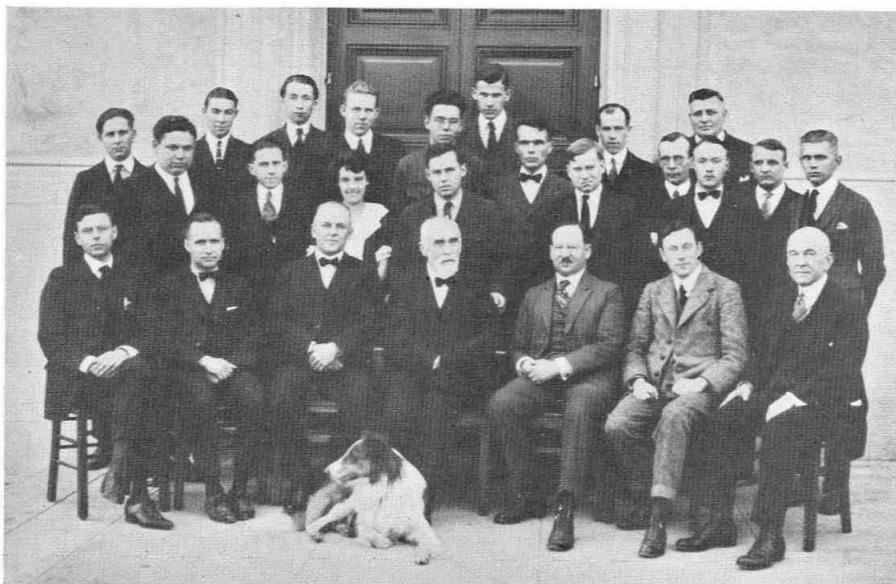
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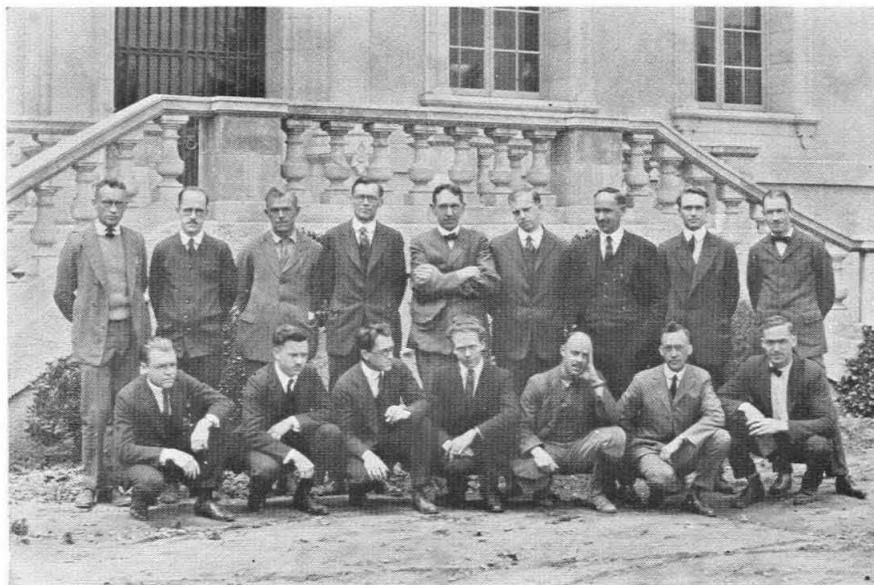


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A. B., Oberlin College, 1891; A. M., 1893; Ph. D., Columbia University, 1895; Sc. D., Oberlin College, 1911.
- LUCIEN HOWARD GILMORE, A. B.—*Professor of Physics*
A. B., Leland Stanford, 1894.
- PAUL EPSTEIN, Ph. D.—*Professor of Physics*
C. Sc., Moscow University, 1906; M. Sc., 1909; Ph. D., University of Munich, 1914.
- EARNEST CHARLES WATSON, Ph. D.—*Associate Professor of Physics*
Ph. D., 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.
- JAMES B. FRIAUF, A. B.—*Instructor in Physics*
A. B., University of Montana, 1918.
- HARRY BATEMAN, Ph. D.—
Professor of Mathematical Physics and Aeronautical Research
B. A., Cambridge University, 1903; M. A., 1906; Ph. D., Johns Hopkins University, 1913.
- IRA S. BOWEN, A. B.—*Research Assistant to Director of Physical Research*
- ALBERT ADAMS MERRILL—*Research Associate in Aeronautics*
- RUSSELL MORLEY OTIS, B. S.—*Research Fellow in Physics*
B. S., California Institute of Technology, 1920.



Department of Chemistry



TEITSWORTH, SWIFT, BRANHAM, WEYMOUTH, BELL, BATES, LUCAS, SMITH, BENTON,
WYCKOFF, CHAPMAN, DICKINSON, RAYMOND, ELLIS, LACEY, BOLAN

- 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., Leipsic, 1890;
LL.D., University of Maine, 1908; Sc. D., Harvard, 1909.
- STUART JEFFERY BATES, Ph. D.—*Professor of Physical Chemistry*
B. A., McMaster University, Toronto, 1907; M. A., 1909; Ph. D., University of Illinois.
- JAMES EDGAR BELL, Ph. D.—*Professor of Chemistry*
S. B., University of Chicago, 1905; Ph. D., University of Illinois, 1913.
- RICHARD CHASE TOLMAN, Ph. D.—
Professor of Physical Chemistry and Mathematics
S. B., Massachusetts Institute of Technology, 1903; Ph. D., 1910.
- HOWARD JOHN LUCAS, M. A.—*Associate Professor of Organic Chemistry*
B. A., Ohio State University, 1907; M. A., 1908.
- WILLIAM NOBLE LACEY, Ph. D.—*Associate Professor of Chemical Engineering*
A. B., Leland Stanford, 1912; M. S., 1913; Ph. D., University of California, 1915.
- JAMES HAWES ELLIS, Ph. D.—*Research Associate in Physical Chemistry*
B. S., Massachusetts Institute of Technology, 1912; Ph. D., 1916.
- ROSCOE GILKEY DICKINSON, Ph. D.—
Research Associate in Physical Chemistry (National Research Fellow)
S. B., Massachusetts Institute of Technology, 1915; Ph. D., California Institute of
Technology, 1920.



- EARNEST HAYWOOD SWIFT, M. S.—*Instructor in Analytical Chemistry*
B. S., University of Virginia, 1918; M. S., California Institute of Technology, 1920.
- ARTHUR FERGUNSON BENTON, Ph. D.—*National Research Fellow in Chemistry*
A. B., Princeton, 1916; A. M., 1919; Ph. D., 1920.
- RICHARD MILTON BOZORTH, A. B.—*Research Fellow in Chemistry*
A. B., Reed College, 1917.
- RALPH W. G. WYCKOFF, Ph. D.—*Research Fellow in Physical Chemistry*
B. S., Hobart College, 1916; Ph. D., Cornell College, 1919.
- RICHARD BADGER, B. S.—*Graduate Assistant in Chemistry*
B. S., California Institute of Technology, 1921.
- FRED C. HENSON—*Instrument Maker, Department of Chemistry*

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B. S., Massachusetts Institute of Technology, 1919; M. S., University of Pennsylvania, 1920.
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B. S., University of Virginia, 1919; M. S., 1921.
- KENNETH GOODE, S. B.
S. B., University of Chicago, 1921.
- ALBERT L. RAYMOND, B. S.
B. S., California Institute of Technology, 1921.
- DAVID FREDERICK SMITH, B. S.
B. S., California Institute of Technology, 1920.
- CLARK S. TEITSWORTH, B. A.
B. A., Stanford University, 1919.
- LAURENCE E. WEYMOUTH, B. S.
B. S., Massachusetts Institute of Technology, 1920.

Department of Physics

- VICTOR BENIOFF, B. A.—*Assistant in Physics*
B. A., Pomona College, 1921.
- ROBERT BRODE, B. S.—*Assistant in Physics*
B. S., Whitman College, 1921.
- JULIUS PEARSON—*Instrument Maker, Department of Physics*
- BRUNO E. MERKEL—*Instrument Maker, Department of Physics*
- WILLIAM CLANCY—*Glass Blower, Department of Physics*

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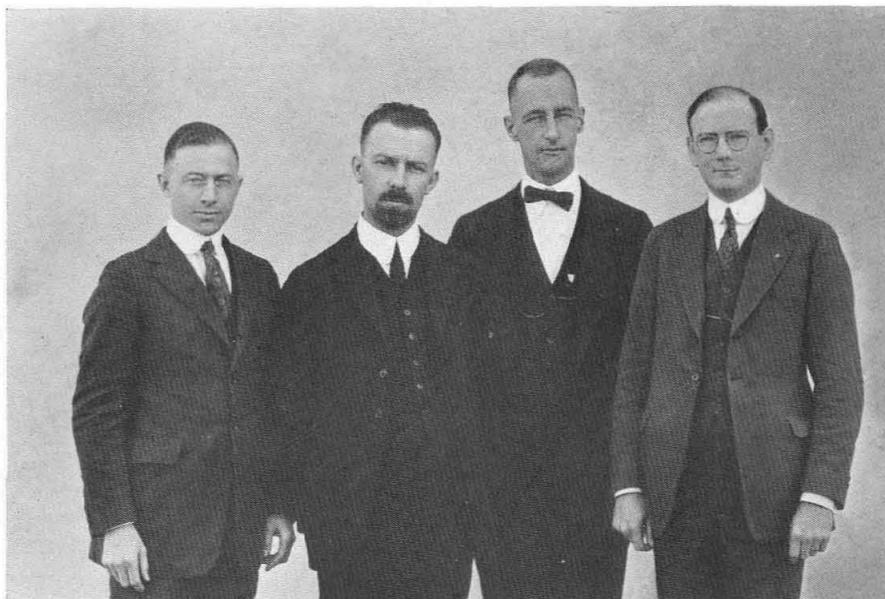
- ROBERT C. BURT, E. E.
Cornell University, 1921.
- JESSE W. M. DU MOND, M. S.
B. S., California Institute of Technology, 1916; M. S. in E. E., Union College, 1918.
- GEORGE C. HENNY, A. B.
A. B., Reed College, 1920.
- ARTHUR L. KLEIN, B. S.
B. S., California Institute of Technology, 1921.
- SINCLAIR SMITH, B. S.
B. S., California Institute of Technology, 1921.

Associates

- ALBERT ABRAHAM MICHELSON, Ph. D., LL.D., Sc. D., Prof. of Physics,
University of Chicago—*Research Associate in Physics*
- HENDRIK ANTOON LORENTZ, Professor of Physics, University of Leyden—*Lecturer in Physics*



Department of Civil Engineering



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MICHAEL

THOMAS

FRANKLIN THOMAS, C. E.—*Professor of Civil Engineering*
B. E., University of Iowa, 1908; C. E., 1913.

WILLIAM WHIPPLE MICHAEL, B. S.—*Associate Professor of Civil Engineering*
B. S., 1909, Tufts College.

ROMEO RAOUL MARTEL, S. B.—*Associate Professor of Civil Engineering*
S. B., Brown University, 1912.

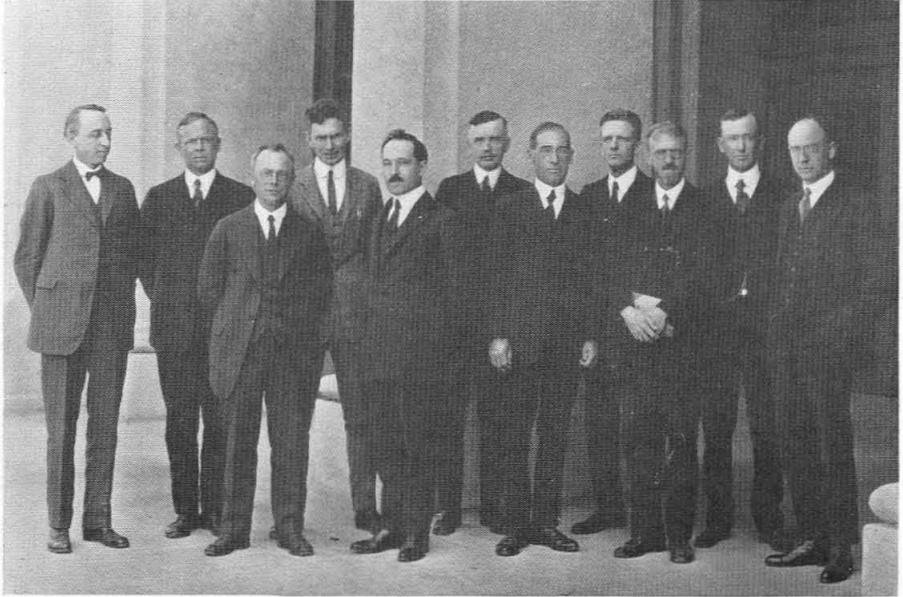
FRED J. CONVERSE, B. S.—*Instructor in Civil Engineering*
B. S., University of Rochester, 1914.

WILL ROUNDS—*Director of Music*
Student Oberlin College Conservatory, 1893-1896; Leipzig Royal Conservatory of
Music, 1896-1901; Conductor Pasadena Orchestra, 1920.

FRANCES HALSEY SPINING—*Librarian*



Departments of Mathematics, Languages, and Economics

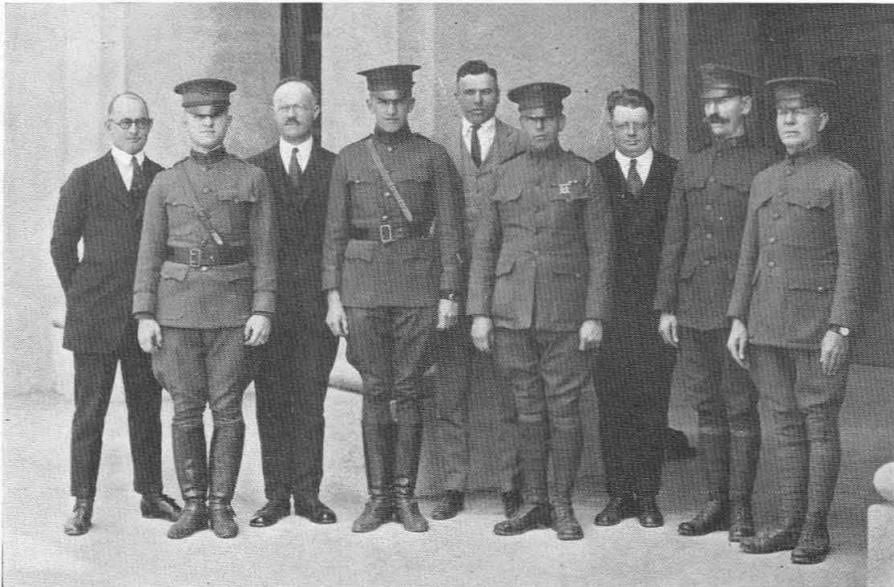


VAN BUSKIRK, JUDY, WOLFE, MACARTHUR, BIRCHBY, WEAR,
LAING, PERIGORD, MATLOCK, MERRILL, MACMINN

- 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 MACMINN, A. B.—
Associate Professor of English Language and Literature
A. B., Brown University, 1905.
- JOHN ROBERTSON MACARTHUR, Ph. D.—
Associate Professor of English Language and Literature
B. A., University of Manitoba, 1892; Ph. D., University of Chicago, 1903.
- W. H. MATLOCK, Ph. B.—*Professor of Modern Languages*
Ph. B., Drake University, 1896.
- GRAHAM A. LAING, M. A.—*Professor of Economics*
B. A., University of Liverpool, 1908; M. A., 1909.
- PAUL PERIGORD, M. A.—*Professor of Economics and European History*
B. A., University of France, 1901; Ph. B., 1902; M. A., University of Chicago, 1911;
M. A., Columbia University, 1913.
- EDWARD CECIL BARRETT, B. A.—*Lecturer in Business Law*
B. A., State University of Iowa, 1906.
- HARRY CLARK VAN BUSKIRK, Ph. B.—*Professor of Mathematics*
Ph. B., Cornell University, 1897.
- LUTHER EWING WEAR, Ph. D.—*Associate Professor of Mathematics*
A. B., Cumberland University, 1902; Ph. D., Johns Hopkins University, 1913.
- 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.



Departments of Electrical Engineering, Physical
Education, and Military

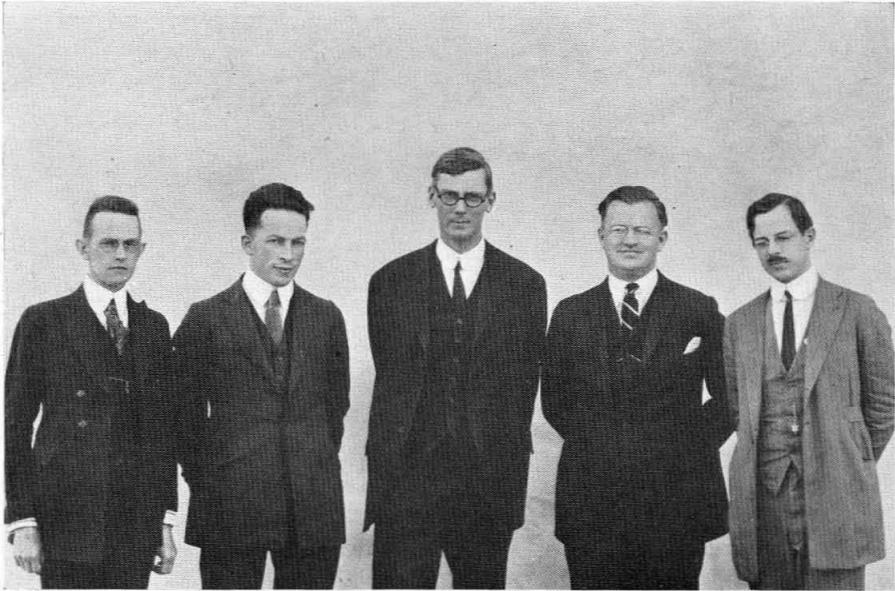


MUSSELMAN, GULLATT, FORSTER, KRAMER, TENISON, BAILEY, SORENSON, COOK, LERACY

- ROYAL WASSON SORENSON, B. S.—*Professor of Electrical Engineering*
B. S., University of Colorado, 1905.
- GEORGE FORSTER, E. E.—*Assistant Professor of Electrical Engineering*
E. E., Lehigh University, 1914.
- FRED LLOYD POOLE, M. S.—*Instructor in Electrical Engineering*
B. S., Throop College of Technology, 1917; M. S., Union College, 1919.
B. S., Throop College of Technology, 1919.
- SAM ALFRED TENISON, B. S.—*Assistant Professor of Physical Education*
B. S., James Millikan University, 1917.
- HAROLD Z. MUSSELMAN, A. B.—*Assistant Physical Director*
A. B., Cornell College, 1920.
- WILLIAM B. STANTON, B. A.—*Football Coach*
B. A., Dickinson College, 1903
- HANS KRAMER, Captain Corps of Engineers, U. S. Army—
Professor of Military Science and Tactics
Graduate U. S. Military Academy, West Point, 1918.
- DOSWELL GULLATT, 1st Lieutenant Corps of Engineers, U. S. Army—
Assistant Professor of Military Science and Tactics
Graduate of U. S. Military Academy, West Point, 1918.
- JOSEPH LERACY, Master Sergeant, Engineers U. S. Army—
Assistant, Department of Military Science and Tactics
- LOUIS H. BAILEY, Staff Sergeant, Engineers U. S. Army—
Assistant, Department of Military Science and Tactics
- WILLIAM C. COOK, Regimental Commissary Sergeant, Field Artillery, U. S.
Army, Retired—
Supply Sergeant, Department of Military Science and Tactics



Department of Mechanical Engineering



BOWLUS

AGER

HINRICHS

OGIER

DAUGHERTY

ROBERT DAUGHERTY, A. B., M. E.—

Professor of Mechanics and Hydraulic Engineering

A. B., Leland Stanford, 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.—*Associate Professor of Mechanism*

A. B. Columbia University, 1902.

FRANCIS WILLIAM MAXSTADT, M. E. (E. E.)—*Instructor in Mechanics*

M. E., Cornell University, 1916 (Certificate of E. E., 1916).

GLENN H. BOWLUS, B. S.—*Assistant Professor of Mechanical Engineering*

B. S., Purdue University, 1912.

WALTER WILLIAM OGIER, B. S.—*Instructor in Mechanical Engineering*

JACOB AUBURN, M. E.—*Instructor in Engineering Drawing*

M. E., Cornell University, 1897.

RAYMOND WELLINGTON AGER—*Assistant in Mechanical Engineering*

California Institute of Technology, Class of 1922.

WALTER WILLIAM MARTIN—*Instructor in Wood Work (Part time)*

ARTHUR FREDERICK HALL—

Instructor in Pattern Making and Machine Shop Practice (Part time)

OSCAR LESLIE HEALD—*Instructor in Forging (Part time)*





CLASSES



DEWEY C. ROHLOFF, Venice, Calif.
"Ski"; Born June 4, 1898; Mechanical Engineering; Prepared at Venice High School; Entered Freshman year; Football (2, 3, 4); Dorm Club (2, 3, President 4); Varsity Club (2, 3, 4); Board of Control (4); Y. M. C. A. (4); A. S. M. E. (3, Chairman 4); S. A. E. (Chairman 4).



HOWARD G. VESPER, *Tau Beta Pi*,
Gnome Club, *Press Club*,
Pasadena, Calif.

"Gockley"; Born June 13, 1902; Chemical Engineering; Prepared at Pasadena High School; Entered Freshman year; Tech Staff (1, 2, Associate Editor 3, 4); Annual Staff (Organizations, Editor 1, 3, Manager 2, Editor 4); Glee Club (1, 2, 3, 4); Board of Control (3); Basketball (2, 3, 4); Publicity Manager (3); Junior Travel Prize (3); Orchestra (2, 4); Football Manager (2); Class Vice-President (1); Chem Club (2, 3, 4); Y. M. C. A. (2, 3); Varsity Club (2, 4, Vice-President 3).



ROBERT J. CRISSMAN, Santa Ana, Calif.
"Criss"; Born Nov. 23, 1899; Electrical Engineering; Prepared at Santa Ana High School; Entered Freshman year; Dorm Club (1, 2, 3, 4); Varsity Club (2, 3, 4); Track (2, 3, 4); A. I. E. E. (4).



GORDON A. ALLES, *Tau Beta Pi*,
Alhambra, California
"Alice"; Born Nov. 26, 1901; Chemistry Course; Prepared at Alhambra High School; Entered Freshman year; Chem Club (2, 3, 4); Tennis (2).



LINNE C. LARSON, *Gnome Club*,
Los Angeles, Calif.
"Linnay"; Born Feb. 7, 1899; Electrical Engineering; Prepared at Polytechnic High School, Los Angeles; Basketball (1, 4, Captain 2 and 3); Baseball (1, 2, 3, 4); Board of Control (1); Representative at Large (2); Varsity Club (2, 4, Secretary 3); A. I. E. E. (4).



MARTIN J. WESSELER, Alhambra, Calif.
"Martin"; Born Oct. 1, 1896; Civil Engineering; Prepared at Los Angeles High School; Attended Los Angeles Junior College; Entered Sophomore year; A. S. C. E. (3, 4); Y. M. C. A. (2, 3, 4).

1922



CLASS OF 1922



WARREN A. SCHNEIDER,
Los Angeles, Calif.
"Cupid"; Born Sept. 23, 1899; Engineering and Economics; Prepared at Polytechnic High School, Los Angeles; Entered Freshman year; Basketball (2, 3, 4); Baseball (2, 3, 4); Varsity Club (2, 3, 4); Glee Club (1, 2).



CLYDE R. KEITH, *Tau Beta Pi, Press Club*, Pasadena, Calif.
"Clyde"; Born Jan. 3, 1900; Physics and Engineering; Prepared at Pasadena High School; Entered Freshman year; Tech Staff (1, 3, News Editor 2, Associate Editor 4); Annual Staff (2, 3, 4); Editor Freshman Handbook (2); Band (1, 2, 3, 4); Orchestra (2, 4).



W. MAURICE TAGGART, *Sigma Alpha Pi, Tau Beta Pi, Press Club*, Los Angeles, Calif.
"Moke"; Born Feb. 22, 1898; Civil Engineering; Prepared at Lincoln High School, Los Angeles; Entered Freshman year; Publicity Manager (4); A. S. C. E. (President 3 and 4).



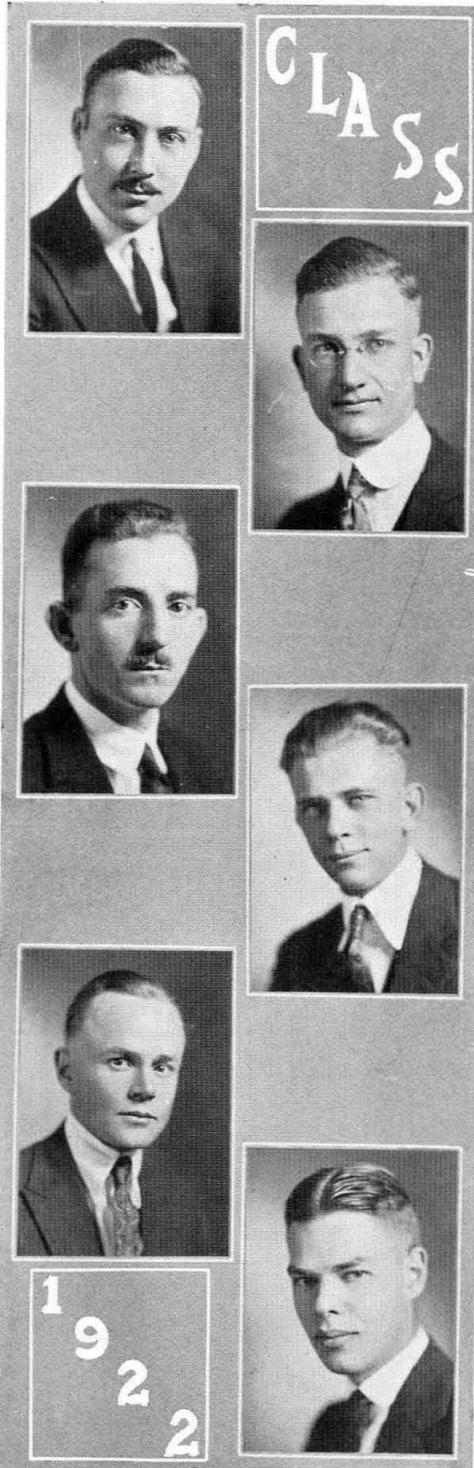
THOMAS G. MYERS, *Tau Beta Pi*, Heavener, Okla.
"Tommy"; Born March 30, 1900; Electrical Engineering; Prepared at Shreveport High School and Santa Ana Junior College; Entered Freshman year; Swimming (2, 3, Captain 4); Varsity Club (2, 3, 4); A. I. E. E. (3, 4).



ALFRED W. KNIGHT, *Tau Beta Pi, Sigma Alpha Pi*, Glendale, Calif.
"Al"; Born Oct. 6, 1895; Chemical Engineering; Prepared at Glendale High School; Attended University of California; Entered Freshman year; Conger Peace Prize (2); Chem Club (President 3); Du Pont Scholarship (3); Class Secretary-Treasurer (4).



FRANCIS L. HOPPER, Pasadena, Calif.
"Grasshopper"; Born Feb. 24, 1901; Physics and Engineering; Prepared at Hollywood High School; Entered Freshman year; A. I. E. E. (1, 2, 3, 4); Tech Staff (1, 2, 3); Annual Staff (3); Debating (4).





CLASS



OLCOTT R. BULKLEY, Lancaster, Calif.
"Sailor"; Born April 19, 1899; Electrical Engineering; Prepared at Antelope Valley High School; Entered Freshman year; A. I. E. E. (3, Chairman 4); Y. M. C. A. (1, 2, 4).



JOHN E. SHIELD,
South Pasadena, Calif.
"Shimmy"; Born June 23, 1901; Civil Engineering; Prepared at South Pasadena High School; Entered Freshman year; Glee Club (1); Annual Staff (Advertising Mgr. 4); A. S. C. E. (3, 4).



GEORGE H. CLEVER, Van Nuys, Calif.
"Little Georgie"; Born Oct. 9, 1900; Civil Engineering; Prepared at Van Nuys High School; Entered Freshman year; Glee Club (1, 2, 3, 4); A. S. C. E. (Treasurer 4); Y. M. C. A. (President 3 and 4); Tech Staff (Advertising Manager 4).



BEN BENIOFF, *Press Club*,
Los Angeles, Calif.
"Benj."; Born July 21, 1900; Civil Engineering; Prepared at Hollywood High School and Junior College; Entered Freshman year; Representative at Large (4); A. S. C. E. (3, 4); Dorm Club (2, 3, 4); Varsity Club (3, 4); Annual Staff (3, Sporting Editor 4); Tech Staff (3, Business Manager 4); Track (3, Captain 4); Football (4).



PAUL R. AMES, *Tau Beta Pi, Sigma Alpha Pi*, Los Angeles, Calif.
"Paul"; Born Dec. 1, 1897; Chemical Engineering; Prepared at Manual Arts High School; Entered Freshman year; Chem Club (1, 2, 3, 4); Athletic Manager (2); Track (2, Captain 3 and 4); Football (2); President Student Body (4); Dorm Club (1, 2, 3, President 4); Varsity Club (4).



THOMAS J. FLEMING, San Diego, Calif.
"Tommy"; Born April 7, 1900; Electrical Engineering; Prepared at San Diego High School; Entered Freshman year; A. I. E. E. (3, 4).

1922



CLASS OF 1922



HAROLD S. OGDEN, Los Angeles, Calif.
"Curly"; Born Jan. 1, 1900; Electrical Engineering; Prepared at Polytechnic High School, Los Angeles; Entered Freshman year; Y. M. C. A. (1, 2); A. I. E. E. (3, 4).



HAROLD S. BARTHITE, Vicksburg, Mich.
"Daddy"; Born Oct. 20, 1898; Civil Engineering; Attended Michigan Agricultural College; Entered Sophomore year; Y. M. C. A. (2); A. S. C. E. (3, 4).



EDWARD G. KEMP, *Sigma Alpha Pi*, Pasadena, Calif.

"Geof"; Born Aug. 30, 1899; Civil Engineering; Prepared at Pasadena High School; Entered Freshman year; Football (2, 4); Baseball (1, 2, 3, Captain 4); Track (1, 2, 4, Captain 3); Varsity Club (2, 3, 4); Representative at Large (3); A. S. C. E. (3, 4).



HAROLD M. BRADY, Los Angeles, Calif.
"Mike"; Born March 17, 1900; Mechanical Engineering; Prepared at Polytechnic High School, Los Angeles; Entered Freshman year; A. S. M. E. (4).

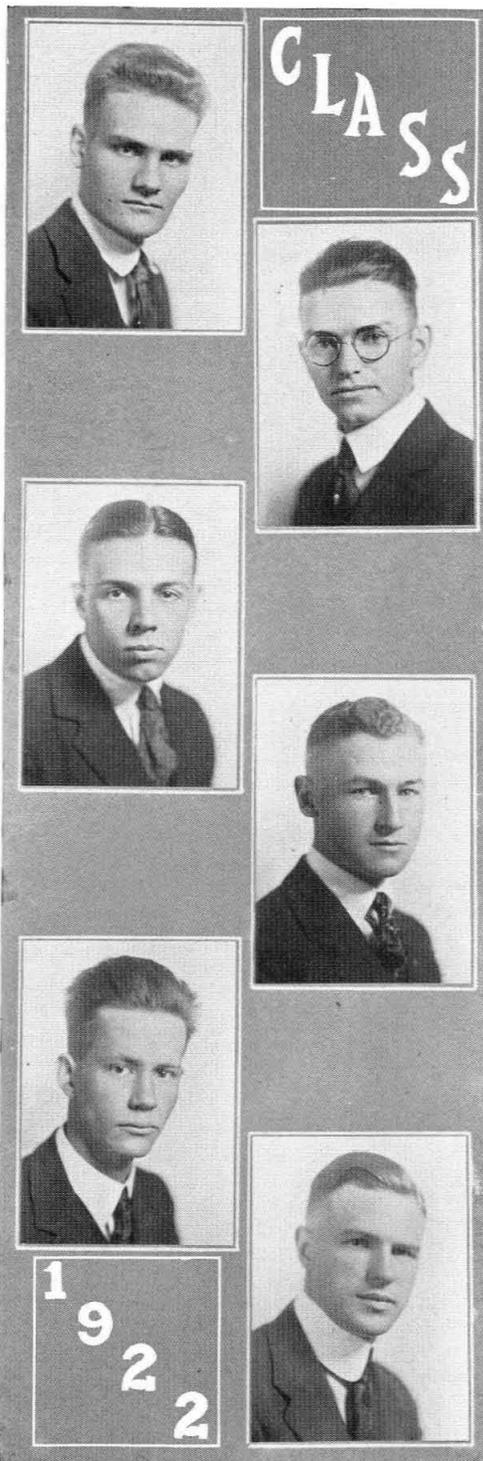


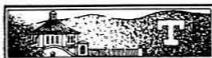
HALLAN N. MARSH, San Diego, Calif.
"Mash"; Born April 21, 1899; Mechanical Engineering; Prepared at San Diego High School and Junior College; Entered Sophomore year; Dorm Club (2); Radio Club (2); Aero Club (3, 4); S. A. E. (Vice-President 4); A. S. M. E. (4).



LESTER O. WARNER, *Sigma Alpha Pi*, *Press Club*, San Gabriel, Calif.

"Les"; Born Nov. 4, 1897; Chemical Engineering; Prepared at Pasadena High School; Entered Freshman year; Tech Staff (3, Manager 2); Class Secretary (2); Annual Staff (2, 4); Chem Club (3, President 4).





CLASSES



1922

FREDERIC A. MAURER, *Tau Beta Pi, Sigma Alpha Pi, Press Club*, Hollywood, Calif. "Frig"; Born Oct. 1, 1900; Chemical Engineering; Prepared at Hollywood High School and Junior College; Entered Freshman year; Tech Staff (1, Editor 3, Sporting Editor 2, Associate Editor 4); Annual Staff (1, 4, Sporting Editor 2 and 3); Dorm Club (1, Vice-President 2); Chem Club (1, 2, 4, Secretary 3); Class President (4); Student Body Secretary (4); Board of Control (4).
□ □

RICHARD U. SEARES, *Gnome Club*, Pasadena, Calif. "Squid"; Born Sept. 29, 1900; General Course; Prepared at Pasadena High School; Entered Freshman year; Swimming (2); Tech Staff (3); Annual Staff (4); Yell Leader (4); Y. M. C. A. A. I. E. E.
□ □

JOHN H. HOWARD, San Diego, Calif. "Jack"; Born May 19, 1897; Mechanical Engineering; Prepared at San Diego High School and Junior College; Entered Sophomore year; Dorm Club (2); A. S. M. E. (2, 4); Aero Club (4).
□ □

ARTHUR J. GARFIELD, JR., *Sigma Alpha Pi, Press Club*, Pasadena, Calif. "Art"; Born Sept. 24, 1899; Engineering and Economics; Prepared at Pasadena High School; Entered Freshman year; Tech Staff (Managing Editor 1, Editor 2, Associate Editor 3, 4); Annual (Associate Editor 2, Editor 3, Joke Editor 4); Band (1, 2); Orchestra (2, 4); A. I. E. E. (3, 4); Class Vice-President (3).
□ □

RAY W. PRESTON, *Gnome Club, Press Club*, Los Angeles, Calif. "Pinkey"; Born March 13, 1892; Electrical Engineering; Prepared at Steele High School, Dayton, O.; Entered Freshman year; A. I. E. E. (1, 3, Chairman 2); Track (1); Class Secretary - Treasurer (2); Dorm Club (1); Tech Staff (2); Annual Staff (2, Business Manager 3); Mandolin Club (2); Athletic Manager (3); Y. M. C. A. (2, 3); Varsity Club (1, 2, 3).
□ □

CHARLES J. BIDDLE, Berkeley, Calif. "Carl"; Born March 2, 1898; Mechanical Engineering; Prepared at Berkeley High School; Attended University of California; Entered Sophomore year; Dorm Club (2, 3, 4); A. S. M. E. (3, Vice-Chairman 4); S. A. E. (President 4); Radio Club (2); Y. M. C. A. (4).



CLASS OF 1922



LLOYD A. WALLING, *Sigma Alpha Pi*,
Press Club, Los Angeles, Calif.
"Wallie"; Born Nov. 3, 1899; Civil
Engineering; Prepared at Manual
Arts High School, Los Angeles; En-
tered Freshman year; Athletic Man-
ager (2); Baseball (1); Tech
Staff (2, 3); Annual Staff (3);
A. S. C. E. (3, Vice-President 4);
Student Body Treasurer (4); Var-
sity Club (3, 4).



EDWARD R. HESS, Los Angeles, Calif.
"Edward"; Born Aug. 27, 1901;
Electrical Engineering; Prepared
at Loyola College and St. Vincent's;
Entered Freshman year; A. I. E. E.
(4); Orchestra (1, 2).



EDMUND T. GROAT, *Tau Beta Pi*,
Gnome Club, Whittier, Calif.
"Ed"; Born Feb. 2, 1900; Elec-
trical Engineering; Prepared at La
Valle High School; Entered Fresh-
man year; Baseball (1, 2, 3, 4);
Football (2, 3, Captain 4); Track
(3, 4); Basketball (4); A. I. E. E.
(3, 4); Class Vice-President (4);
Varsity Club (President 4); Y. M.
C. A. (1, 2, 3, 4); Dorm Club (2).



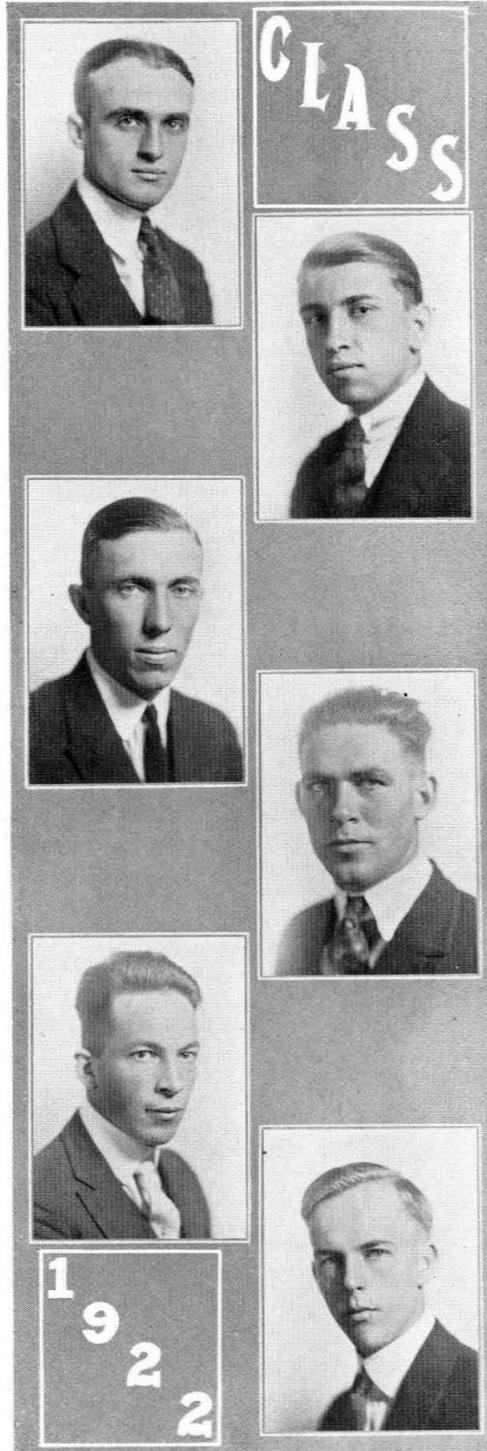
ARTHUR M. WHISTLER, *Tau Beta Pi*,
Chino, Calif.
"Whistlebreeches"; Born Sept. 6,
1900; Physics and Engineering; Pre-
pared at Chino High School; At-
tended University of California; En-
tered Sophomore year; Orchestra
(2).

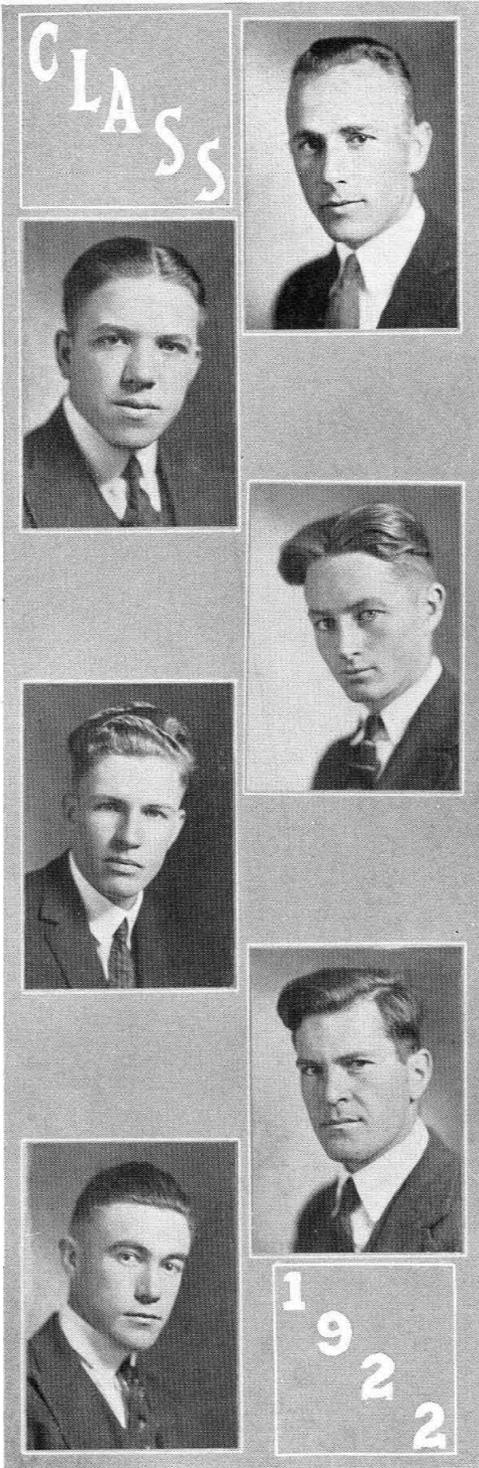


RAYMOND W. AGER, *Tau Beta Pi*,
Pasadena, Calif.
"Ray"; Born Jan. 30, 1898; Electri-
cal Engineering; Prepared at Po-
mona High School; Entered Fresh-
man year; A. I. E. E.; Junior Prize
(3); Assistant in Mechanical En-
gineering (4, 5).



KENNETH A. LEARNED, Pasadena, Calif.
"Kenny"; Born June 11, 1900;
Electrical Engineering; Prepared at
Pasadena High School; Entered
Freshman year; Glee Club (1, 3,
Secretary-Treasurer 2, Manager 4);
Y. M. C. A. (1, 2, 3, Treasurer 4);
Class Treasurer (2); A. I. E. E.
(3, 4).





LOUIS H. ERB, *Gnome Club*,
El Segundo, Calif.
"Louie"; Born Aug. 25, 1898; Engineering and Economics; Prepared at Inglewood High School; Entered Freshman year; Board of Control (2, 4); Yell Leader (2, 3); A. S. M. E. (3, 4); Athletic Manager (3); Class President (3); Varsity Club (3, 4); President Student Body (4).
□ □

RUSSELL H. KOHTZ, Los Angeles, Calif.
"Rusty"; Born May 15, 1899; Engineering and Economics; Prepared at Polytechnic High School, Los Angeles; Entered Freshman year; Tennis (1, 2, 3, 4); Band (1, 2, 3, 4); Varsity Club (2, 3, 4); Mandolin Club (3).
□ □

CHARLES W. VARNEY, JR., *Gnome Club*,
Press Club, San Diego, Calif.
"Wampus"; Born June 20, 1900; Engineering and Economics; Prepared at San Diego High School; Entered Freshman year; Tech staff (2, Business Manager 3, Editor 4); Annual Staff (Advertising Manager 3); Board of Control (3); Y. M. C. A. (1, 2, 4); Mandolin Club (3).
□ □

C. FISHER RITCHIE, Pasadena, Calif.
"Fish"; Born June 13, 1900; Chemical Engineering; Prepared at Burbank and Venice High Schools and Los Angeles Junior College; Entered Freshman year; Chem Club (3, Vice-President 4).
□ □

ALFRED C. CATLAND, *Gnome Club*,
Santa Ana, Calif.
"Cat"; Born Oct. 2, 1896; Mechanical Engineering; Prepared at Santa Ana High School; Entered Freshman year; Football (1, 2, Captain 3, 4); Class President (1); Varsity Club (2, President 3, Vice-President 4); A. S. M. E. (3, 4); Dorm Club (1).
□ □

LEWIS J. WELLS, Watsonville, Calif.
"Frenchy"; Born Aug. 7, 1899; Electrical Engineering; Prepared at Monterey Union High School and Chico High School, Mt. Diablo, Cal.; Entered Freshman year; A. I. E. E. (3, Secretary 4); Y. M. C. A. (1, 2, 4).
□ □



CLASS OF 1922



IRA S. PIERCE, Los Angeles, Calif.
 "Ima"; Born Dec. 9, 1899; Mechanical Engineering; Prepared at Polytechnic High School, Los Angeles; Entered Freshman year; Football (4); Varsity Club (4); A. S. M. E. (4).



ROBERT M. BRUCE, Los Angeles, Calif.
 "Bob"; Born Jan. 1, 1898; Mechanical Engineering; Prepared at Pasadena High School; Entered Freshman year; A. S. M. E. (1, 2, 3, 4).



HAIGALOIS TIMOURIAN, Pasadena, Calif.
 "Haig"; Born July 1, 1898; Civil Engineering; Prepared at De Witt Clinton High School, New York City; Entered Freshman year; A. S. C. E. (3, 4); Y. M. C. A. (1, 2, 3, 4).



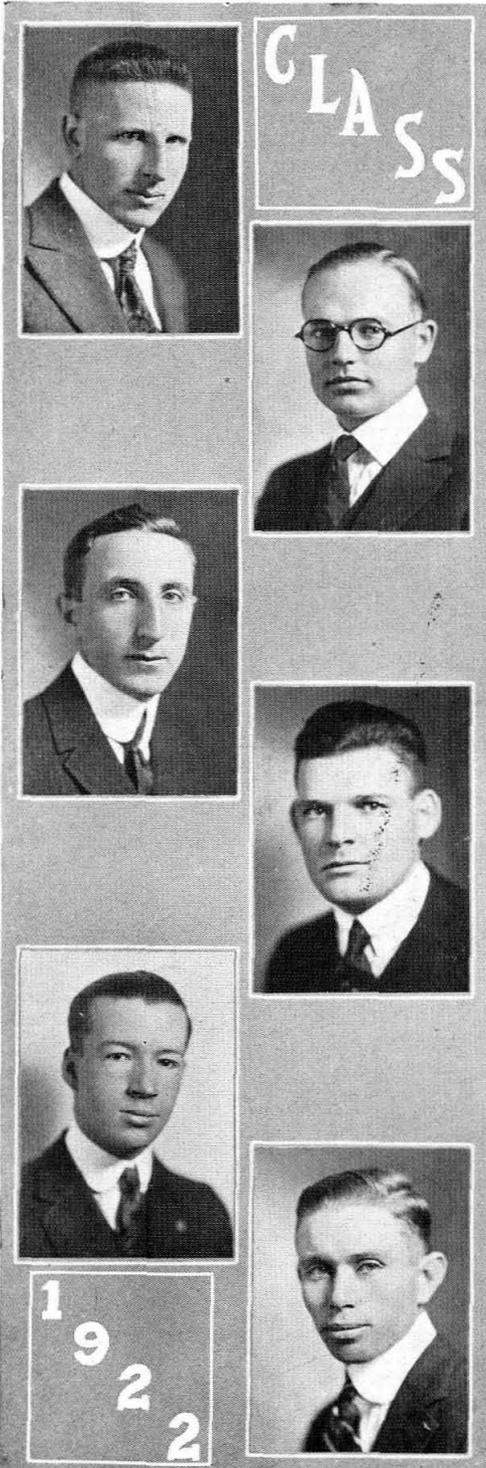
JAY J. DE VOE, Santa Ana, Calif.
 "Jazbo"; Born May 14, 1900; Mechanical Engineering; Prepared at Rock Valley High School, Ia., and Santa Ana High School; Entered Freshman year; A. S. M. E. (3, 4).



ARTHUR W. SPENCE, Long Beach, Calif.
 "Art"; Born May 17, 1899; Electrical Engineering; Prepared at Los Angeles and Lowell, Mass., High Schools; Attended Phillips Academy, Andover, Mass.; Entered Freshman year; A. I. E. E. (2, 3, 4); Glee Club (1, 2, 3); Mandolin Club (2).



DONALD F. SHUGART,
 Los Angeles, Calif.
 "Shuggy"; Born Oct. 9, 1899; Civil Engineering; Prepared at Hollywood High School; Attended Park College and University of Toronto; Entered Junior year; Tennis (3, 4); A. S. C. E. (3, 4); Varsity Club (3, 4).





CLASSES



1922

WILL FARRAND WILSON, *Tau Beta Pi, Pi Kappa Delta*, South Pasadena, Calif.
 "Shorty"; Born April 28, 1901; Electrical Engineering; Prepared at Waco High School, Tex.; Attended University of Southern California; Entered Sophomore year; Oratorical Representative (2); Football (3, 4); Board of Control (4); Tech Staff (4); Annual Staff (4); Varsity Club (3, 4); A. I. E. E. (3, 4); Debating (4).



WILLIAM T. TAYLOR, Tucson, Ariz.
 "Willie"; Born Sept. 26, 1900; Electrical Engineering; Prepared at Hollywood High School and Manual Training High School, Denver, Colo.; Entered Freshman year; Dorm Club (1, 2, 3); A. I. E. E. (4).



RALSTON E. BEAR, Hemet, Calif.
 "Buggy"; Born June 18, 1901; Electrical Engineering; Prepared at Hemet High School; Entered Freshman year; Band (1, 2, 3, 4); Orchestra (2, 4); Radio Club (Secretary 2); A. I. E. E. (4).



ROBERT W. GILLIES, *Sigma Alpha Pi, Press Club*, Alhambra, Calif.
 "Plumb Bob"; Born Feb. 16, 1900; Chemical Engineering; Prepared at Alhambra High School; Entered Freshman year; Chem Club (1, 2, Vice-President 3, Secretary 4); Tech Staff (Sporting Editor 2, Managing Editor 3, Associate Editor 4); Annual Staff (2, Joke Editor 3, Activities Editor 4); Dorm Club (3).



EDWARD A. HATHAWAY, Los Angeles, Calif.
 "Ed"; Born May 27, 1898; Mechanical Engineering; Prepared at Manual Arts High School; Attended University of California; Entered Freshman year; A. S. M. E. (4).



GERALD G. SPENCER, Alhambra, Calif.
 "Gerald"; Born Dec. 27, 1899; Mechanical Engineering; Prepared at Alhambra High School; Entered Freshman year; Glee Club (3, 4); A. S. M. E. (4).



CLASS OF 1922



DONALD W. DARNELL, Santa Ana, Calif.
"Ped"; Born Aug. 23, 1900; Mechanical Engineering; Prepared at Santa Ana High School; Entered Freshman year; A. S. M. E. (3, 4); Dorm Club (Secretary-Treasurer 4).



B. ELWOOD BATTY, Los Angeles, Calif.
"Eddie"; Born Jan. 18, 1897; Civil Engineering; Prepared at Harbord Collegiate Institute, Toronto, Canada; Entered Freshman year; A. S. C. E. (3, 4); Dorm Club (3, Vice-President 4); Annual Staff (4); Y. M. C. A. (4).



ALBERT D. HALL, Pasadena, Calif.
"A. D."; Born Dec. 1, 1897; Physics and Engineering; Prepared at Pasadena High School; Entered Freshman year; Tech Staff (4); Annual Staff (3); Chem Club (2, 3, 4); Y. M. C. A. (3, 4); Glee Club (4).



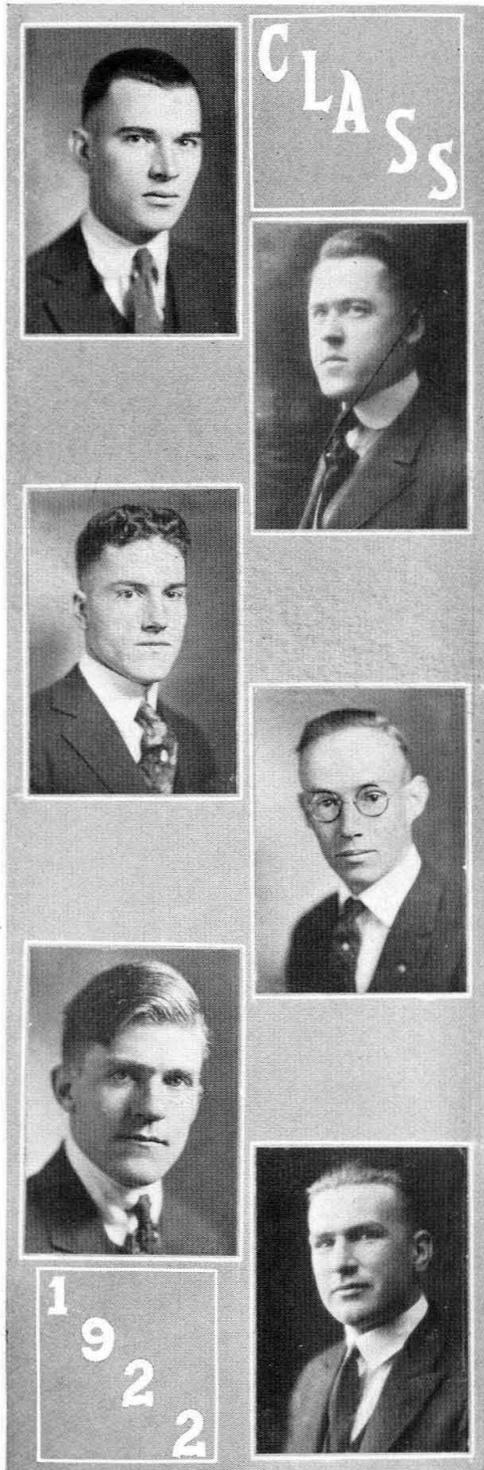
WILLARD J. BEMAN, Pasadena, Calif.
"Willard"; Born Feb. 15, 1899; Chemical Engineering; Prepared at Pasadena High School; Entered Freshman year; Chem Club (1, 2, 3, 4, 5).



GLENN E. HOWE, Los Angeles, Calif.
"Howy"; Born Nov. 23, 1898; Electrical Engineering; Prepared at Polytechnic High School, Los Angeles; Entered Freshman year; A. I. E. E. (4).



C. WALDO POWERS, San Pedro, Calif.
"Pud"; Born April 12, 1900; Mechanical Engineering; Prepared at San Pedro High School; Entered Freshman year; Football (4); Varsity Club (4); A. S. M. E. (4).





CLASS



DOUGLAS C. MACKENZIE,
Pasadena, Calif.
"Doug"; Born Jan. 12, 1899; Civil Engineering; Prepared at Pasadena High School; Entered Freshman year; Track (1); Basketball (1); Glee Club (1, 2, 3, 4); Tech Staff (2, 3, 4); Annual Staff (3); Class President (2); A. S. C. E. (4, Vice-President 3).



JOHN HONSAKER, JR., Pasadena, Calif.
"Johnny"; Born Aug. 4, 1900; Civil Engineering; Prepared at Pasadena High School; Entered Freshman year; Glee Club (1, 2, 3, 4); Tennis (2, 3, 4); Varsity Club (3, 4); Annual Staff (4); Y. M. C. A. (2, 3, Vice-President 4); A. S. C. E. (4, Treasurer 3).



WILLIAM D. POTTER, Pasadena, Calif.
"Pot"; Born Jan. 1, 1898; Civil Engineering; Prepared at Pasadena High School; Entered Freshman year; A. S. C. E. (3, 4).



G. KEMPER SMITH, *Tau Beta Pi, Sigma Alpha Pi*, Pasadena, Calif.
"Jakey"; Born Oct. 25, 1899; Engineering and Economics; Prepared at Normal High Training School, Terre Haute, Ind.; Attended Rose Polytechnic Institute; Entered Junior year; Annual Staff (3, 4); A. I. E. E. (3).

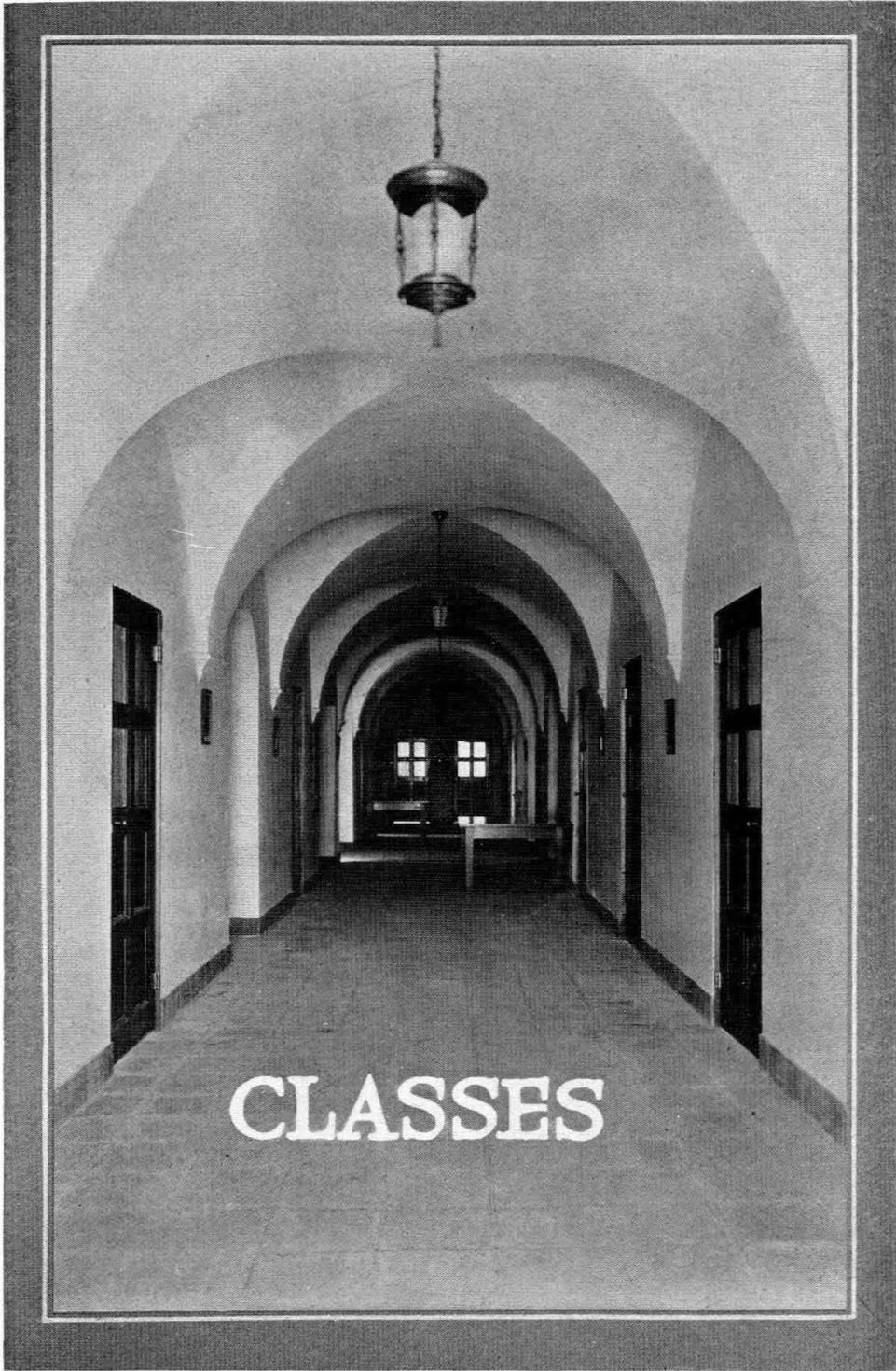


GLEN M. WEBSTER, *Sigma Alpha Pi*, Hollywood, Calif.
"Web"; Born April 1, 1899; Engineering and Economics; Prepared at Hollywood High School; Entered Freshman year; Football (4); Tech Staff (Sporting Editor 2); Annual Staff (4); Student Body Secretary (2); A. I. E. E. (4).

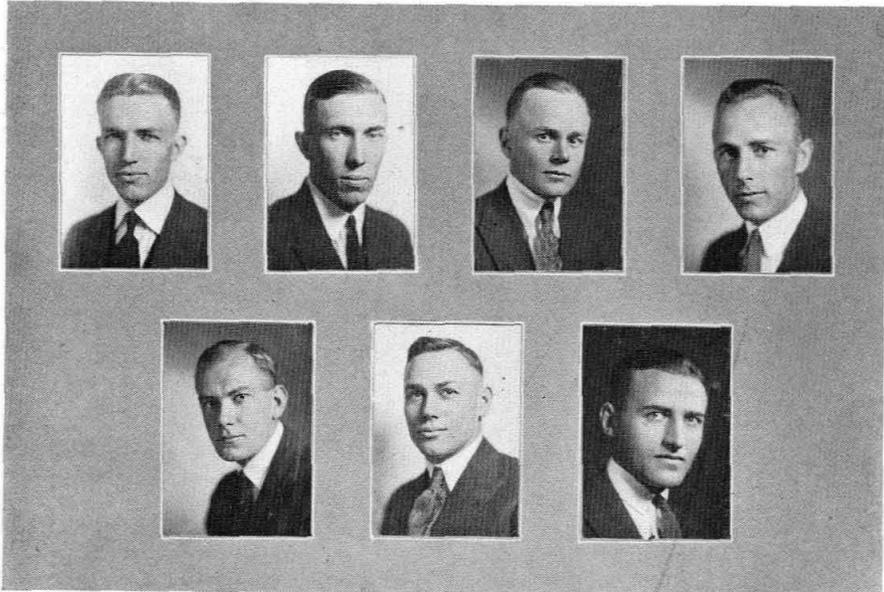


FRANK R. BRIDGEFORD,
Eagle Rock, Calif.
"Bridge"; Born Jan. 20, 1899; Chemical Engineering; Prepared at Glendale High School; Entered Freshman year; Chem Club.

1922



Class of 1922



MAURER ROHLÖFF GROAT WILSON KNIGHT STROMSOE ERB

Officers

President FREDERIC A. MAURER
Vice-President EDMUND T. GROAT
Secretary-Treas. ALFRED W. KNIGHT

Board of Control

LOUIS H. ERB FARRAND WILSON
 DOUGLAS A. STROMSOE DEWEY C. ROHLÖFF

Committees

<p>Dance (First Term)</p> <p>ARTHUR J. GARFIELD, JR. (<i>Chairman</i>) FARRAND WILSON KENNETH A. LEARNED RICHARD U. SEARES</p>	<p>Dance (Second and Third Terms)</p> <p>BEN BENIOFF (<i>Chairman</i>) RAY W. PRESTON LLOYD A. WALLING</p>
--	---

Class Day

FARRAND WILSON (*Chairman*)
 LOUIS H. ERB ARTHUR J. GARFIELD, JR.
 GEORGE K. SMITH



Past Officers of the Class



Freshman Year (1918-1919)

President . . . JOSEPH E. LARSON
Vice-President . . . HOWARD G. VESPER
Secretary . . . FREDERICK W. DESILVA
Treasurer . . . DOUGLAS C. MACKENZIE

Sophomore Year (1919-1920)

President . . . DOUGLAS C. MACKENZIE
Vice-President . . . EDWARD G. KEMP
Secretary . . . LESTER O. WARNER
Treasurer . . . KENNETH A. LEARNED

Board of Control

LYLE DILLON LINNE C. LARSON

Board of Control

JOSEPH E. LARSON LOUIS H. ERB

Junior Year (1920-1921)

President LOUIS H. ERB
Vice-President . . . ARTHUR J. GARFIELD, JR.
Secretary-Treas. RAY W. PRESTON

Board of Control

CHARLES W. VARNEY HUBERT A. REEVES
 HOWARD G. VESPER

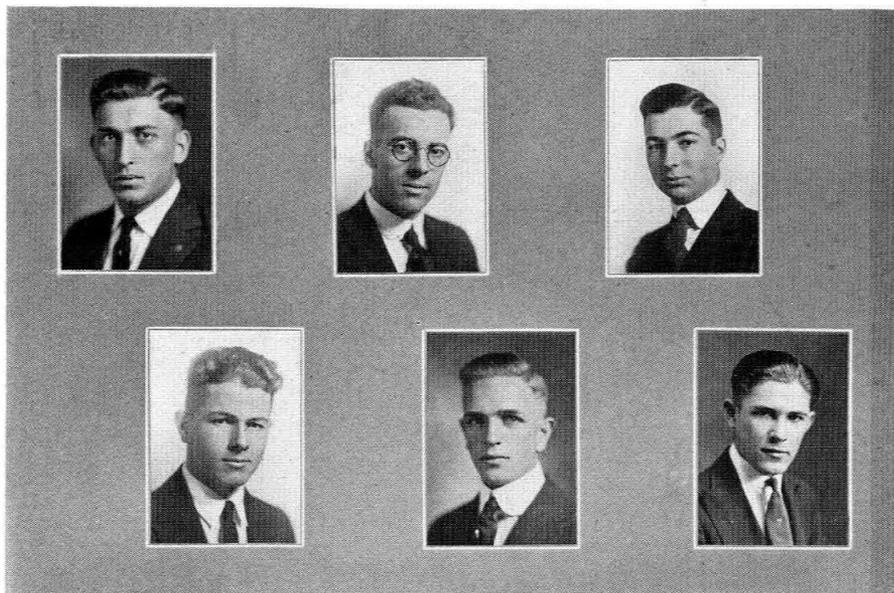
Wearers of the "T"

Class of 1922



PAUL AMES. Track (2, 3, 4).	DOUGLAS C. MACKENZIE. Track (1); Basketball (1).
GORDON A. ALLES. Tennis (1).	THOMAS G. MYERS. Swimming (2, 3, 4).
BEN BENIOFF. Football (4); Track (3, 4).	IRA S. PIERCE. Football (4).
JESSE BURKS. Baseball (2, 3, 4).	C. WALDO POWERS. Football (4).
ALFRED C. CATLAND. Football (1, 2, 3, 4).	RAY W. PRESTON. Track (2).
ROBERT J. CRISSMAN. Track (2, 3, 4).	MAYNARD S. REYNOLDS. Baseball (1, 2, 3, 4).
LOUIS H. ERB. Yell-leader (3).	DEWEY C. ROHLOFF. Football (2, 3, 4).
EDMUND T. GROAT. Football (2, 3, 4); Basketball (4); Track (3, 4); Baseball (1, 2, 3, 4).	WARREN A. SCHNEIDER. Basketball (2, 3, 4); Baseball (2, 3, 4).
JOHN HONSAKER, JR. Tennis (2, 3, 4).	RICHARD U. SEARES. Yell-leader (4).
EDWARD G. KEMP. Football (2, 4); Track (1, 2, 3, 4); Baseball (1, 2, 3, 4).	DONALD F. SHUGART. Tennis (3, 4).
RUSSELL H. KOHTZ. Tennis (1, 2, 3, 4).	HOWARD G. VESPER. Basketball (2, 3, 4).
LINNE C. LARSON. Basketball (1, 2, 3, 4); Baseball (2, 3, 4).	GLEN M. WEBSTER. Football (3).
	FARRAND WILSON. Football (3, 4).

Class of 1923



REEVES

HARRIES

STORMS

ALCORN

KIRKPATRICK

FOWLER

Officers

<i>President</i>	.	.	.	HUBERT A. REEVES
<i>Vice-President</i>	.	.	.	CHARLES A. STORMS
<i>Secretary-Treas.</i>	.	.	.	MERLE KIRKPATRICK

Board of Control

DAVID G. HARRIES, JR.	DEAN FOWLER
MAX ALCORN	

Committees

Dance

MAURICE B. ROSS	LAURENCE SOUTH
BERNARD G. EVANS	GEORGE T. MCKEE

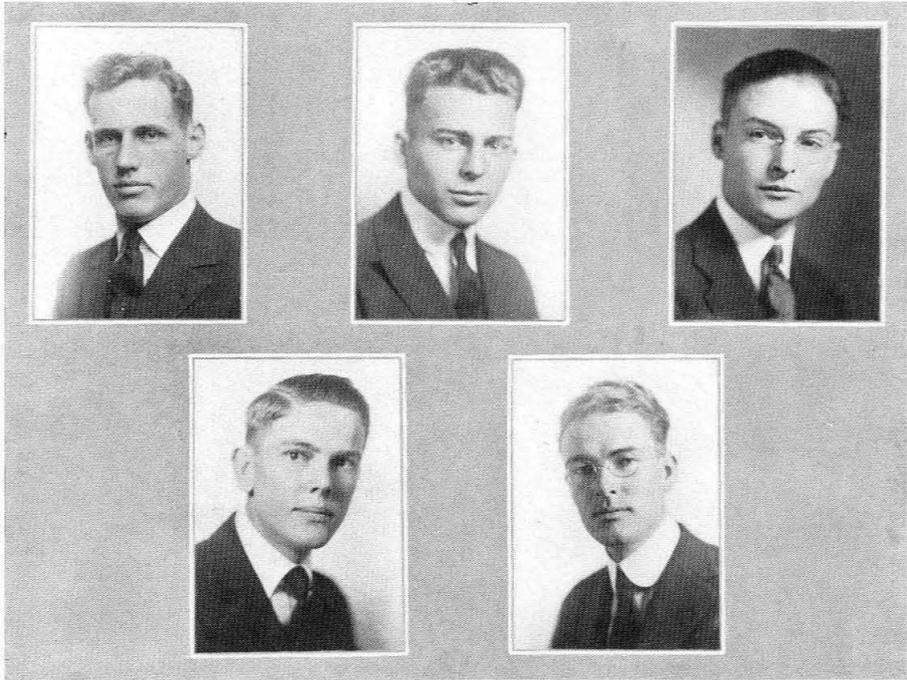


CLASSES





Class of 1924



TELLWRIGHT

GROAT

MORRELL

NEWTON

PEFFER

Officers

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

Board of Control

FRED J. GROAT	ALFRED A. NEWTON
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Committees

Dance

GLENN W. SCHLEGEL, <i>Chairman</i>
OLIVER B. GARVER REX S. CLARK
HERBERT H. MITCHELL

Traditions

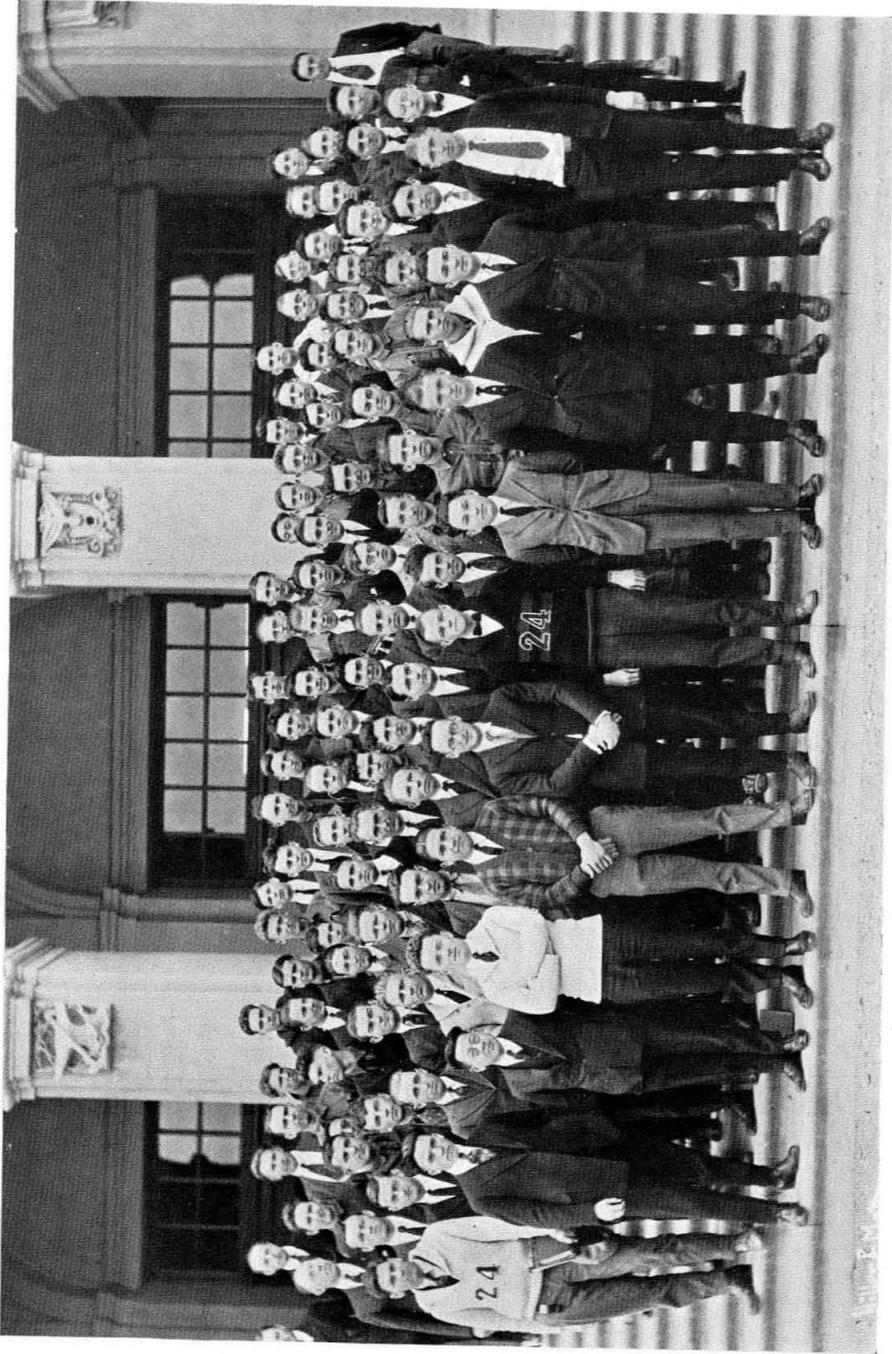
ALFRED A. NEWTON, <i>Chairman</i>
CEDRIC L. SCOTT
HAROLD R. BECK FRANK W. PINE, JR.

Administrative

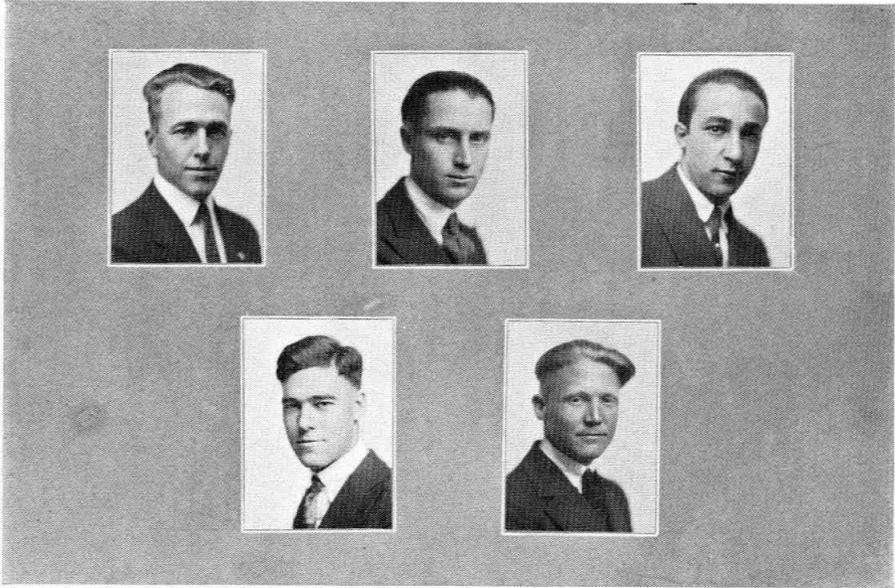
ROBERT E. PEFFER, <i>Chairman</i>
CLIFFORD W. MALTBY OLIVER B. GARVER
SYDNEY F. DUNCAN CARLTON H. ECKERMAN



CLASSES



Class of 1925



COLLINS
FREEMAN
MACFARLIN
PETERSON
SASSO

Officers

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<i>Vice-President</i>	.	GERALD H. McFARLIN
<i>Secretary-Treas.</i>	.	ANIAS N. SASSO
<i>Board of Control</i>	.	HENRY R. FREEMAN
<i>Yell Leader</i>	.	H. FRED PETERSON

Committees

Dance

Howard S. Tackabury (*Chairman*)

Donald F. McGaffey	Harrold Sheffield
Oliver B. Scott	

Council

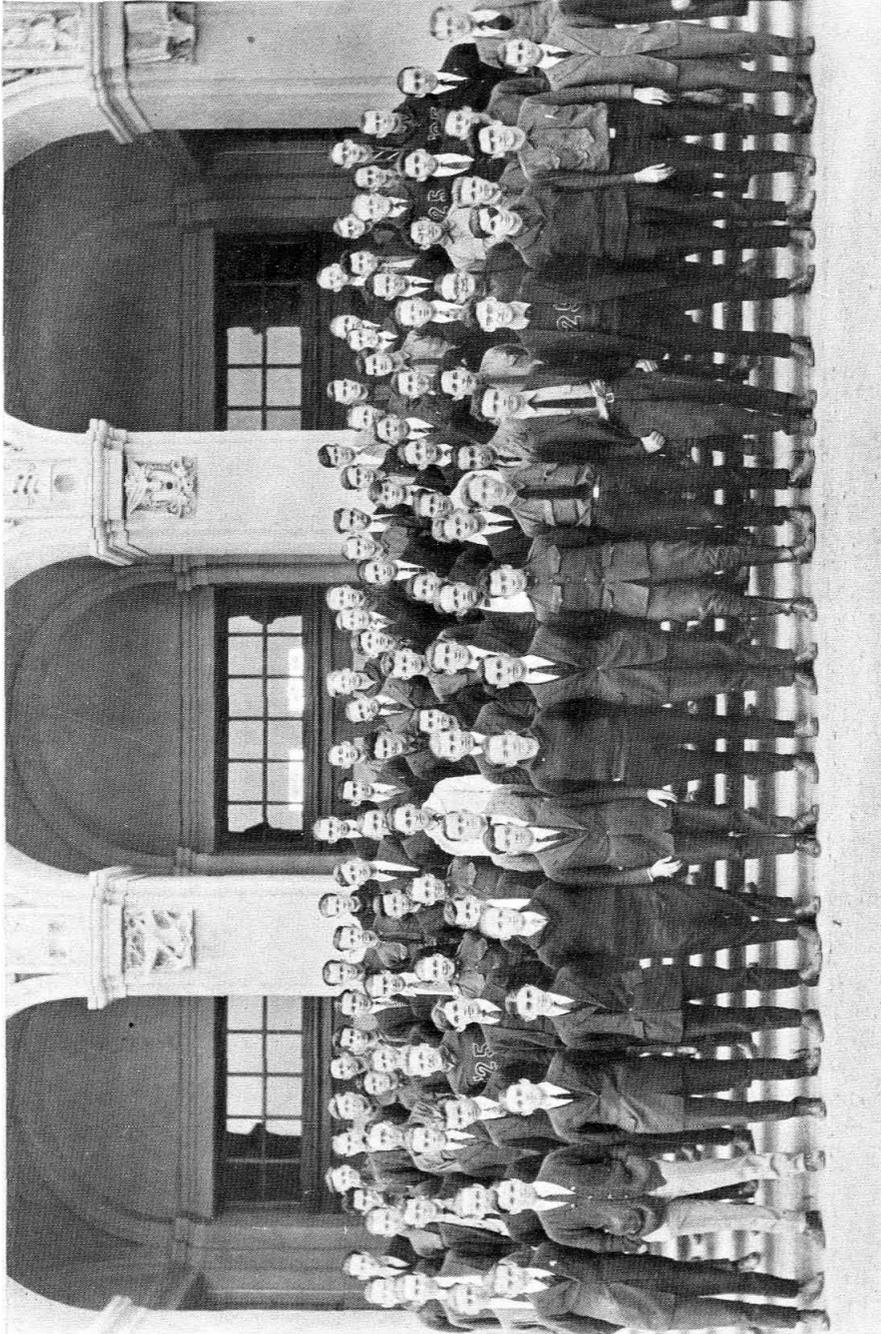
J. E. Maurer	A. N. Sasso
Sherman Hale	D. F. McGaffey
A. J. Morrison	M. C. Brunner
	G. L. Garver

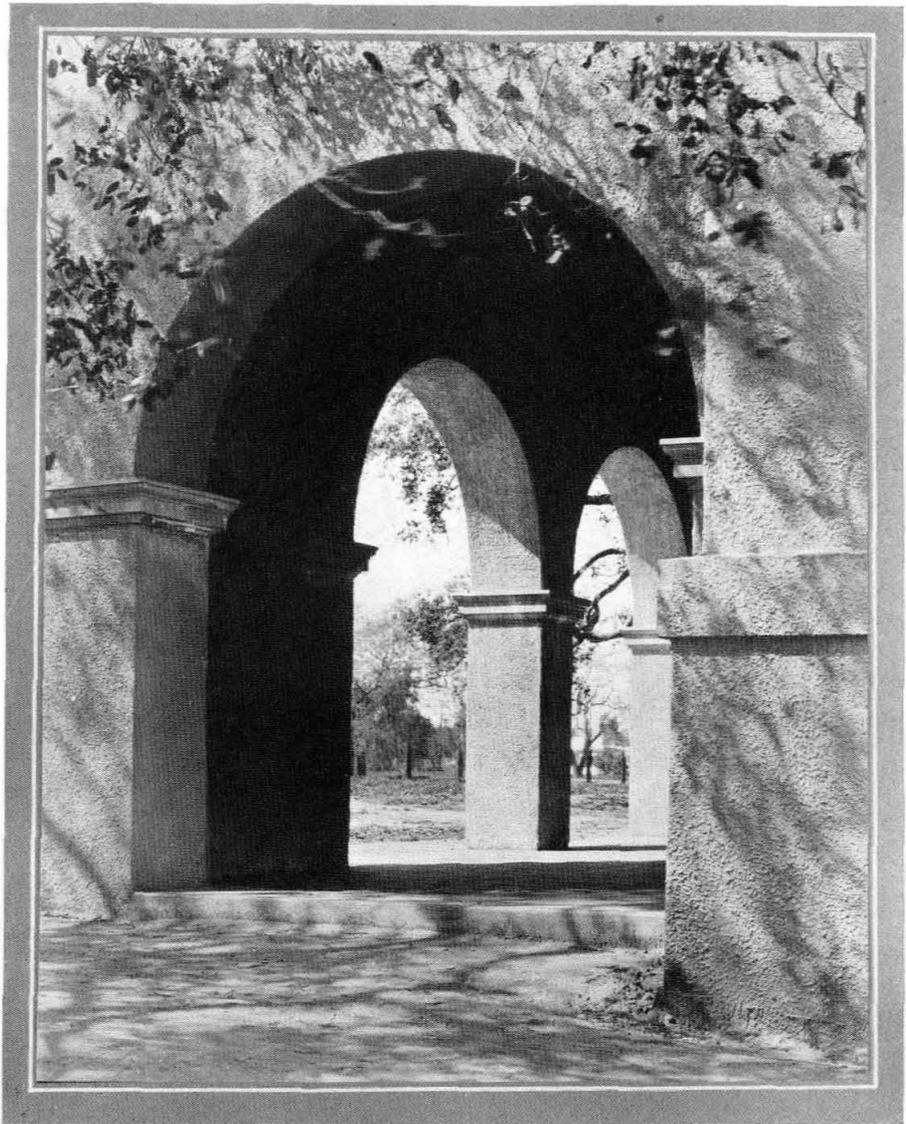
Song Book

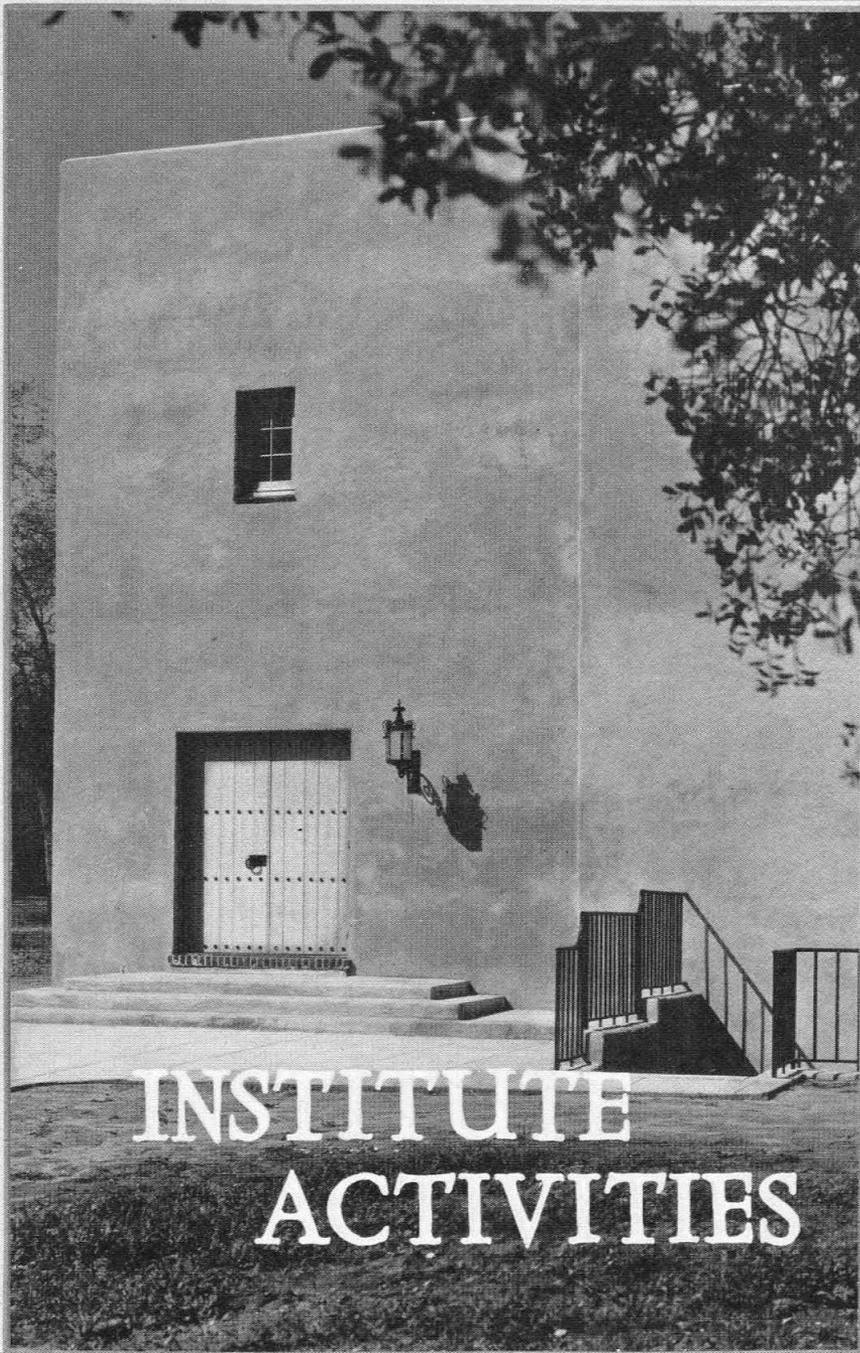
Ralph Siegfried	H. S. Tackabury
	P. E. Noll



CLASSES







INSTITUTE
ACTIVITIES



The Freshman-Sophomore Pole Rush

REVIVING an old custom, the Freshman class surprised every one, themselves included, by winning the annual pole rush from the Sophomores. This was probably due to the splendid organization and fight of the youngsters, and to the over-indulgence of the Junior Rules Committee. For, in order to provide a little enjoyment for the Frosh, the Juniors changed the rules so as to lower the flag from twelve to ten feet, and to prohibit the use of quinine, pyridine and other flavoring extracts on the canvas. This kind-heartedness, or longing for more excitement on the part of the Juniors was the real cause of the Freshmen winning the rush and the dance.

The Sophomores were first on the field, anxiously awaiting their opponents, but the Frosh soon appeared and dividing into three groups, prepared for the attack. As the timer raised his pistol the field presented a striking picture of static action. In the center, closely packed around their flag, were the men of the class of '24. Hemming them in and equally tense, were the larger groups of Freshmen. The sharp bark of the pistol broke the spell and the fight was on.

The Peagreeners charged from all sides, but their attack died before the center was reached, leaving a little group of Sophs still standing with their arms tightly locked around the pole. In the struggling mass it was almost impossible to keep one's footing, and the fight soon melted into a mass of violently moving arms and legs. For the most part, the Freshmen were engaged in individual wrestling matches, but every now and then one would make a dive for the flag and everlasting glory. The Sophomores, however, still controlled the situation and quickly removed enough of the covering around any such daring Frosh so that he was usually only too willing to sink back into the oblivion of the struggling mass rather than be exposed to too much publicity up the pole.

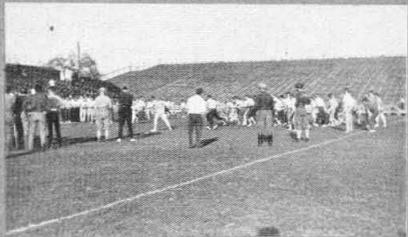
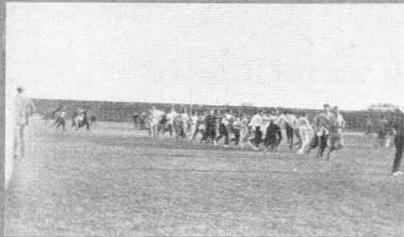
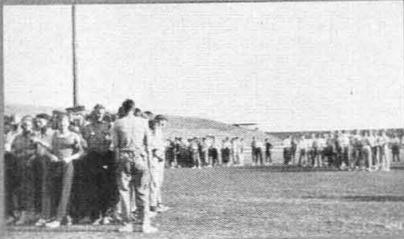
After about ten minutes the Freshmen called in the reserves and the third group, which had been held back, broke into the fight. This last addition gave the youngsters a large surplus of men, and these soon tore their way to the pole and built a human pyramid up which a Freshman scrambled and began to tear at the canvas.

The remaining Sophs again resorted to publicity, but unfortunately the Freshman Apollo did not seem particularly worried and remained up until he had chewed off a considerable portion of the flag. Others followed, and despite the valiant efforts of the second-year men, some member of the class of '25 was up the pole tearing at the canvas most of the remaining time.

Thus to an obligato of grunts and groans, violent struggles and language, flying legs and clothing and the snapping of cameras, the class of '25 managed to remove almost all of the coveted flag before the twenty minutes were up, and won the privilege of being the guests of honor at the dance given by the Sophomores.



ACTIVITIES





Bonfire Rally

THE bonfire rally which was held in front of Throop Hall Friday night, October 21—the night before the Pomona football game—was a big innovation and a great success in that it roused interest and enthusiasm in the football game to a high pitch.

The Freshmen were given the task of building the bonfire, and to their credit, the task was well done. Every merchant in town—and his brother—donated wood and boxes to the cause, and the large amount of fuel thus obtained was piled by the Freshmen in a huge pyre, ready to be touched off when needed.

Stenzel, Hambrook (former Student Body president), and Hollinger, all old football players, made stump speeches which met with great favor. Paul Ames, at one time president of the Student Body, then made a speech introducing the Beaver as the mascot of the California Institute of Technology athletic teams. At the close of his speech the Beaver was carried in and placed on the stand, amid cheers from the spectators.

A fake football game was staged after the speeches. Pomona, of course, was shown to be losing consistently to Tech, who played a superior brand of ball throughout. After the football game the huge pile of fuel was lit, which was the signal for every one present to join in a serpentine around the fire. This concluded a very successful evening.

Friday Morning Assemblies

THIS year has marked the beginning of a most excellent innovation, the Friday morning assemblies. At the beginning of the year the faculty was prevailed upon to set aside one hour a week for the use of the Student Body, in which time it could have rallies, Student Body meetings, or other programs, of a different nature than those given in the regular Monday morning period.

These have proved to be very popular and well attended, and have been beneficial in instilling the meaning of Tech Spirit into the Freshman and new men in the Institute. The assembly is strictly a student activity, and the entire arrangement is left to them. Besides holding a rally before every important game, the time has been used for talks by prominent Tech students and men in the community. Also several programs have been given by the Band, Glee Club, and other organizations on the campus. The assemblies have been much enjoyed by everyone and have come to be a part of the campus life.



The "T" Party



THE BIG "T" as it stands on the mountains over Pasadena, looking down on all of the valley, is an emblem, a monument to the California Institute of Technology and to the Tech Spirit which it represents. For eight years it has been graven there, and it will be there for all of the years to come, where

California Tech men can look up to the hills and feel that thrill that the pilgrim feels when he gazes on his shrine, the soldier on his flag.

The story of the Big "T" is one of the cherished bits of Tech history. The idea was conceived long ago, but it was not until 1914 that any definite action was taken by the students. In December of that year a holiday was declared and the entire student body, from senior to freshman, took the day off and journeyed up the Mt. Wilson toll road to Heniger's flat, and over to the top of a nearby ridge. Here they stopped and began to make a clearing.

Progress was slow, but gradually the opening grew and took form. Guided by signals, wig-wagged from Throop Hall, where a watcher with a transit directed the shaping, a space was cleared in the tough brush. By nightfall much had been accomplished, but several more days were required to finish it, and give the "T" its present block shape.

Since then it has been the duty and privilege of every freshman and newcomer in the Institute to make the yearly pilgrimage up the mountain side there to clear off the brush and weeds that would otherwise blur the clean outlines of the Big "T".

Chem Club Hike

SATURDAY and Sunday, December 2 and 3, about twenty of the promising chemists of the Institute left Pasadena via the Pacific Electric railroad for Echo Mountain. From there the bunch hiked to Opid's camp and spent a very enjoyable Saturday night and Sunday. Supper was cooked by the more skillful, while the rest sat around and enjoyed the "Boss's" cigars. An early start was made by some who took the long trail over Mt. Wilson, or Mt. Lowe, on the way home. Freddy Henson successfully negotiated Mt. Wilson trail in his "Ark," vintage of '92, which goes to prove that old friends are the best after all.



Football Banquet

THE annual Football Banquet stands out in the memory of every Tech man as an event apart from all others, as a time when class rivalry is forgotten, when the eternal feud between "stude" and "prof" is set aside and freshman and senior, student and professor meet on common ground around the banquet table to do honor unto their team, one and all united by the all-pervading Tech spirit.

The first banquet was given eight years ago, at which time the entire student body had no trouble in gathering in the office. This year, however, the number of students had increased so greatly that it was necessary to engage the Palm Room of the Hotel Maryland.

Most of the men arrived on the banquet night in time for a preliminary cigarette in the hotel lobby before the "call" was given. The banquet tables were arranged in a "U" shape with smaller tables in the middle. As was to be expected, the food and service were excellent and the Glee Club and Saxophone quartet provided music during the intervals of service.

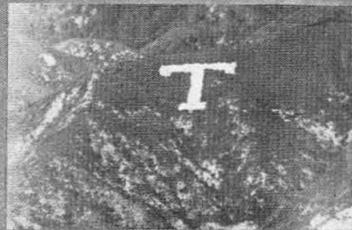
When the last course had vanished and the rising cloud of smoke betokened a full and contented stomach, and the lighting of the banquet cigar, Professor Sorenson arose in his official capacity as toastmaster and began relating personal incidents about the various speakers. Being thus put perfectly at ease, the football letter-men surprised everyone by showing that they were as good at talking as at playing. Dr. Millikan gave the first speech and told, as a freshman, "Why he came to Tech." All of the varsity and the coaches were called upon for a few words.

This year's captain, Ed. Groat, announced that Bernard Evans had been elected to guide the football team for next year. Varsity sweaters and "T" were awarded to sixteen men, and second team ensignias to eleven scrubs. Eleven members of the Freshman team were given their class numerals.





ACTIVITIES





Initiations

Press Club



THE "RED HOT RIVET" has come to be an institution at California Tech as a razz sheet taking the place of one of the regular issues of the "Tech." This issue is put out once a year by the initiates of the Press Club as part of their initiation duties, and has for its purpose not only the portrayal of some of the great amount of humor which is ordinarily wasted around the Institute, but also to attempt to make clear to some men some of their traits which their classmates may believe to be in need of correction. Thus far in its existence, the "Rivet" has had a success which has certainly justified itself.

It has become known far beyond the confines of this state, and is eagerly inquired for with quite a regularity by members of outside institutions (not referring to Orton's and Broadoaks). The paper this year was completely the work of seven men, from the writing to the actual editing and "making-up." These men sold the paper around the campus for a small sum to defray the additional expense of the pink paper, and succeeded in disposing of the whole edition in record time. The men who were responsible this year were: Garver, Walling, Blakeley, Preston, Taggart, Ridgeway, and Newton.

Pi Kappa Delta

PI KAPPA DELTA initiations have been quite in evidence in various campus activities during the past year. The national forensic society has staged two of them, and each time has furnished a great deal of entertainment for the remainder of the Student Body by requiring their initiates to put on a debate of a humorous nature at a Friday morning assembly.

The first debate was on the subject, "Resolved, That the Student Body is more essential to a college than the Faculty," and it furnished a great deal of merriment through the ingenious means of proving their points which were resorted to by the debaters. The men taking part were: Sheffield, Siegfried, and Wilson, affirmative; and Collins, McFarlin, and Walker, negative.



Tau Beta Pi



TWICE during the year the Student Body has awakened on Monday morning and rubbed its eyes several times before actually realizing what the queer symbols laid out in whitewash on the campus in front of Throop Hall stood for. Tau Beta Pi initiates have been responsible for these huge letters and symbols, both of which were representative of the order. Just after the start of the second term of the college a 75-foot replica of the "Bent" or key of Tau Beta Pi was staked out and outlined, and during the third term the three Greek letters Tau, Beta, and Pi were made in 50-foot heights.

The key of the association is obtained from the customary form of a trestle bent, and obtains its name therefrom. The Greek characters are rather out of the ordinary in that they are taken from the oldest known form of the Greek, and are not generally used.

The Beta Pi has initiated thirteen undergraduates this year as well as a number of graduates, and is rapidly establishing a firm foundation for the future for the Beta chapter of the state. The first group to be taken in this year comprised: Ames, Whistler, G. K. Smith, Alles, E. T. Groat, Taggart, and Loughridge. In the second were: Kirkpatrick, Harries, Fitch, Winegarden, Hastings, and Marsh.

These same men were also one of the features of the Pi Kappa Delta dance given early in the year. They were all costumed as harlequins and performed such menial tasks as serving punch, and manipulating the colored lights of the projection machine.

The second group of initiates put on another debate on the topic: "Resolved, if not, why not?" The costumes of the debaters as well as their actions during the speeches of others, and Hopper's method of out-Epsteining his opponents were the features. The seven men taking part were: Tellwright, Hopper, Walker, affirmative; Jack Maurer, Peterson, Cameron, negative; Helms, chairman.



The Dances

Dormitory Dance

THE Dormitory Club started the social ball rolling when the first dance of the year was given under its auspices the night of October 22, within the historic walls of the dormitory. About forty couples were present to enjoy the soft strains of music, and to marvel at the artistic way in which the walls had been draped with pennants and streamers. Over the outside entrance hung the large illuminated "T" which gives that distinctive atmosphere present only at dormitory dances.

Sophomore Hop

The Sophomore class wiped out the stigma of its defeat in the pole rush at the hands of the Freshman class by putting on what proved to be one of the best dances of the year, in the grill room of the Hotel Ambassador, the night of November 19. A very large attendance from the student body was expected, and the committee was not disappointed. Art Hickman's orchestra furnished incomparable music, and although the floor was a trifle crowded, a wonderful time was enjoyed by all present.

Senior Dance

One of the most enjoyable of the smaller affairs staged during the year was the Senior class dance, which came on December 1, and was the first college dance to be held in the new music hall. Attendance was limited to one hundred couples, because of the small capacity of the hall. No attempt was made at decoration, as it was felt that the work of the artists who decorated the interior could not possibly be improved upon.

The committee in charge received much praise upon the success of the dance, and particularly upon the excellent quality of the punch, which was concocted under the personal supervision of the committee. "John," the cook at the Sigma Alpha Pi house, presided over the punch bowl, and liberally supplied all who felt thirsty.



Varsity Club Dance

The first of the dances given by the Varsity club for the purpose of raising funds to purchase sweaters for athletes was given in the music hall, Saturday, January 14, directly after the Redlands basketball game. Despite a disappointingly small attendance, the crowd was in good humor, due to the winning of the game by the home team, and consequently the evening passed merrily.

Freshmen Scud

On Friday evening, January 20, at the Los Angeles Country Club, the Freshman class was host to the Faculty, Alumni and Student Body at one of the most perfectly appointed, best attended dances of the year. The large ball room of the Country Club was crowded with some three hundred couples who tripped the light fantastic to the strains of Max Fisher's orchestra and forgot their cares and worries. An intermission at 11 o'clock gave the dancers a chance to meet Dr. and Mrs. Millikan, in whose honor the dance was given.

Pi Kappa Delta Dance

Pi Kappa Delta, national forensic society, gave a dance in the music hall the night of February 5, at which many novel stunts were performed. The initiates of the fraternity, dressed in white harlequin costumes, met the guests at the door and gave out the programs. In addition to this novelty, a battery of projection lanterns by which varicolored beams were made to play upon the dancers, giving very beautiful effects, were handled by the white costumed initiates. Punch was served in the central room on the basement floor by the same luckless initiates.

Dormitory Dance

The Dormitory Club's second dance proved every bit as enjoyable as the first dance. There was not so great an attendance, but there was that much more punch for those that did go, and that much more music and floor space. As is usual with Dorm dances, the affair was a success.

Varsity Club Dance

The second dance put on by the Varsity Club for the purpose of raising funds was considerably more of a success than the first dance. For the first time in months, the Palm Room of the Hotel Maryland was the scene of festivities, and the time was Friday, March 10. Taylor's orchestra kept a lively crowd on its toes until 12:30, by which time even the most persistent dancers were ready to call time.



Junior-Senior Ball

The Junior-Senior ball at the Hotel Green, Tuesday night, April 18, broke all precedent as to time of quitting and date. It was beyond question the most brilliant dance of the year. The winter season at the Hotel Green was closed the night of April 17 by a magnificent ball, and the decorations for this affair cost hundreds of dollars. The committee in charge of the Junior-Senior dance was able to secure the use of the same decorations. Max Fisher's orchestra kept the crowd dancing until 2 a. m. Card tables were provided for use by those who wished to vary the straight dancing program. Inasmuch as Wednesday, the day after the dance, was virtually a holiday as regards the students who attended, the faculty has under advisement the declaration of a college holiday annually on April 19.

Inter-Fraternity Formal

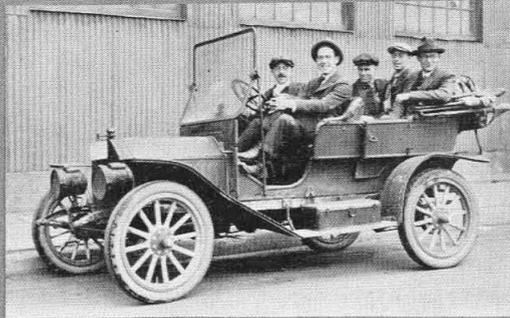
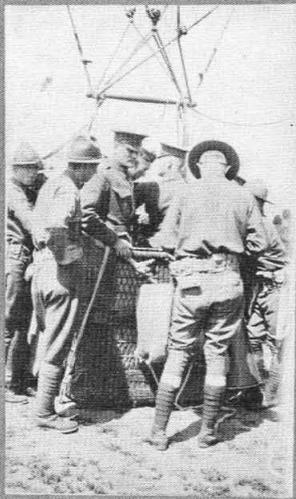
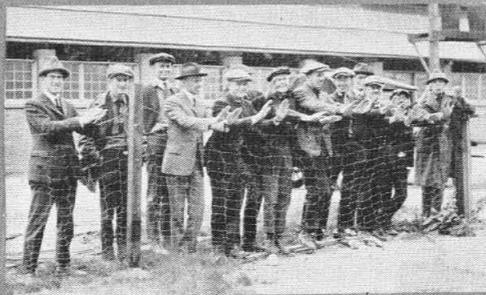
The inter-fraternity formal, held at the Annandale Country Club, Tuesday night, May 9, was without question one of the best dances of the year. The four fraternities which combined to put on the dance were: Gnome Club, Sigma Alpha Pi, Pharaos and Pi Alpha Tau. The advisability of closing mid-week dances at a somewhat earlier hour than was the Junior-Senior dance was felt, and accordingly the inter-fraternity formal closed at 1 a. m. The idea of a formal was somewhat of an innovation at California Tech, but the result more than justified the action of the hosts, for the formal proved to be a welcome diversion from the ordinary run of dances.

The Millikan Teas

JUST one glance at the student body of the California Institute of Technology was sufficient for the generous nature of Mrs. Millikan. She could see that there was altogether too little of the social side of the students developed, and she resolved to do all in her power to supply the deficiency. Accordingly, a man's sized contract was undertaken when Mrs. Millikan extended to each class an invitation to one Wednesday afternoon tea each month. To the credit of the hostess, each affair was a great success, and all who attended were impressed with the charm and graciousness of the first lady of the Institute. The forced departure of the Millikans for Belgium, where Dr. Millikan went to take up his post as exchange professor for the rest of the college year, brought the series of teas to a close, much to the regret of the students.



ACTIVITIES





The Institute Exhibit

FRIDAY afternoon and evening and Saturday morning, March 31, and April 1 were exhibit days at the Institute. On these days, all the buildings were thrown open for inspection by prospective students and all others interested in the Institute. All laboratories were fully manned by Tech students who conducted many interesting demonstrations.

Before the war, this exhibit day was an annual feature, and was a tremendous boost for the Institute, interested people coming from far and near to take advantage of the opportunity to see the laboratories in full running order. The exhibit day this year was an outgrowth of a desire to celebrate St. Patrick's day as an engineering holiday, as is done in many mid-western universities. Difficulties arose which militated against a strictly festival occasion, so it was decided to revive the old Exhibit day. The Exhibit day this year was such a success that plans are already being laid for next year, and Exhibit day will in all probability again become an annual feature.

Nearly one thousand people visited the Institute on March 31 and April 1, everyone displaying great interest in the laboratories, buildings and demonstrations. The band gave a concert Friday afternoon and evening, and the Glee Club also entertained on Friday evening. Dr. Millikan gave a demonstration of the Physics lecture room facilities Friday afternoon, and in the evening spoke on the subject, "The California Institute of Technology." An alumni banquet at the dormitory at 6:30 Friday evening brought together a number of the alumni and students and a brief talk by Mr. Walter Newton, '14, president of the Alumni Association, gave the students and friends of the Institute an idea of what the Alumni Association was doing.

The Pasadena Music and Art Association had an exhibit of exceptionally fine paintings in the music hall; and in the basement of the music hall the faculty ladies served tea to the visitors.

The Exhibit day was a great success and gave to the many visitors a very favorable impression, which could not otherwise have been obtained of the Institute.



Inspection Trips

Senior Chemists

THE Chemists have been very busy this year, having taken in all four trips to various chemical industries in this part of the country. In these trips the process is outlined in class room before hand so that the men can fully understand the steps in the manufacture when they are seen in the factory.

The first trip was to the Holly Sugar Refining Company. This is one of the large refineries of the South and all of the equipment used is the very best and latest obtainable. The entire process was inspected from handling the raw beets to tasting the finished sugar. Returning home Warner strayed from the direct route, but after wandering around miles and miles of country roads, finally emerged safely on a main boulevard and returned to civilization.

The Los Angeles Gas Company was the next place visited, about twenty-five Seniors, Teaching Fellows and Profs. making the trip in autos, arriving shortly after noon. The entire plant was gone through, starting with the generators and following the gas through the process to the final storing in tanks and the distribution through mains to the consumers. The party was led by the chief chemist, who explained everything and answered a multitude of questions.

The remainder of the afternoon was spent at the Stauffer Chemical Company in Vernon. Here three very important acids are made; namely, sulphuric, nitric and hydrochloric.

Near the end of the second term two more days were devoted to inspection trips. The first afternoon was devoted to going through the California Compressed Gas Company's plant where water was broken up into hydrogen and oxygen. A special demonstration of the cutting power of oxy-hydrogen torches was given by Wolfe, a former Tech man now employed in the laboratory there.

The party then cut through backlots to the Globe Cotton Oil Mills, and looked over the plant used in pressing the cottonseed and refining the oil. This plant produces a large quantity of hardened oil, which is used extensively for a lard substitute. These two plants proved so interesting that the soap factory had to be left over until the following week, when an entire day was taken.

The Los Angeles Soap Company was the first plant on the list and turned out to be a place of a thousand smells, and the least said about most of them the better. Ritchie was accused of having fallen into a soap kettle, but it was found that his soap odor proceeded from a small cake that he had appropriated along the line of march. He excused himself by saying that it was marked "Guest," and he thought it was meant for a sample. Great interest was displayed in the soap wrappers, both feminine and neuter, mostly the former.



Having a little time to spare, a side trip was taken to the West Coast Glass Company, where the chemists watched automatic machines blow milk bottles.

After a roadside lunch, everyone drove to the plant of the Goodyear Tire Company. This factory was the most interesting and up-to-date one visited during the entire year. The whole afternoon was spent looking it over and every step in the making of tires was seen, from the spinning of the thread and the weaving of the fabric, to the building up and vulcanizing of the finished tire. Freddie M. got most awfully embarrassed when he asked a fair attendant in the spinning room a question about her machine, and she misunderstood and cut him short, saying that she already had a date for that night.

A final inspection trip was made to the company restaurant, and this proved to be as enjoyable and more satisfying than the other trips.

Senior Civils

THE Senior Civil Engineering Class availed themselves of the opportunity of visiting Grauman's new million-dollar theatre at the corner of Sixth and Hill Streets, Los Angeles, just after most of the forms had been removed from the interior concrete work. Accompanied by Professors Thomas, Michael and Martel, the Civils journeyed over to the city and were conducted through the new structure by the designer and engineer in charge of construction of the theater, so that all information was strictly first hand. First, the party visited the office where the general features of the building were explained and profusely illustrated with blueprints. Then a complete inspection and personally conducted tour of the new amusement palace followed, in which everything from roof to foundation was taken in.

The building was originally designed to be built of steel, but when it was found that the price of the steel needed plus the very high freight rates from Pennsylvania were excessive, new plans using reinforced concrete were drawn up and the construction started with a saving of some twenty thousand dollars.

Although the building is to house only the theatre and its accompanying floors at present, it is designed and built for six additional stories to be placed on the present roof whenever the owners have the necessary money on hand and wish to add more floors to the structure.

As an instruction trip in concrete construction, this trip could not be bettered and it was very interesting to the Civils.



Senior Electricals

MARCH 3 was the day chosen for twenty-five of the Senior Electricals to go out and see how some typical plants actually work. The Long Beach station of the Southern California Edison Company was the first one to be visited. The entire plant was gone through from the oil burning boilers to the giant generators that convert the steam power into electricity, and the bus bars and transformers that "step it up" and connect in with the power lines from the Big Creek system.

Then journeying to Torrance, the glass works there were visited and something learned about the manufacture of window panes. Here Bulkley wandered from the fold and getting tangled up with the glass blowers, had an exciting time dodging balls of red hot glass.

On the way to Llewellyn Iron Works, Ogden's Overland caught on fire, but with the aid of several extinguishers, that happened to be empty, and a liberal quantity of dirt, the blaze was finally put out. The iron works proved to be very interesting, the electric furnaces proving of special interest to the young electricians.

Finally the Pacific Electric Shops were gone through, and an automatic substation inspected, concluding a busy but well spent day.

A. S. M. E.

AN April fifth the "Asme's" went on a quest for more practical knowledge than is obtained in the class room, and visited several local industrial plants. The first one to be inspected was the Los Angeles branch of the Goodyear Tire Company. After the formality of registering, the party was led through the left wing where the raw rubber is made into tires and tubes. All of the rubber used is plantation grown on the Island of Sumatra, while all of the cotton used comes from Arizona. The entire process was explained to the men and all of the steps in the manufacture made clear.

The Davis-Douglas Aircraft Shops were next visited and although they were not operating at the time there were several partially completed machines, wings, and other parts that proved to be very interesting.

After this, time out was taken in order to allow everyone to partake of a little food, of which the entire party seemed to be in dire need. In the afternoon the plant of the Western Machinery Company was visited. Mr. Smead, who is an old Tech Grad, conducted them through. Several large gas engines and other machinery of interest were seen in various stages of completion. The trip was very satisfactory and was of great benefit to the men in that it showed them something of the way that big plants actually operate.



The Dr. Lorentz Lectures



DR. H. A. LORENTZ

CALIFORNIA INSTITUTE OF TECHNOLOGY was very fortunate in having Prof. H. A. Lorentz of the University of Leiden, Holland, as a lecturer and research associate in physics for the winter term.

Prof. Lorentz has been for many years professor at the University of Leiden and is one of the leading mathematical physicists in the world. He is an honorary fellow of the Royal Society (London), a corresponding member of the Academy of Sciences in Paris, and an honorary member of the Royal Institute of Great Britain. In 1902 the Nobel Prize for physics was divided between Dr. Lorentz and his pupil, Zeeman.

Prof. Lorentz's great work has been as one of the developers of the Maxwell's theory of ether and as a founder, with Thomson, of the electron theory. He is the author of a great many works on physics and in 1907 and 1909 he directed the Dutch scientific expedition to New Guinea.

During his stay at Tech he delivered a series of lectures on the subjects, "Light and Matter" and "The Constitution of Matter," and also carried on some important investigations on light in the new Norman Bridge Laboratory and at the Mount Wilson Observatory.

Dedication of the Norman Bridge Laboratory of Physics

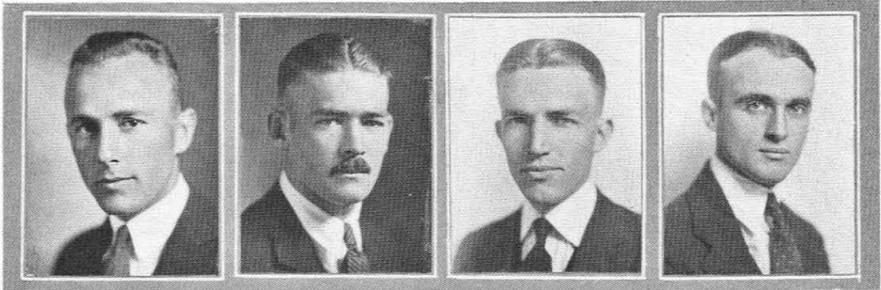
THE Norman Bridge Laboratory of Physics is the gift of Dr. Norman Bridge to the Institute. This building, which was completed in time to be used the second term, has greatly relieved the congestion in the Physics department, and has made possible the great expansion of its work under the able direction of Dr. Robert A. Millikan.

On January 28 the laboratory was officially presented to California Tech by its donor, Dr. Norman Bridge, and accepted by Dr. Millikan, in behalf of the Institute. The ceremony was begun at 4 p. m. with a speech of welcome by Dr. Arthur A. Noyes, followed by a demonstration of the facilities of the new lecture room, and a discourse by Dr. Millikan upon "The Extension of the Ultra-Violet Spectrum and the Insight that it Affords into the Nature of Matter." This covered the research work that he has been performing for several years past.

A buffet supper was served in the dormitory for the guests, and the final dedicatory ceremony was held in the new music hall the same evening.



The Associated Student Body



ERB

EVANS

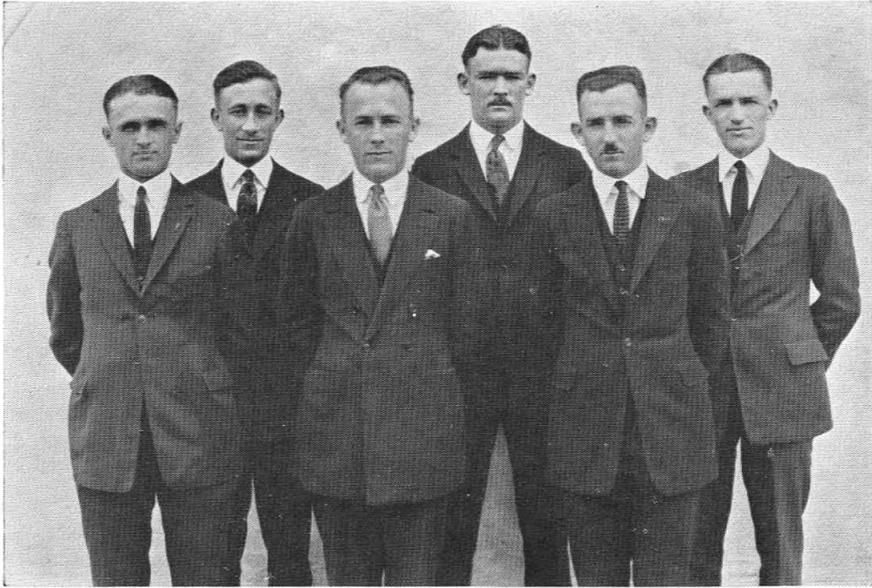
MAURER

WALLING

WITH the new constitution a proven and fixed foundation, the Student Body this year made rapid strides in a constructive direction. With the honor point system in the hands of a committee, the athletic program more diversified, the submission of the Freshman rules and traditions to the Board of Control for approval, and the musical organizations a permanent part of the Body, a superstructure has been built upon the original foundation that bids fair to remain as a monument for years to come. The Honor System is proving its worth as never before with its motto of, "Conduct befitting a gentleman and an engineer." The student assemblies are now a part of the regular program of each student, although he is not compelled to attend. Nevertheless the setting aside of an hour each week has made possible regular meetings, which have been of interest in a general way as well as providing a means for athletic rallies.

The relations between the faculty and the student executives have helped tremendously to pave the way for a more concentrated student and campus life. Each month, a meeting of the executive committee of the Student Body with a similar committee of the faculty has been held, which, more than anything else, has been a means for a more thorough understanding of the many problems that concern both bodies. The personal interest shown by Dr. Millikan in the welfare and development of student activities has done much to promote this part of college life.

Within the Student Body itself the assignment of definite duties to each officer has made for an efficient and successful year in a financial way. A greater amount of publicity, a more complete athletic system, a coming to the front of inter-collegiate debating, and the revival of the annual exhibit day have called upon the funds of the treasury as never before. Even with these additional expenses the year closed with a balance in the treasury. The annual and weekly publications have been able to support themselves while the inter-collegiate vaudeville circuit will without doubt be a permanent source of income in future years, due to its success this year.



WALLING BENIOFF ERB EVANS TAGGART MAURER

Executive Committee

LOUIS H. ERB	<i>President</i>
BERNARD G. EVANS	<i>Vice-President</i>
FREDERIC A. MAURER	<i>Secretary</i>
LLOYD A. WALLING	<i>Treasurer</i>
RAY W. PRESTON	<i>Athletic Manager</i>
WILLIAM M. TAGGART	<i>Publicity Manager</i>
BEN BENIOFF	<i>Representative-at-Large</i>
ARTEMUS S. HICKEY, JR.	<i>Representative-at-Large</i>

Much of the success of the past year's administration is due to the untiring and efficient service rendered by the president of the Associated Student Body, Louis H. Erb. Under his leadership the various departments and activities have shown wonderful co-ordination and development.

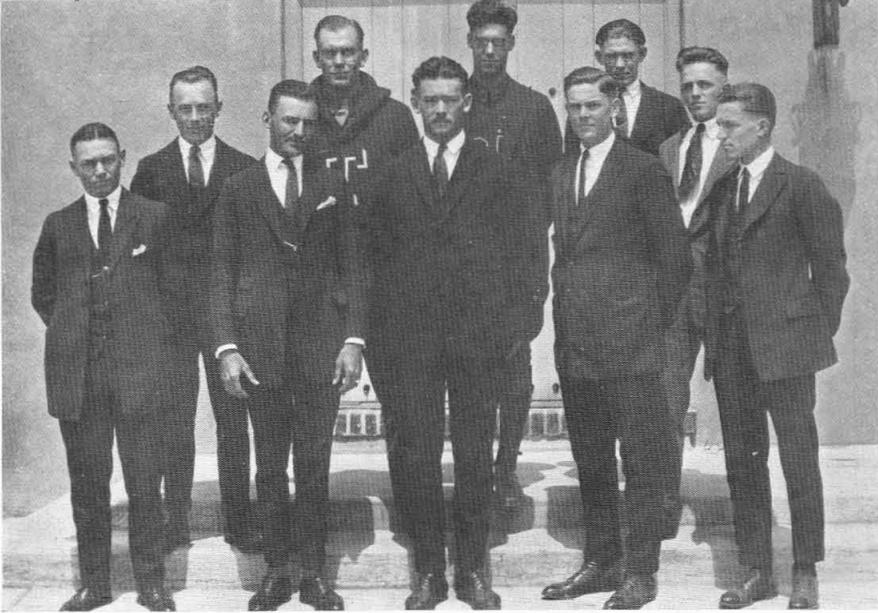
Credit is also due to Bernard G. Evans, vice-president, for the manner in which he conducted his office and the way in which he carried the responsibilities that were his as chairman of the Board of Control.

The treasurer, Lloyd A. Walling, surely played his part well and kept the triplicate books of the Student Body accurately and in the best of shape, while Frederic A. Maurer, the secretary, carried out the duties that fell to him in a creditable manner.

All of the other men who make up the Executive Committee deserve a word of commendation for their efforts, loyalty to their jobs, and the lasting results which they obtained.



Board of Control



WILSON ERB ROHLOFF FREEMAN FOWLER ALCORN
 STROMSOE EVANS F. J. GROAT MAURER

LITTLE is seen or heard throughout the college year of the proceedings of that group of men known as the Board of Control, for through their very nature all operations of the board are necessarily withheld from public scrutiny. Yet this body of men is an actively functioning element of a self-governing student body.

The Honor System in itself needs no explanation. It is an intangible sort of thing and can only be thoroughly understood and fully appreciated by those who are privileged to work under it. Eliminating as it does the ever distasteful faculty supervision of examinations and tending to promote conduct befitting a gentleman and an engineer, the system has done much to instill a spirit of manliness, fairness, and honest effort in the students of the Institute.

The number of cases handled by the Board of Control each year are few in number and in the past year the honor system has been a complete success. New students quickly become imbibed with the spirit of the system and it soon is to them what it is to the older students—the most cherished and vitally important of Tech traditions.



Publications

PREVIOUS to the year 1918 the field of publication at the Institute consisted solely of what was termed a monthly publication, but which really appeared about five or six times a year as enough copy accumulated to warrant getting out a number. Instead of publishing a big annual toward the last of the year, the editors would have accumulated a little more copy than ordinarily and so the staff put out a large final edition of their struggling monthly magazine. The type of articles contained in *The Throop Tech*, as the editions were then called, were similar each month to those which are now found in the annuals in a very condensed form. The magazine merely reviewed events and activities, for ordinary news had ceased to be news by the time the publication was off the press. A number of scientific articles were also printed in each issue.

Throop Polytechnic, for as such the Institute was known when first founded as a co-educational college, boasted a publication called the "Polytechnic." When the college was transferred to the present site in 1910, the "Polytechnic" was discontinued and the first attempt at revival did not occur until February, 1913, when "The Throop Tech" made its appearance. There were two issues before the close of the year and four issues for each of the next two years, and then the magazine began to make regular periodic appearances about eight times a year.

In 1918, after the Armistice was signed and the S. A. T. C. disbanded, the experiment of giving Throop a weekly was tried. Lester Warner, who suggested the idea, became manager, while Douglas A. Stromsoe took the exceedingly difficult task of editor of *Tech's* first real newspaper, which blossomed forth as a four-page, three-column weekly in December, 1918.



The editor left college soon afterwards and Sinclair Smith took up his duties and immediately enlarged the paper to a four-column four-page sheet. This year also inaugurated the custom of publishing an annual entirely separate from the Tech as a paper although both appeared with the same title. Gerald MacMullen took charge of this innovation and a fine little volume about three times the size of the former monthly resulted.

These men who conceived the possibilities in a weekly paper and a real annual put their thoughts into actions and laid the foundation for two publications which are now recognized everywhere as standards of style, quality, and achievement.

The next year the publications were distinguished as separate institutions and an editor was elected for each. The paper was again enlarged, being issued in five columns and four pages. The "Orange and White" was the name given to the annual, which was bound in book form and contained about twice as many pages as the previous year's volume.

As the name of the college was changed in February, 1920, it became necessary last year to change the name of the weekly paper and "The California Tech" was finally adopted. The name of the annual was again changed to "The Big T" in keeping with the college letter on the side of Mount Wilson.

A new paper also made its debut, "The Hot Rivet," a red sheet boosting nothing in general and knocking everything in particular, put out by the Press Club initiates, a club formed in the interests and for the betterment of student publications.

This year the publications were much the same as last—"The Hot Rivet" boiled up and exploded again like Old Faithful; "The California Tech" continued to give the news in its characteristic style, and the annual appears even somewhat better than previous year's attainments although a slight change for improvement had been made in the policy, it being the aim of the editor to have the book filled with more cuts and less reading matter than heretofore.

Tech may well be proud of the achievements of the men who have had the moulding of the two publications in their hands. They have moulded a structure of permanence, service, and quality. The Tech was adopted as a model of style, character, arrangement, and other details for the "Go to College in the South" bulletin by a committee of student editors representing the seven colleges of Southern California. The annuals are being used as guides in the publishing of the year books of the colleges. The future editors of "The California Tech" and "The Big T" must realize their responsibility in upholding their reputation and quality and of building even higher the perfection of the publications of the California Institute of Technology.



Weekly Publications

1918-1919—The Throop Tech (three-column four-page) (four-column four-page, April-June). Douglas A. Stromsoe, Lester O. Warner. Sinclair Smith (April-June), Wynne B. Mullin, Don McCreery.

1919-1920—The Throop Tech (five-column four-page), Sinclair Smith, Wynne B. Mullin. Arthur J. Garfield (February-June).

1920-1921—The California Tech (five-column four-page), Frederic A. Maurer, Charles W. Varney.

1921-1922—The California Tech (five-column four-page), Charles W. Varney, Ben Benioff.

Annuals

1916—The Throop Tech, 60 pages. Kenneth W. Rich (editor), Stanley C. Carnahan (manager). (Enlarged edition of monthly magazine.)

1917—The Throop Tech, 55 pages. I. N. Lawson, Jr., Walter Ogier, Jr., (Enlarged edition of monthly magazine.)

1918 (April)—The Throop Tech, 80 pages. Frank R. Capra, Warren C. Mansar. (Enlarged edition of monthly magazine.)

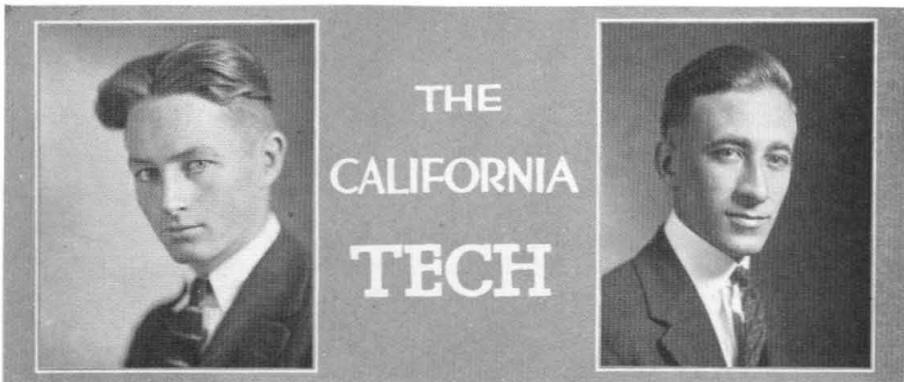
War, 1918 (September)—The Throop Tech, 80 pages. Relta Alter, Joseph F. Hartley. (Special enlarged edition of magazine.)

1919—The Throop Tech, 80 pages. Gerald F. MacMullen, Kenneth C. Kingsley. (First separate publication as an annual.)

1920—The Orange and White, 180 pages. George O. Suman, Jr., Howard G. Vesper. (First annual with regular book binding.)

1921—The Big "T," 222 pages. Arthur J. Garfield, Jr., Manton M. Barnes.

1922—The Big "T," 210 pages. Howard G. Vesper, Ray W. Preston.



C. W. VARNEY

BEN BENIOFF

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BEN BENIOFF

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Business Manager

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GEORGE I. HICKEY
WALTER A. KEITH

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News Editor

Sporting Editor

S. I. P. A. Editor

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GARVER
MCKEE
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NEWTON

RIDGEWAY

KEITH
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LAYTON
SOUTH
CLEVER

VARNEY

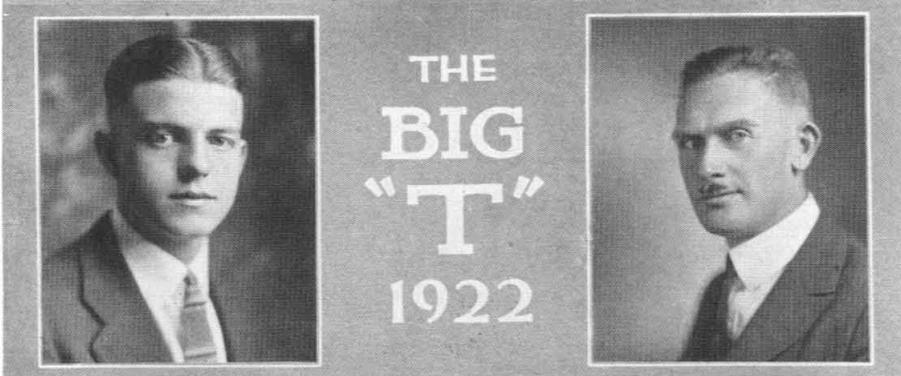
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SALSBURY
EVANS

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VESPER
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ALCORN

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A. D. HALL
ROSS
A. C. HALL
HOFFMAN



H. G. VESPER

R. W. PRESTON

THE ANNUAL this year has felt the necessity of establishing as definite some name and general form for the book which could be followed from year to year and a uniform set of volumes be put out. It was felt that the name of last year's book, The Big "T", was the best available and this was adopted as standard, as was also the general size and shape of the productions of the last two years. It is hoped that this will set a precedent which will be followed in years to come.

The Inter-collegiate Bulletin

A FEATURE hitherto untried by the colleges of the Southland was this year incorporated as the "Go to College in the South" bulletin, the purpose being to place the seven Southern California colleges before the eyes of the high school graduates of this region for consideration when they are selecting their institutes of final study. The publication was eight pages in length, and each college had its respective material on its individual page. The first sheet was devoted to articles written by well known writers and public men of the South on the general subject of the edition.

The material used was on the subject of the educational facilities of the Institute, the organization of the Student Body, traditions, social functions, professional clubs and fraternities. The edition was illustrated with cuts, and presented an attractive appearance. Distribution was made to some ten thousand high school Seniors, and though in a few cases, the advertising was deemed unnecessary, it is believed that the general impression given was one to be commended.



Professional Societies

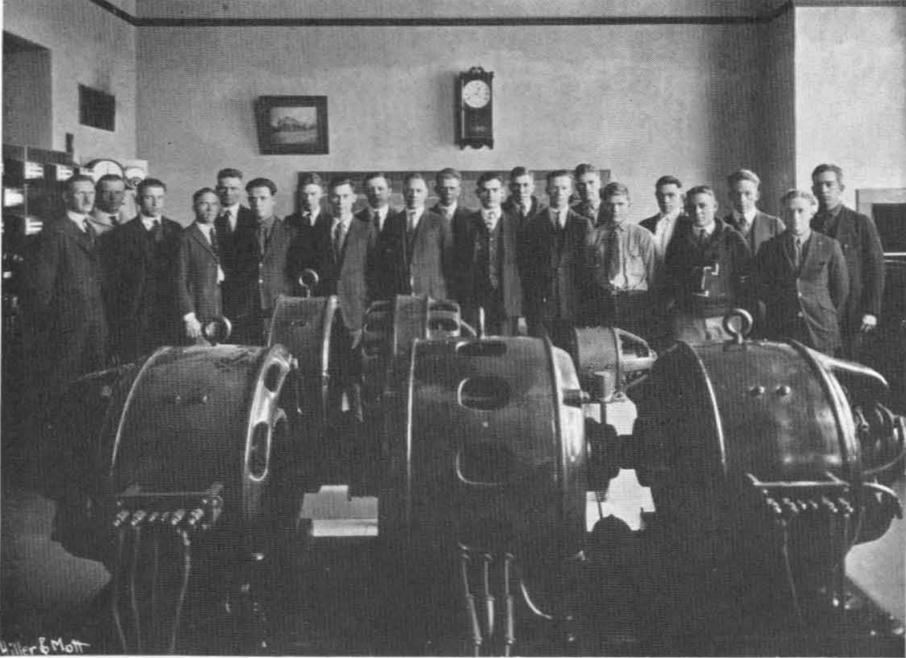
IF college life had nothing but study to offer to students, correspondence schools would be more popular. The great advantage of attending college lies in the opportunity it offers for personal contact with men who are masters of the subjects studied, and of intimate association with men who are similarly occupied in studying. Professional societies represent an organized attempt to make this association more beneficial and complete. These societies have at Tech, been developed with the general purpose of carrying into effect the ideals and standards of the college, and the spirit of successful endeavor which permeates their activities has doubtless been a factor in the phenomenal growth of the institution of which they form a part.

The four student branch societies affiliated respectively with the American Societies of Mechanical, Electrical, Civil and Automotive Engineers, have a particular importance to students who intend to enter one of these fields of engineering. The influence of these societies is nation-wide. To the young engineer they present a valuable means of becoming acquainted with the engineers of the community, and of obtaining the benefit of their experience and mature judgment. But apart from advantages of a more or less social nature, these societies are a prolific source of technical information and in view of this it is important that the student become familiar with the organization and methods of his particular society so that he may be in a position to capitalize its facilities later on.

The year has been a very successful one for the professional societies of Tech, as is indicated by the large total number of club members, and also by the interest in meetings evinced throughout the year. Two new clubs have been formed—the Aero Club, and the Society of Automotive Engineers—both of which give evidence of permanence and are to be commended upon the progress they have made. All of the professional societies have shown a healthy growth and successful endeavors in the right direction, and may look forward with confidence to an era of still greater usefulness in the future.



American Institute of Electrical Engineers Student Branch



THE Student Branch of the American Institute of Electrical Engineers is one of the older branch societies at the Institute. Membership in the Tech branch entitles student members to all the attendant privileges of the Los Angeles section. One of the topics that has been taken up in some detail in the Los Angeles meetings is the application of electric welding and electric welding machines.

Last November the Los Angeles section, including all the local student branches, was entertained aboard the U. S. S. Tennessee by the officers of the ship. The Tennessee is among the newest of the electrically propelled ships, and the trip proved very interesting. Each small party was taken in charge by one of the officers and shown the entire power plant and propulsion equipment in a systematic order.

Among the most interesting of the meetings held at the Institute were discussions of the Colorado River development from two different points of view. Mr. H. C. Gardett, of the Los Angeles bureau of power and light spoke in favor of the Boulder Canyon site and the development of the river by municipalities. A few weeks later Mr. H. A. Barre, Executive Engineer of the Southern California Edison Company presented the question from the point of view of the corporations, urging that the development be started higher up on the river.



ORGANIZATIONS



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LEWIS J. WELLS	<i>Secretary</i>

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Loren E. Blakeley
Olcott R. Bulkley
Robert J. Crissman
Harold S. Endicott
Thomas J. Fleming
Arthur J. Garfield
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Charles P. Walker
John P. Walter
Glen M. Webster
Lewis J. Wells
W. Farrand Wilson



American Society of Mechanical Engineers Student Branch



THE past year has been a success for the Student Branch of the American Society of Mechanical Engineers in every way, but particularly along three main lines. It provided a means whereby the students could practice in preparing and presenting a paper on some subject, experiment, or observation to an audience; it tended to secure a greater co-operation among its members; and it increased interest in the furtherance and development of mechanical engineering in its various branches.

Weekly noon meetings were held which provided an opportunity for the men to come together and to become more closely associated. At these meetings members of the society presented instructive papers of an original nature, the subject-matter having been observed or collected from various authorities by the student. Evening meetings were occasionally held in which lectures and films were presented by eminent speakers. Several inspection trips were planned to various industrial plants nearby to examine the numerous varieties and methods of mechanical means of service and production.

A membership of over thirty has been established and the enthusiastic interest displayed by this group of live members with the able assistance of Prof. Robert L. Daugherty has helped to make the organization one of the most valuable in the Institute.



ORGANIZATIONS



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DEWEY C. ROHLOFF . *Chairman*
CHARLES J. BIDDLE . *Vice-Chairman*
HUBERT A. REEVES . . . *Treasurer*
STANLEY T. SCHOFIELD . *Secretary*

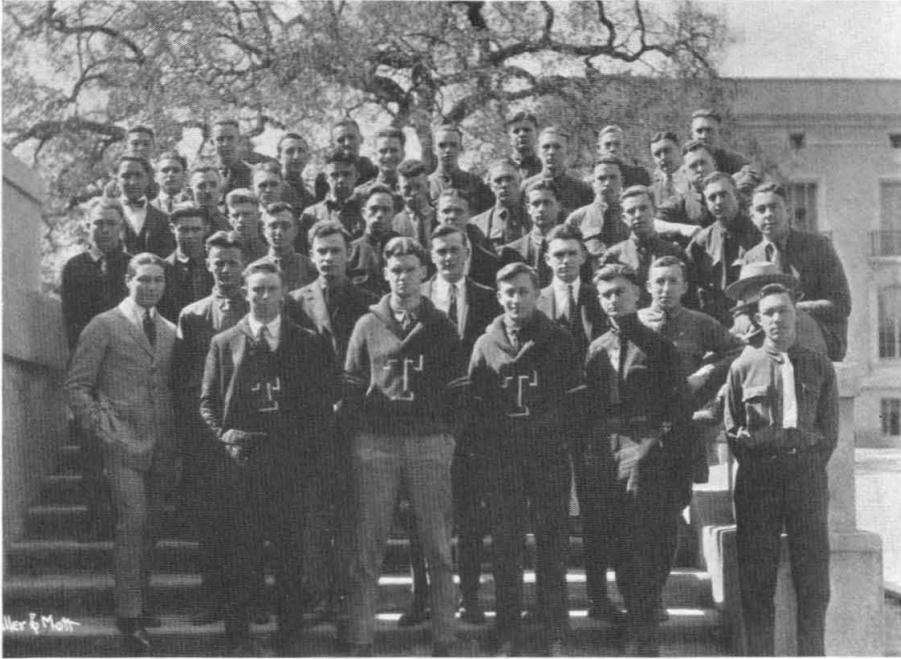
Members

C. Donald Adams
Max Alcorn
Harold M. Brady
Charles J. Biddle
Alfred C. Catland
Donald W. Darnell
E. M. DeRemer
Jay J. DeVoe
Walton Gilbert
Alva C. Hall
Edward A. Hathaway
G. H. Hopkins
John H. Howard
Douglas G. Kendall
Harold B. Lewis
Orval E. Liddell

Hallan N. Marsh
Lawrence C. McMillan
Clarence R. Owens
Ira S. Pierce
C. Waldo Powers
John H. Puls
Hubert A. Reeves
Dewey C. Rohloff
Lawrence P. Roth
G. M. Schlegel
Stanley T. Schofield
Laurance G. South
Gerald G. Spencer
Rolland Thomas
Zenas Weisel
Elmer L. Weitekamp



American Society of Civil Engineers Student Chapter



THE Student Chapter of the American Society of Civil Engineers has successfully completed its second year at the Institute. A new society always has its difficulties, and it is with pride that one notes the rapid growth of this Chapter, both in numbers and in importance. Its purpose has been fulfilled to a high degree during the past year, for it will leave in the minds of its members a larger interest in civil engineering, and it has certainly promoted better fellowship among the members. The results achieved in the past year were remarkable and it is expected that the achievements will be even greater in the future.

The most interesting of the meetings held at the college was one at which the members and their guests were privileged to see, in motion pictures, the various operations in the manufacture of steel. The scenes began with the iron as ore, and continued through all the processes till the finished product was shown. In addition to the meetings held on the campus, the student branch has always been represented at the monthly meetings of the parent society, the Los Angeles section, where the student members have been exceptionally fortunate in hearing papers by prominent engineers on subjects of incalculable importance to the Civil Engineer, ranging from the local problems about Los Angeles to the great Colorado River project, involving interstate complications.



ORGANIZATIONS



Officers

WILLIAM M. TAGGART	. . .	<i>President</i>
LLOYD A. WALLING	. . .	<i>Vice-President</i>
DOUGLAS A. STROMSOE	. . .	<i>Secretary</i>
GEORGE H. CLEVER	. . .	<i>Treasurer</i>

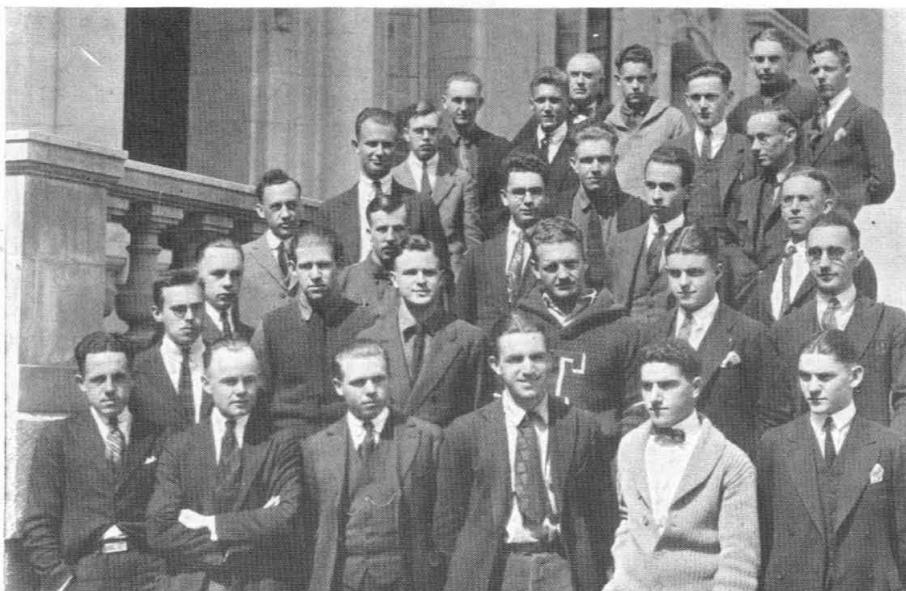
Members

Harold S. Barhite
B. Elwood Batty
William L. Bangham
Harold A. Barnett
Horace W. Baker
Ben Benioff
Duncan A. Blackburn
George H. Clever
Edward Cornelison
Whitton P. Davis
Lamberto de la Rocha
Arthur G. Duncan
Oliver B. Garver
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Morris Goldsmith
Wesley C. Hertenstein
John Honsaker, Jr.
Charles Howard
Edward G. Kemp
James F. Key
William S. Kingsbury, Jr.
Frank Lovering
Douglas C. Mackenzie

Kenneth C. McCarter
George T. McKee
Max W. Moody
Arthur G. Pickett
Frank W. Pine, Jr.
John W. Piper, Jr.
T. L. Pletsch
William D. Potter
George M. Ramseyer
Clinton Rapp
John E. Shield
Donald F. Shugart
Robert E. Schonborn
Richmond H. Skinner
Elmer L. Smith
Harold O. Springer
Douglas A. Stromsoe
William M. Taggart
Haigalois Timourian
Harry L. Warren
Lloyd A. Walling
Martin J. Wesseler
Robert E. Woods



Chem Club



THE Chem Club met throughout the year on Tuesday of each week to enjoy lunch together, supplemented with hot coffee from the club's "kitchen" and an occasional helping of pie. After lunch the meeting was devoted to a talk by some member or friend of the club on a subject of chemical interest.

Toward the last of the first term the club took a hike to Opid's camp, on the West Fork. Twenty-three members made the trip in safety, in spite of the cold weather and an unusually high wind. A second hike to Forest Home was planned for February, but was postponed until the spring term, as the snows in the mountains made communication uncertain.

Five men, Archie Kemp, Coombs, Reynolds, Broadwell and Don Nutt, organized the club in the fall of 1915 to fill a long felt want of some form of organized social life in the chemistry department. Hikes were the main bill of fare, and ever since the first trip up the Arroyo Seco, the club has enjoyed at least one good hike each year. During the second year, meetings were held at which talks were given, although they were then held each month instead of each week, as at present.

The club, with a membership of nearly fifty now, has proved very successful in its aim to promote good fellowship and social life among the chemists, and is expecting to carry on an even greater program of meetings and hikes next year.



ORGANIZATIONS



Officers

LESTER O. WARNER	<i>President</i>
CHAS. F. RITCHIE	<i>Vice-President</i>
ROBERT GILLIES	<i>Secretary</i>
ALFRED W. KNIGHT	<i>Treasurer</i>

Members

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Dr. James H. Ellis	Gordon A. Alles
Dr. James E. Bell	Robert Loofbourrow
Dr. Stuart J. Bates	N. D. Chapman
Howard J. Lucas	Spencer M. Munson
Dr. William N. Lacy	Basil Hopper
Grant V. Jenkins	Rex L. Loop
Lester O. Warner	Wilfred Noble
Robert C. Hastings	Archie McKaig
Norris F. Bravender	Sydney A. Banks
Willard J. Beman	Harold R. Beck
Charles F. Ritchie	Robert Gillies
Joseph R. Alcock	Alfred W. Knight
F. A. Hough	Fred C. Henson
L. B. Prentice	Joseph R. Branham
Ora L. Wrestler	Kenneth W. Ranney
Theodore Thomas	J. E. Mayer
Howard G. Vesper	Albert L. Raymond
Henry T. Nies	Howard M. Winegarden
N. F. Scudder	Merle Kirkpatrick
Albert D. Hall	Frank R. Bridgeford
Frederic A. Maurer	Warren P. Baxter
Richard M. Badger	Willard E. Baier
George C. Kuffel	Donald H. Loughridge
William P. Hand	



Aero Club



WITH the reduction of aerial phenomena to a scientific basis, and the growing practical value of aircraft, the formation of an Aero Club at Tech was inevitable. During the year, inspection trips were made to the Douglas Aircraft factory, the Barnhart Aircraft factory, and to Arcadia Airship station. Speakers interested in aeronautics were obtained, and other meetings were addressed by professors and students. The policy of the club has been to encourage familiarity with aeronautics and aeronautical development among students in general, and to provide means for advancement and self-expression to men who wish in some degree to specialize in this interesting branch of engineering and scientific research.

The club is of benefit to those who are studying the subject by supplying information that would probably not otherwise be so easily obtained, and it also helps those who do not intend to be aeronautical engineers by giving them a view of the practice, the development, and the engineering possibilities in the modern aerial conveyance. Aerial transportation is not a wild dream of the past, but an actuality of the present and because of its apparent possibilities in revolutionizing the world of transportation, the subject of aeronautics should be of interest to all, and especially to engineers.



ORGANIZATIONS



Officers

ARTHUR L. KLEIN . . . *President*
 WALTON GILBERT . . . *Vice-President*
 MAX ALCORN . . . *Secretary*

Faculty Members

Dr. Harry Bateman Mr. Albert A. Merrill Mr. Glen H. Bowlus

Members

Max Alcorn	Arthur L. Klein
Charles J. Biddle	Carl B. Knox
J. Calin	Hallan N. Marsh
Malcolm P. Cameron	Edgar McAllister
Albert Chapman	Maurice B. Ross
Charles E. Fitch	Lawrence P. Roth
Walton Gilbert	Laurance G. South
Ben E. Hess	Alfred J. Taggard
John H. Howard	Gerard F. Vultee
Louis Keisling	Zenas V. Weizel

Physics and Astronomy Club

THE Physics and Astronomy Club differs from most of the Institute Clubs in that it is not a social club and its members are largely from the Institute faculty and the Mt. Wilson Observatory. Its purpose is to bring before its members the latest developments in science and research. Through the co-operation of members of the Mt. Wilson Observatory staff and the faculty of the Institute, the Club is assured of authoritative discussions on many branches of science. In many instances members of the Club present unpublished accounts of their own original work.



Society of Automotive Engineers
Student Branch



Officers

CHARLES J. BIDDLE	.	.	<i>President</i>
HALLAN N. MARSH	.	.	<i>Vice-President</i>
DEWEY C. ROHLOFF	.	.	<i>Secretary</i>
MITCHELL LUKENS	.	.	<i>Treasurer</i>

Members

Orrin A. Barnes
 Stanley A. Bell
 Charles J. Biddle
 Loren E. Blakeley
 James E. Moore

Hubert A. Reeves
 Dewey C. Rohloff
 Warren A. Schneider
 Edward A. Wilson

THE Society of Automotive Engineers was formed, as stated in its constitution, with the following purposes: "To promote the Arts and Sciences and Standards and Engineering practices connected with the design and construction of automobiles, all forms of self-propelled or mechanically-propelled mediums for the transportation of passengers or freight, and internal combustion prime movers." It was with this standard in view that the local branch of the society was organized.

It is the purpose of the chapter to keep the members in active touch with the latest topics and methods of construction in use by means of the Journal of the society, meetings, and trips to the various automotive industries of Southern California.



Musical Organizations

THE musical organizations of the Institute have experienced a steady growth from the year 1913, when the Glee Club was first organized.

During the first few years, the Glee Club was a recognized Student Body activity, but later became a separate organization. When the R. O. T. C. unit was first established the need of a band became apparent, and under Professor Thomas' guidance a 14-piece band was formed. The next year brought the S. A. T. C. and an increased number of players for the band. The orchestra was founded in 1919, when there were a number of talented musicians among the Student Body. Under the leadership of Manton M. Barnes and Malcolm Macurda a very successful year was completed. The Mandolin Club is an organization of banjo, mandolin and guitar players who are interested in gaining practice and enjoyment in the harmony afforded by that combination of instruments. A "jazz" orchestra was organized early in the year and furnished real live music at many of the rallies.

The Institute has always been very liberal in helping the musical organizations to get needed music and instruments, but the direction of the band and orchestra has been in the hands of students until this year, when the Board of Trustees, realizing the importance of good leadership for the musical organizations, obtained Mr. Will M. Rounds to direct the band and orchestra. One hour a week only was available for orchestra practice, and the organization was disbanded at the end of the first term. The band largely draws its members from the Freshman and Sophomore classes and by arrangement with the Military Department its members are excused from drill, except for special occasions, when the band takes part in the drill. The year has been one of real progress to the members of the band in their undertaking of music and their technique.

Glee Club



WALTER W. OGIER, JR.	<i>Director</i>
DOUGLAS C. MACKENZIE	<i>President</i>
KENNETH A. LEARNED	<i>Manager</i>
PAUL E. NOLL	<i>Accompanist</i>

First Tenor

George G. Spencer
 Arthur G. Duncan
 Edward D. Lownes
 W. W. Nicholson

Second Tenor

John Honsaker, Jr.
 Albert D. Hall
 William L. Bangham
 Loren E. Blakeley
 Frank Pine
 John P. Stratford

First Bass

Douglas C. Mackenzie
 Howard G. Vesper
 Harold L. Albright
 George B. Stone
 Markham E. Salisbury

Second Bass

Kenneth A. Learned
 George H. Clever
 J. W. Whittington
 Edgar N. Layton
 James H. Ulmer

ENTERTAINERS

Maurice Ross

Harold C. Sheffield



The Glee Club

THE year 1921-22 has witnessed yet another of the numerous successful seasons of the Glee Club entertainers. Under the directorship of Walter W. Ogier, Jr., who has continued the work so ably commenced by Professor Franklin Thomas in his several years of association with the Club, the organization has presented most delightful and varied programs.

As soloist, Douglas C. Mackenzie again made his valuable contributions to the entertainments. Howard Vesper's renditions on the cornet were ever in demand, and did much to make for the fine variety which has characterized the Club's performances. A new feature of the entertainers this season has been the "kazoo" band. This group of tin-horn artists put many a "jazz" orchestra to shame and caused the pedal extremities of even the most aged to keep time to the music.

Concerts were given during the year: The Lake Avenue Methodist church (Pasadena); First Methodist church (Pasadena); First Baptist church (Pomona); Pasadena High School, Alhambra High School, Huntington Park High School, Occidental College, and Pomona College.

Tech students seldom give to the Glee Club the credit which is its just reward. It should be remembered that the members make a large sacrifice in time and even in money to make their organization the big advertising medium that it undoubtedly is for the Institute.

The Jazz Band

THE past year witnessed the debut of a new musical organization at Tech. The Jazz Band made its initial bow at the beginning of the football season as an informal group of "pepifiers," an off-shoot of the military band. The primary purpose of the jazz band is to arouse enthusiasm in student activities, and, more particularly, to accentuate the flow of bleacher pep at athletic contests. That the organization accomplishes its purpose is evidenced by the increase in volume and unanimity of college spirit displayed at Tech assemblies and games.

The jazz artists are all soloists in their respective departments of the military band. As organizer and director, Grant Jenkins deserves special commendation. The other men whose services were appreciated are: Albert S. Gould, William P. Hand, Basil Hopper, John H. Puls, Stuart L. Seymour, Paul Stoker and James H. Ulmer.



Band



Roster

WILL H. ROUNDS, *Conductor*

- | | |
|-----------------------|---------------------|
| Horace C. Adams | Godfrey G. Mortimer |
| Kenneth B. Anderson | Spencer M. Munson |
| Ralston E. Bear | Lyall A. Pardee |
| Frank K. Black | Fred Peterson |
| Loren E. Blakeley | John H. Puls |
| Carlton H. Eckerman | George N. Ramseyer |
| Albert S. Gould | Stuart L. Seymour |
| Alva C. Hall | Lyman P. Stoker |
| William P. Hand | Donald S. Stone |
| Wesley C. Hertenstein | James H. Ulmer |
| Basil Hopper | Gerald T. Vroman |
| Grant V. Jenkins | Joseph H. Walker |
| Edgar N. Layton | Ora L. Wrestler |
| R. H. Merrill | J. Ellsworth Youtz |



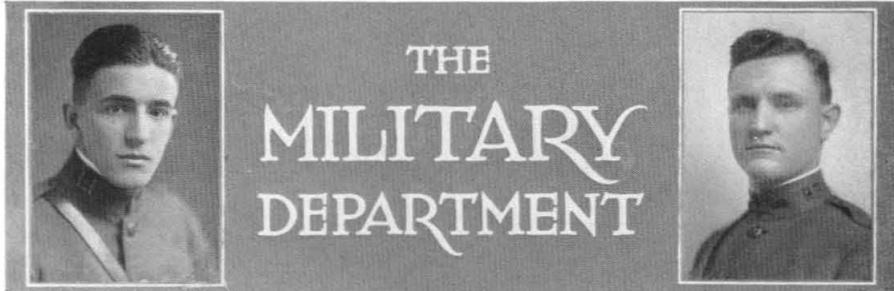
Military

THE course in Military proved to be one of the most interesting and instructive given during the past year. The work for the Freshmen included knots and lashings, signaling, ponton bridge construction, gallery practice with the .22 calibre Winchester, trench construction, Infantry Drill Regulations and leadership and preliminary sketching. The Sophomore program consisted of topographic sketching, trench revetment, knots and splices, minor tactics, block and tackle, gins and shears, musketry and gallery practice, spar and ponton bridges. The ponton bridges were constructed on Wilson Lake, thus giving the men actual practice in handling the canvas boats in water.

The course given for the Juniors include the following: Demolitions and explosives, railroads and roads, mapping, field fortifications, bridges and map reproduction. The time of the Seniors was taken up in the study of permanent fortifications, bridges, military history and policy of the United States, strategy, military law, and engineering organization and operation. In the third term several inspection trips were made to the army training camps near Pasadena.

The ability shown by the 65 men who made the trip to the National Engineer summer camp at Camp Humphreys, Va., last summer, was ample proof of the value of the courses as given here at Tech. Nine Tech men were chosen on the staff of 30 for "The Sketching Board," of which Douglas A. Stromsøe was editor-in-chief. Tech men showed up well in the work on the rifle range, as well as in other lines; Douglas C. Mackenzie making 318 out of a possible 350—the highest score of the camp.

The increase in the size of the unit made it necessary for Captain Kramer to have an assistant to handle the Junior and Senior work. Lieut. Doswell Gullatt was detailed here, and has taken over a great deal of the work which rested solely upon Captain Kramer last year. Lieutenant Gullatt has had considerable experience in mapping and had charge of the Junior mapping and map reproduction work. The advanced course in Military has proven very beneficial to the men taking the course. Twenty-five men were given commissions in the Engineer Reserve Corps at the final review of the year.



CAPT. KRAMER

LIEUT. GULLATT

Battalion Organization 1921-1922

JOSEPH LERACY, Master Sergeant, Engineers, U. S. Army
 LOUIS H. BAILEY, Staff Sergeant, Engineers, U. S. Army
 WILLIAM C. COOK, Regimental Commissary Sergeant, Field
 Artillery, U. S. Army, Retired } *Instructors*

Major
 ERB, L. H.
Captain and Adjutant
 MACKENZIE, D. C.

Color Sgts.
 REEVES, H. A.
 DARNELL, D. W.

Color Corps.
 PICKETT, A. G.
 MOYSE, H. W.

"A" Company
 Capt. Vesper, H. G.
 1st Lt. Crissman, R. W.
 1st Lt. Preston, R. W.
 2nd Lt. Varney, C. W.
 2nd Lt. McKee, G. T.
 1st Sgt. Alcorn, M.
 Sgt. Wells, L. J.
 Sgt. Batty, B. E.
 Sgt. Myers, T. G.
 Sgt. Reeves, H. A.
 Sgt. Larson, J. E.
 Sgt. Banks, S. A.
 Sgt. Roth, L. P.
 Sgt. Baker, H. W.
 Cpl. Rapp, C.
 Cpl. Blackburn, D. A.
 Cpl. Crost, E. H.
 Cpl. Moyse, H. W.
 Cpl. Fenner, L. C.
 Cpl. Cornelison, E. D.
 Cpl. Mayer, J. E.
 Cpl. Farnham, H. H.
 Cpl. Harker, D.
 Cpl. Schlegel, G. M.

"B" Company
 Capt. Seares, R. U.
 1st Lt. Groat, E. T.
 1st Lt. Schneider, W. A.
 2nd Lt. Kohtz, R. H.
 2nd Lt. McKaig, A.
 1st Sgt. Kendall, D. C.
 Sgt. Shield, J. E.
 Sgt. Maurer, F. A.
 Sgt. Larson, L. C.
 Sgt. Benioff, B.
 Sgt. Ogden, H. S.
 Sgt. Darnell, D. W.
 Sgt. Bangham, W. L.
 Sgt. Ross, M.
 Sgt. Nies, T. H.
 Sgt. Hickey, G. I.
 Sgt. Pemberton, R. B.
 Cpl. McCarter, K. C.
 Cpl. Beck, H.
 Cpl. Pine, F.
 Cpl. Warren, H. L.
 Cpl. Dryer, W. C.
 Cpl. Michael, A. F.
 Cpl. Atherton, T. L.
 Cpl. Pickett, A. G.
 Cpl. Smith, R. W.
 Cpl. Stokes, E. C.

"C" Company
 Capt. Stromsoe, D. A.
 1st Lt. Whistler, A. M.
 1st Lt. Wesseler, M. J.
 2nd Lt. Garfield, A. J.
 2nd Lt. McClung, F. J.
 1st Sgt. Evans, G. P.
 Sgt. Kemp, E. G.
 Sgt. Powers, G. W.
 Sgt. Devoe, J. J.
 Sgt. Potter, W. D.
 Sgt. Hess, E. R.
 Sgt. Owens, G.
 Sgt. Allbright, H. L.
 Sgt. Thompson, W. G.
 Sgt. Wrestler, D. L.
 Cpl. Tellwright, F. D.
 Cpl. Pepper, R. E.
 Cpl. Sellers, D.
 Cpl. Campbell, D.
 Cpl. Lownes, E. D.
 Cpl. Morrell, D. F.
 Cpl. Prentice, L. B.
 Cpl. Goldsmith, M.
 Cpl. DeRemer, E. N.



ORGANIZATIONS



"A" Company

Cadet Pvts.

Barger, O.
Barnes, L. S.
Berger, C. E.
Butler, S.
Cannon, K. B.
Colquitt, G. W.
Cronk, H. L.
Dent, W. U.
Dorrestein, E.
Drummond, J. R.
Farman, I. L.
Ferkel, A. J.
Flick, C. R.
Gandy, H.
Goodhue, H.
Hale, F. S.
Hall, L. W.
Hort, E. A.
Heilbron, C. H., Jr.
Henderson, L. P.
Henderson, W. G.
Hess, B. E.
Hodge, B. Jr.
Hoffman, M. I., Jr.
Kingsbury, W. S.
Kinkeley, E.
Knox, C. B.
Landau, M.
Maag, E.
Maltby, C.
Maurer, J. E.
McAllister, E. H.
McProud, C. G.
Moody, M. W.
Newton, A. A.
Palmer, R. W.
Perkins, D. R.
Ridgeway, R. S.
Rivinius, P. C.
Ross, P. K.
Scott, O. B.
Shafer, E. E.
Smith, J.
Stanton, R. J.
Stern, C. B.
Stewart, E. D.
Stone, E. S.
Stone, G. B.
Springer, H. O.
Templin, N. H.
Watson, H. H.
Walters, J. K.
Weisel, Z. V.
Wisegarver, B. B.

"B" Company

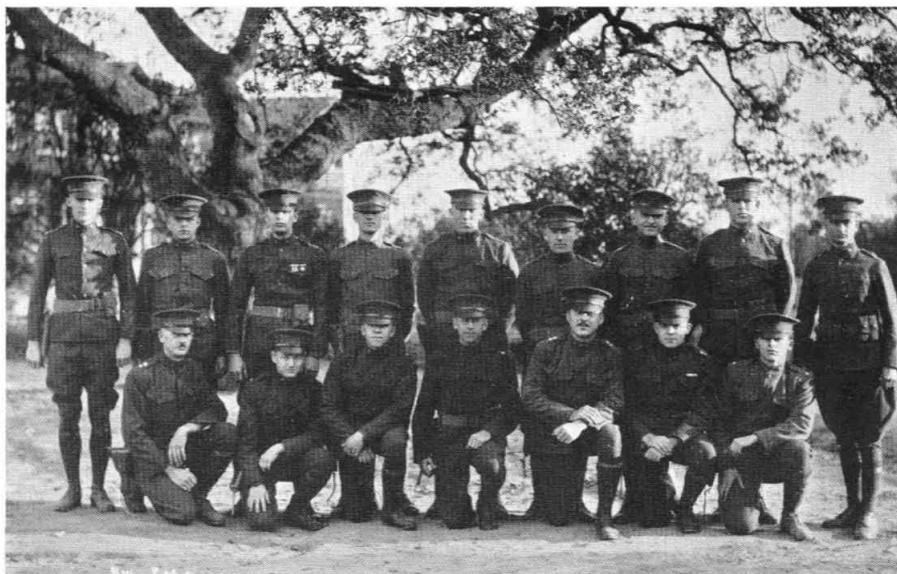
Cadet Pvts.

Allen, W. H.
Ashley, C. L.
Bann, D.
Barker, F. W.
Baxter, W. P.
Beeson, M.
Blackman, R. V.
Broady, L. C.
Brunner, M. C.
Cameron, M. P.
Carey, R. S.
Chapman, A.
Clayton, F. C. A.
Diack, S. L.
Dillon, R. T.
Endsley, H. M.
Ford, T. G.
Fowler, L. D.
Garver, G. L.
Hansom, R. J.
Helms, J.
Jones, W. B.
Keech, D. W.
Kilham, O. W.
Knupp, S. G.
Krouser, J. C.
Larabee, O. S.
Langdon, R.
Loop, R. L.
Losey, T. C.
Lovering, F. R.
Lukens, M. C.
Mercereau, J. T.
Mitchell, H. H.
Moore, J. E.
Nicholson, W. W.
Noll, P. E.
Peterson, E. R.
Peterson, H. F.
Pletsch, D. L.
Ranney, K. W.
Rockafeld, G. C.
Rose, E. W.
Salsbury, M. E.
Sanson, K. D.
Sasso, A. S.
Schlierbach, L. T.
Schumacher, K. F.
Sheffield, H. C.
Siegfried, R.
Thayer, E. F.
Weinland, C. E.
Whittington, J. W.
Wilson, K. M.
Winckel, E. E.
Young, D. R.

"C" Company

Cadet Pvts.

Alderman, R. E.
Anderson, C. J.
Anderson, K. B.
Bailey, E.
Barcus, E. D.
Barnes, F. M.
Barnes, O. H.
Beasley, B.
Bell, S. A.
Blunt, A. W.
Boorey, R. R.
Bowman, R. B.
Campbell, C. L.
Clark, R. S.
Collins, A. P.
Duncan, S. F.
Edgerton, W.
Farly, G. M.
Forbes, C. L.
Foster, F. M.
Freeman, H. R.
Fulwider, R.
Haskin, J. R.
Hill, D. A.
Hoak, E. W.
Hotchkiss, T. N.
Jones, D. T.
King, R. L.
Kinsey, J. E.
Larson, F. A.
Laws, A. L.
Leishman, J. W.
Liddell, O. E.
Martin, H. F.
Martin, H. J.
McFarlin, G.
McGaffey, D. F.
Miller, L.
Miller, R. E.
Morrison, A. J.
MottSmith, L.
Newcomb, L.
Parker, C. N.
Perkins, P.
Piper, J. W.
Pompeo, D. J.
Robertson, K. W.
Schulz, H. C.
Scotten, W. E.
Scudder, N. F.
Smith, C. S.
Smith, N. D.
Sonnabend, M. L.
Spelman, G. C.
Squires, W.
Staley, C. V.
Tackabury, H. S.
Taggard, A. J.
Thompson, W. P.
Walker, J. H., Jr.
Watkins, R. T.
Wissig, S.



CADET OFFICERS

Rifle Teams

Members of Gallery Rifle Teams

William H. Allen
 Sydney A. Banks
 Dixie Bann
 Loren E. Blakeley
 Robert J. Crissman
 G. Paul Evans
 Douglas C. Mackenzie
 Frederick J. McClung
 Leroy Newcomb
 Walworth W. Nicholson
 Clarence R. Owens
 Paul Perkins
 Warren A. Schneider
 Lawrence P. Roth
 Douglas A. Stromsoe
 Howard G. Vesper
 Martin J. Wesseler

Members of .30 Calibre Rifle Team

William H. Allen
 Sydney A. Banks
 Dixie Bann
 Loren E. Blakeley
 Richard S. Carey
 J. H. Holms
 Frank R. Lovering
 Douglas C. Mackenzie
 Frederick J. McClung
 James F. Mercereau
 Claire V. Staley
 Douglas A. Stromsoe
 Martin J. Wesseler



Rifle Shooting



RIFLE TEAM

RIFLE shooting has been carried on very successfully under the direction of the Military Department for the past two years. The gallery is located between the "Ark" and the present "gymnasium" and until recently has been entirely an outdoor range. It is expected that work will be completed during the summer which will make the gallery available next year for practice in stormy as well as in good weather.

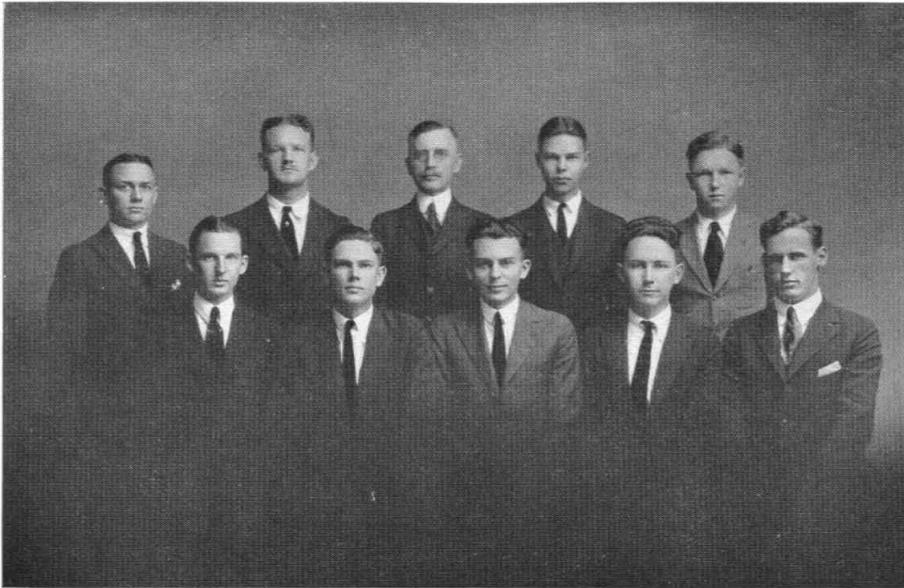
The Tech rifle team took part in six matches during the year. In the Conference match, Tech came second with 3,219 points out of a possible 4000. S. B. U. C. won the match with 3,272 points, and Pomona made 2,873. In the Ninth Corps Area match, Tech won sixth place out of a field of 29 competitors, being defeated only by four of the ten teams from Oregon Agricultural College, and by the University of Oregon team. Teams entered in this match from the R. O. T. C. units at the University of California, Southern Branch, Pomona and University of California were defeated by good margins by the Tech team.

During the spring vacation a number of the team went to the State National Guard Range near Glendale, and fired the .30 calibre Springfields. Four men qualified as Marksmen, three as Sharpshooters, and three as Expert Riflemen.

A match was fired with the University of Wisconsin during the third term, as well as the match sponsored by the National Rifle Association.



Debating



WILSON BECK MACARTHUR (*Coach*) HOPPER FULWIDER
MITCHELL F. J. GROAT MORRELL THAYER TELLWRIGHT

Varsity Debating Squad

TRUE to the expectations of those most interested, Tech has made further progress this year in the realms of oratory and argumentation. The valuable precedent established last year by Dr. J. R. Macarthur, when with the co-operation of the Freshman Debating Society of the class of '24, he placed California Tech squarely on her forensic keel, has been adhered to closely. The results have been most gratifying.

Tech has engaged in no less than ten contests during the debating season, which has just closed. Of this number, five were Freshman and five were Varsity debates. The "Peagreeners" received the decision twice and lost it three times, while the Varsity men in their first three debates, lost twice to U. S. C. and won from Redlands University. The last two Varsity debates with S. B. U. C. were held too late for the publication of the results.

The big coup of the year was the win over the famous Redlands team, which had been successful in six debates with other Southern California colleges. The same team made a trip east, meeting several crack teams on their way to the national Pi Kappa Delta convention.

The prospects of winning next year are unusually bright, due to the abundance of experienced Varsity material.



The Season

I. FROSH, DUAL DEBATE, FRIDAY, DECEMBER 9, 1921 Occidental at C. I. T.

AFFIRMATIVE—LOST 3-0	NEGATIVE—Lost, 3-0
Allan Morrison	Keith Wilson
Gerald McFarlin	Harold C. Sheffield
A. Preston Collins	Ralph Siegfried

Question—"International Disarmament."

II. FROSH, DUAL DEBATE, WEDNESDAY, MARCH 1, 1922 S. B. U. C. vs. C. I. T.

AFFIRMATIVE—WON, 2-1	NEGATIVE—Lost, 3-0.
Fred Peterson	Jack Helms
Jack E. Maurer	Joseph H. Walker

Question—"Union Shop."

III. VARSITY, SINGLE DEBATE, FRIDAY, MARCH 3, 1922 Redlands vs. C. I. T.

Affirmative—Won, 2-1

Herbert H. Mitchell	Edwin Thayer
Francis L. Hopper	

Question—"Union Shop."

IV. FROSH, SINGLE DEBATE, FRIDAY, MARCH 3, 1922 Redlands vs. C. I. T.

Negative—Won, 2-1.

Jack Helms	Malcolm P. Cameron
Joseph H. Walker	

Question—"Union Shop"

V. VARSITY, DUAL DEBATE, THURSDAY, MARCH 9, 1922 U. S. C. vs. C. I. T.

Affirmative—Lost, 3-0	Negative—Lost, 3-0
Donald Morrell	Douglas Tellwright
Harold Beck	Robert Fulwider

Question—"Court of Industrial Relations."

VI. VARSITY, DUAL DEBATE, THURSDAY, APRIL 20, 1922 S. B. U. C. vs. C. I. T.

Affirmative	Negative
Donald Morrell	Douglas Tellwright
Fred J. Groat	Farrand Wilson
Harold Beck	Robert Fulwider

Question—"Court of Industrial Relations."



Dorm Club

Officers

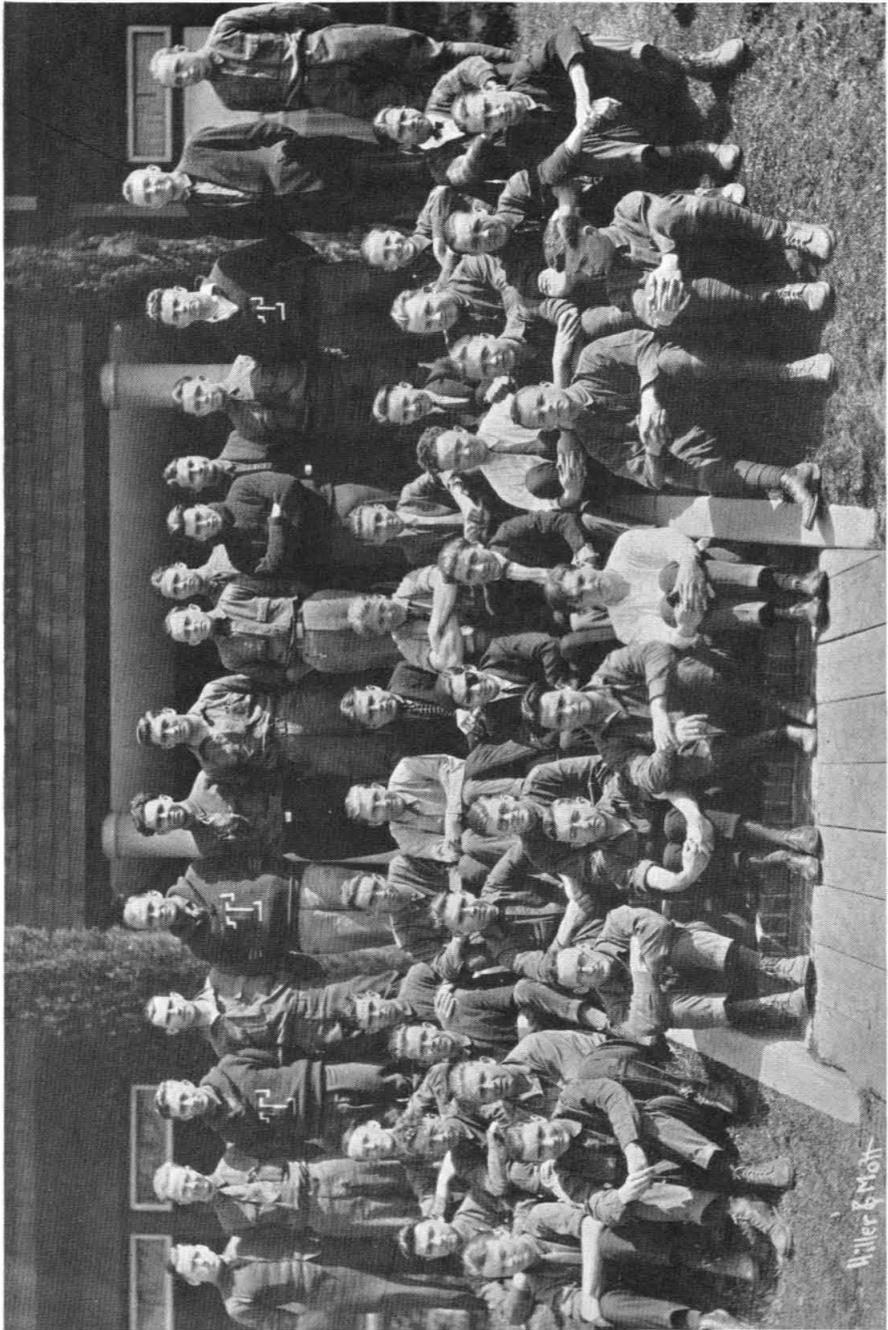
DEWEY C. ROHLOFF	.	.	.	.	<i>President</i>
B. ELWOOD BATTY	.	.	.	.	<i>Vice-President</i>
DONALD W. DARNELL	.	.	.	.	<i>Secretary</i>

DAVID G. HARRIES, JR.	}	<i>House Committee</i>
ROBERT J. CRISSMAN		

Members

Harold L. Albright	David G. Harries
Tracy L. Atherton	Earl S. Hayman
Leroy Ashley	Willie G. Henderson
Blake E. Batty	William S. Kingsbury
Everett D. Barcus	Caryl Krouser
Stanley A. Bell	O. Seymour Larabee
Emerson Bailey	Harold B. Lewis
Floyd A. Baker	Orval E. Liddell
Charles J. Biddle	Edward D. Lownes
Ben Benioff	Donald McGaffey
Albert Chapman	Frederick J. McClung
Robert J. Crissman	Gerald McFarlin
Daniel M. Campbell	James E. Moore
Donald W. Darnell	Hubert A. Reeves
Arthur Duncan	Dewey C. Rohloff
Malcolm P. Cameron	Curtiss Spelman
William Dent	Fritz Schumacher
Samuel L. Diack	Oliver B. Scott
Carlton H. Eckerman	Howard Tackabury
Harold S. Endicott	Harry Warren
Morris Goldsmith	John P. Walters
Howard W. Goodhue	Robie T. Watkins
Ben Hodge, Jr.	William R. Woodruff
Sherman Hale	Clarence Weinland
M. Irving Hoffman	

T ORGANIZATIONS T





Y. M. C. A.

Officers

GEORGE H. CLEVER	.	.	<i>President</i>
LOREN E. BLAKELEY	.	.	<i>Vice-President</i>
KENNETH A. LEARNED	.	.	<i>Secretary-Treas.</i>
CLYDE R. KEITH	.	.	<i>Corresponding Sec.</i>

THE Y. M. C. A. has just completed the most successful year of its existence here at Tech. With the help of the Faculty Athletic Committee a general secretary was obtained who spent part of his time as assistant coach. The combination has worked to a high degree of success for both the Y. M. C. A. and athletics. Mr. H. Z. Musselman has made an energetic leader and has laid the foundation for a strong and growing organization.

Among the activities carried on by the "Y" during the year were the annual freshman reception, the maintaining of an employment bureau through which many students obtained steady and part time employment, a skating party at the Alhambra rink, the annual Field Day, and a weekly discussion group led by Dr. John R. Macarthur. The discussion group was well attended throughout the year and proved of great benefit to the men taking part.

A number of Tech men spent a week at the Asilomar Christian Leadership Conference during the Christmas vacation. The Conference grounds are located near Monterey Bay, only a few miles from Monterey. One of the main speakers was J. Stitt Wilson, a man who is known all over the world as a leader of student thought. George M. Day of the University of California gave a series of talks on the condition in Russia, based on experiences during his long residence there. The afternoon hikes to points of interest around the bay, and the Intercollegiate athletic contests afforded the men a great opportunity to make acquaintances and to learn of the conditions at the various colleges of the Southwest.

Realizing the need of the student body, and especially the need of the incoming freshman class, the Y. M. C. A. undertook the task of putting out a hand-book. This book contains a brief description of the various college activities, and a copy of the Freshman Rules, imposed by the Sophomores. In furtherance of its plans to be of service to the students, the "Y" has established a housing bureau to help men to find suitable locations here in Pasadena until the needed dormitories are built.



Honor Societies

CALIFORNIA TECH is rapidly striding forward to a realization of her ultimate aim—to stand foremost among the Engineering and Research colleges of the world. In consequence of her progress, she is attracting to her ranks some of the world's greatest scientific teachers and leaders. As still further evidence of her fame, one can cite the coming of two great honorary fraternities, the one an Engineering Society and the other a Debating Society.

At the beginning of the final term of the school year, 1920-21, Professor Franklin Thomas called together several Juniors and Seniors and directed the discussion of the group on the subject of an Honorary Engineering fraternity and the advisability of having a chapter of such an organization at California Tech. The group favoring such a plan, commenced the routine work necessary to securing the grant for a local chapter of Tau Beta Pi. The grant was made at the close of the college year.

In order to become eligible to membership in the Fraternity, a student must be among the one-eighth highest ranking scholars in his Junior year, or among the one-fourth highest in his Senior class. An alumnus who came up to the same standard while a student is similarly eligible.

At about the same time that the Engineering Fraternity made its appearance, the members of the Freshman Debating Society of the class of '24, acting upon the suggestion of Dr. John R. Macarthur, who is the National President of the Honorary Debating Fraternity of Pi Kappa Delta, applied for a local chapter of the above named society. A charter was granted at the close of the college year, in 1921. Eligibility to membership in the fraternity is dependent upon participation in intercollegiate forensic contests.

Tau Beta Pi is the greatest society of its kind in the engineering world today, while Pi Kappa Delta is the second largest, and one of the most honored of Honorary Forensic organizations in the United States. Membership in the former is indicative of high scholastic attainment and general all-around development. Membership in the latter signifies forensic accomplishment and participation in student activities.



Varsity Club

Officers

EDMUND T. GROAT	.	.	.	.	<i>President</i>
ALFRED C. CATLAND	.	.	.	.	<i>Vice-President</i>
BERNARD G. EVANS	.	.	.	.	<i>Secretary-Treasurer</i>

THE VARSITY CLUB, though a comparatively young organization, is making its mark at the Institute. In fact, this, the third year of its existence, has been a period of unprecedented activity.

The primary purpose of the Club is to promote clean athletics, to make recommendations concerning the conduct of the same when such action is expedient, and, in general, to constitute an intermediary body between the student organization and the administration in the field of athletics. In the past this purpose has been accomplished with much success, and it is expected that the value of the body will increase as the Club gains experience and prestige.

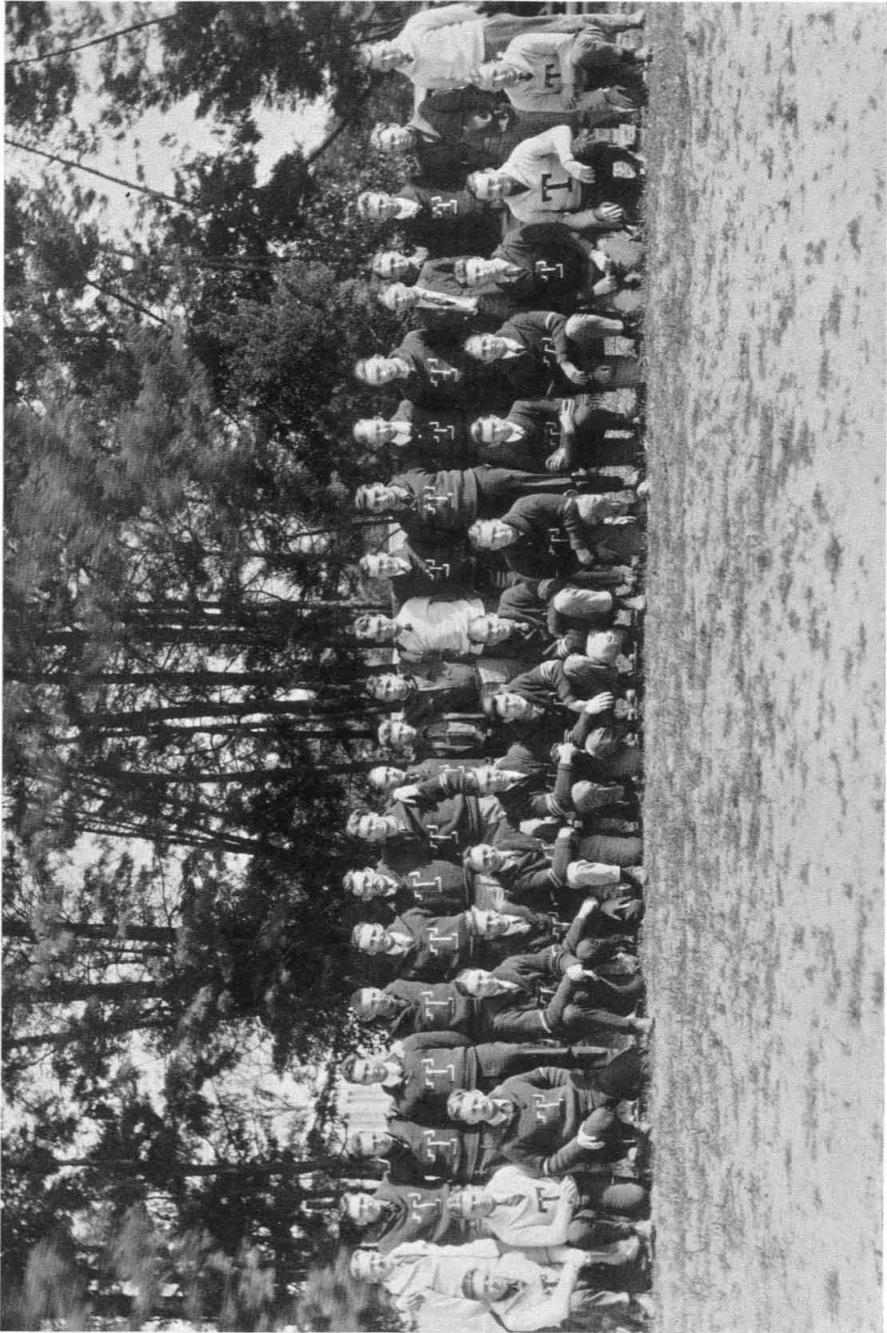
The Varsity Club has also assumed the more difficult task of supplying letter men with sweaters. Until this year, this task has been unbearable, and only football men were awarded "ruff-necks." But now that it has been decided to give one sweater a year to each man who has won one or more letters in that year, the financial burden is of such magnitude as to require Student Body responsibility.

In order to raise the necessary funds in the past season, the Club exercised its ingenuity in divers ways. Its members were twice hosts to the Student Body and Alumni at social affairs. The dance at the Hotel Maryland was entirely successful from the financial as well as the social standpoint. Again, on April 1, the letter-men were at home to the students and friends of the Institute who attended the Annual Exhibit. On this occasion, they served refreshments with their usual monetary success. Peanut vending machines and California Tech belt buckles were constant sources of revenue.

The enthusiasm, initiative and drive of the Varsity Club are characteristics of which to be proud and attributes worthy of emulation by other Tech organizations.



ORGANIZATIONS





Press Club

Members

Honorary

Prof. Clinton K. Judy

Prof. George R. MacMinn

Graduate

Sinclair Smith

Arthur L. Klein

Active

Class of 1922

Frederic A. Maurer

Lloyd A. Walling

Robert W. Gillies

Howard G. Vesper

Clyde R. Keith

Lester O. Warner

Arthur J. Garfield, Jr.

Ben Benioff

William M. Taggart

Charles W. Varney

Ray W. Preston

Class of 1923

Douglas A. Stromsoe

Max Alcorn

George T. McKee

Loren E. Blakeley

Class of 1924

Oliver B. Garver

Robert Ridgway


T
T




MACMINN	KEITH	WARNER	TAGGART	McKEE	WALLING	VARNEY
GARFIELD	GARVER	ALCORN	PRESTON	BENIOFF	RIDGEWAY	JUDY
	STROMSOE	MAURER	VESPER	GILLIES		



Tau Beta Pi

Founded: 1885 at Lehigh University

Members of California Beta Chapter

Faculty

Prof. Franklin Thomas	.	.	.	<i>Beta of Iowa</i>
Prof. Royal W. Sorenson	.	.	.	<i>Beta of Colorado</i>
Mr. Glenn H. Bowlus	.	.	.	<i>Alpha of Indiana</i>

Graduate

Frank B. Jewett '98	Jesse Arnold '21
Jesse W. M. Du Mond '16	Phillip S. Clark '21
Wilbur F. Thomas '16	Edward G. Forgy '21
Gene B. Heywood '18	Frank C. Makosky '21
Fritz W. Karge '18	Wynne B. Mullin '21
Earl Mendenhall '18	Henry I. Scribner '21
Bruce Burns '19	Sinclair Smith '21
Russell M. Otis '20	Alfred J. Stamm '21
George L. Corey '20	Richard W. Stenzel '22
Harold Linhoff '20	Paul R. Ames '22

Class of 1922

Raymond W. Ager	Hallan M. Marsh
Gordon A. Alles	Thomas G. Myers
Edmund T. Groat	G. Kemper Smith
Clyde R. Keith	William M. Taggart
Alfred W. Knight	Howard G. Vesper
Frederic A. Maurer	W. Farrand Wilson

Arthur M. Whistler

Class of 1923

Charles E. Fitch	Merle Kirkpatrick
David G. Harries	Donald H. Loughridge
Robert C. Hastings	Howard M. Winegarden



Pi Kappa Delta
Members of California Gamma Chapter

Faculty

DR. J. R. MACARTHUR (*National President*)

Graduate

Joseph B. Maier

Lloyd E. Morrison

Edward Seaver

Class of 1922

W. Farrand Wilson

Francis L. Hopper

Class of 1924

Harold R. Beck

Alfred A. Newton

Edward D. Cornelison

Donald F. Morrell

Carlton H. Eckermann

Herbert H. Mitchell

Robert W. Fulwider

Frank W. Pine

Fred J. Groat

Edwin F. Thayer

F. Douglas Tellwright

Class of 1925

Lawrence W. Hall

Keith M. Wilson

Ralph Siegfried

H. Fred Peterson

Allen J. Morrison

John E. Maurer

A. Preston Collins

Joseph H. Walker

Gerald F. McFarlin

John H. Helms

Harold C. Sheffield

Malcolm P. Cameron



ORGANIZATIONS



ECKERMAN	L. HALL	MORRISON	McFARLIN	BECK	F. GROAT	CORNELISON	J. MAURER
CAMERON	K. WILSON	FULWIDER	PETERSON	PETERSON	HELMS	SHEFFIELD	SIEGFRIED
	TELLWRIGHT	F. WILSON	MITCHELL	MORRELL	DR. MACARTHUR	THAYER	PINE

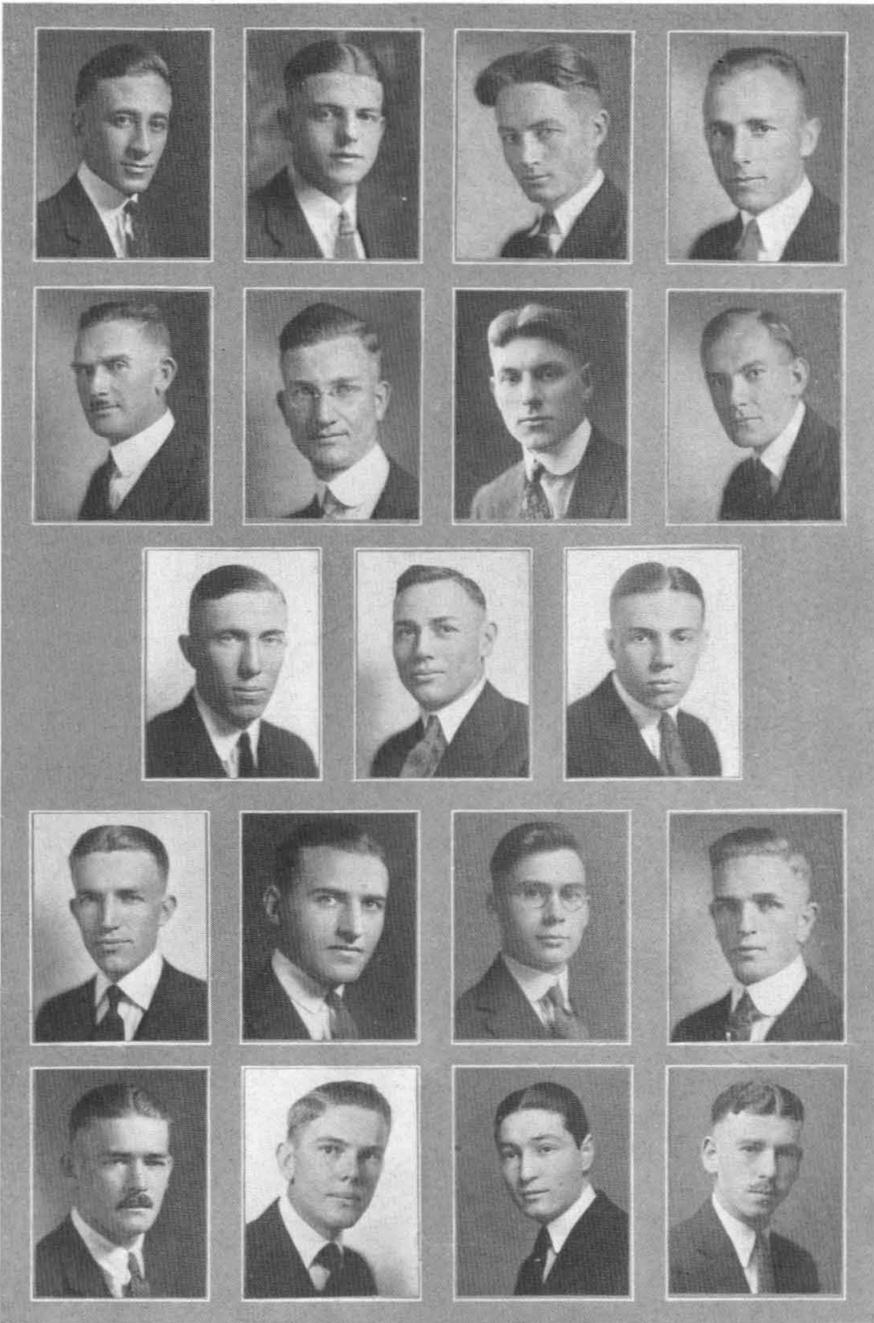


Honor Key Men—1921-22

- LOREN E. BLAKELEY—Football Scrub Team, Rifle Team, Tech Reporter, Annual Staff, Glee Club, Y. M. C. A.
- GEORGE H. CLEVER—Football Scrub Team, A. S. C. E. Treasurer, Glee Club, Y. M. C. A. President, Tech Advertising Manager.
- * BEN BENIOFF—Football Letter, Track Captain, Tech Business Manager, Athletic Editor of "Big T," A. S. C. E., Representative-at-Large.
- * LOUIS H. ERB—President Associated Student Body.
- EDMUND T. GROAT—Football Captain, Basketball Letterman, Track Letterman, Baseball Letterman, Varsity Club President, Senior Class Vice-President, A. I. E. E., Y. M. C. A.
- CLYDE R. KEITH—Associate Editor Tech, Classes Editor of "Big T," Band, A. I. E. E., Y. M. C. A., Chairman Honor Point Committee.
- * EDWARD G. KEMP—Football Letterman, Track Letterman, Baseball Captain, A. S. C. E.
- * FREDERIC A. MAURER—Senior Class President, A. S. B. Secretary, Associate Editor Tech, Big "T" Staff, Chem Club.
- RAY W. PRESTON—Athletic Manager, Business Manager Big "T," A. I. E. E., Y. M. C. A.
- DEWEY C. ROHLOFF—Football Letterman, Board of Control, A. S. M. E. President, S. A. E. President, Dorm Club President, Y. M. C. A.
- * CHARLES W. VARNEY, JR.—Editor "The California Tech," Football Scrub Team.
- * HOWARD G. VESPER—Big "T" Editor, Basketball Letterman, Rifle Team, Tech Associate Editor, Glee Club, Chem Club.
- W. FARRAND WILSON—Football Letterman, Board of Control, Varsity Debating Team, Big "T" Staff, Tech Reporter.
- MAX ALCORN—Managing Editor Tech, Organizations Editor Big "T," Board of Control, Aero Club Secretary, A. S. M. E.
- * BERNARD G. EVANS—Football Letterman, A. S. B. Vice-President, Swimming Letterman, Y. M. C. A., Chem Club.
- OLIVER B. GARVER—Basketball Letterman, Sports Editor Tech, Baseball Manager, Big "T" Staff, A. S. C. E.
- DOUGLAS A. STROMSOE—Football Letterman, Board of Control, Track Scrub Team, Assistant Editor Big "T," Associate Editor Tech, Rifle Team, A. S. C. E. Secretary.
- FRED J. GROAT—Football Second Team, Track Second Team, Baseball Letterman, Board of Control, Varsity Debating Team, Big "T" Staff.
- FRANK W. PINE—Football Letterman, Track Second Team, Swimming Team, Oratorical Representative, Glee Club, Y. M. C. A.

* These men also received keys in the year 1920-21.


ORGANIZATIONS

BENIOFF
PRESTON

MAURER
EVANS

VESPER
KEITH
E. T. GROAT WILSON
STROMSOE
F. J. GROAT

VARNEY
CLEVER
BLAKELEY
PINE
KEMP

ERB
ROHLOFF
ALCORN
GARVER



Honor Key System

WHEN the new Student Body Constitution was adopted, two years ago, there was incorporated in it an entirely new institution—the Honor Key System. Its purpose has been to encourage the active participation in college activities by all students. In order to do this there was provided a system whereby those students who had taken the most active and responsible parts in student affairs would be in turn honored by the Student Body. This recognition of the work and sacrifice which these men had undergone for the sake of their Alma Mater takes the form of the presentation at the end of the year of an Honor Key. This Honor Key is not considered as a reward for the work done. That is done for the advancement of the Institute and not for the sake of a personal reward. The Honor Key is merely a recognition of the fact that the recipient has conscientiously served the Institute.

The method for accomplishing this ideal involves the Point System, which assigns a number of Points for every student activity. The actual number of Points is chosen to be as nearly as possible proportionable to the work and responsibility involved by the position. Then every man who has taken part in enough activities to receive a total of twelve or more Points in one year is presented with an Honor Key. Three positions—Student Body President, Editor of the Tech, and Editor of the Annual—are entitled to Honor Keys without additional Points. The number of Points due each man is determined by the Honor Point Committee, consisting this year of Clyde R. Keith (Chairman), Robert Gray and Charles A. Storms.

Honorable Mention

9 to 12 Points

Albert D. Hall	Richard U. Seares	Donald F. Morrell
John Honsaker	George T. McKee	Hubert A. Reeves
Douglas C. Mackenzie	Hollis W. Moyses	

6 to 8 Points

Arthur J. Garfield	Lloyd A. Walling	F. Douglas Tellwright
Robert Gillies	Whitton P. Davis	Edgar N. Layton
Linne C. Larson	Alva C. Hall	Preston Collins
Thomas G. Myers	John E. Shield	Harold Beck
W. Maurice Taggart	John E. Maurer	Henry R. Freeman





Gnome Club

(Kappa Gamma)

Founded 1896

House: 351 South Euclid Avenue

Members

Faculty

Prof. R. W. Sorenson
Prof. Paul Perigord
Dr. Stuart J. Bates
Prof. Harry C. Van Buskirk
Prof. Clinton K. Judy
Prof. R. L. Dougherty

Mr. Edward C. Barrett
Prof. Lucien H. Gilmore
Prof. Romeo R. Martel
Prof. W. Howard Clapp
Mr. Russell M. Otis
Mr. Walter W. Ogier, Jr.

Class of 1922

Alfred C. Catland
Louis H. Erb
Edmund T. Groat
Linne C. Larson

Ray W. Preston
Richard U. Seares
Howard G. Vesper
Charles W. Varney

Class of 1923

Joseph E. Larson
George I. Hickey

Artemus S. Hickey, Jr.
George T. McKee

Walton Gilbert

Class of 1924

Robert M. Gray
Harold R. Beck

Fred J. Groat
Edward E. Dorrestein

Donald F. Morrell

Class of 1925

A. Preston Collins
Henry R. Freeman
Hoyt F. Martin

Allen J. Morrison
Harold C. Sheffield
Howard Tackabury

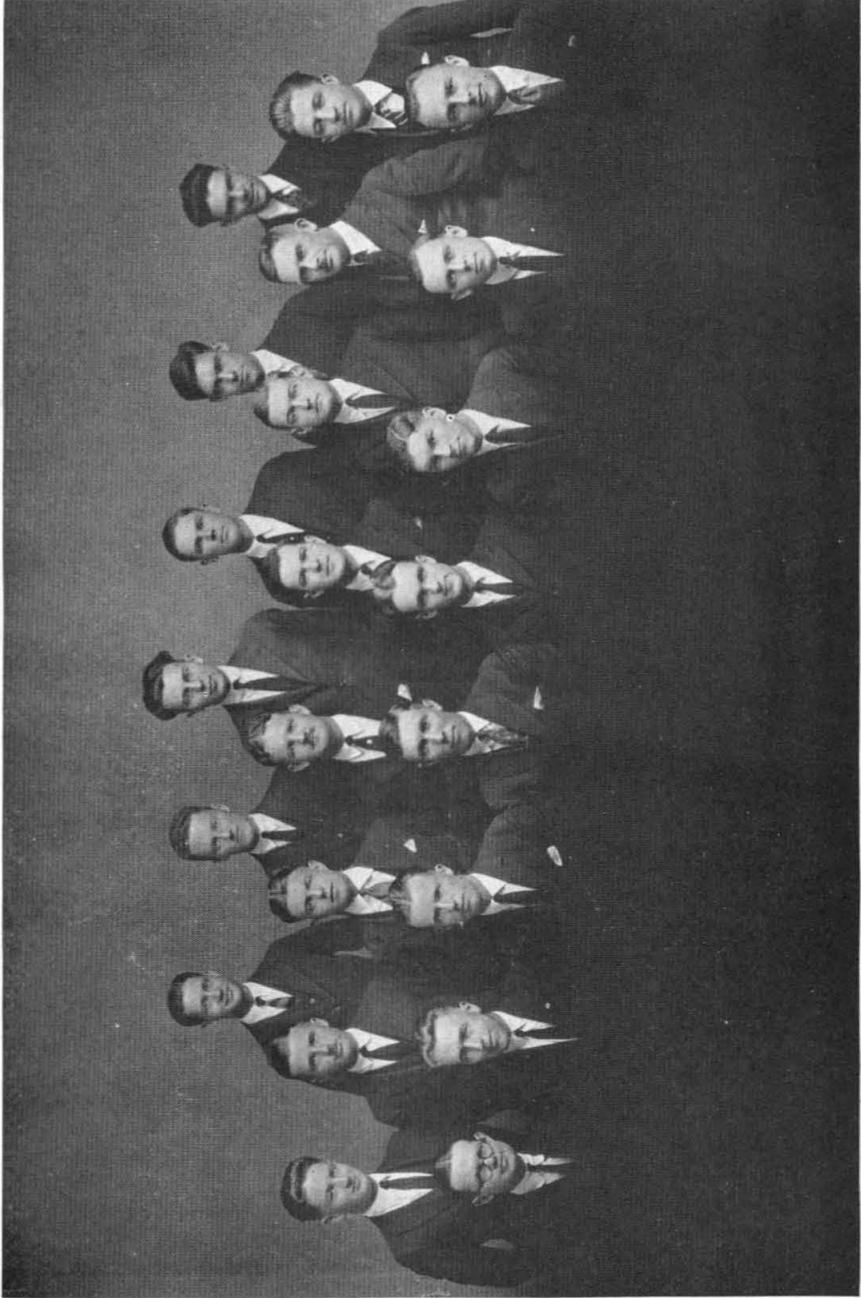
Pledges

H. Fred Peterson

Alfred A. Newton



FRATERNITIES



MCKEE, GILBERT, MORRELL, F. J. GROAT, FREEMAN, MORRISON
VARNEY, J. E. LARSON, VESPER, BECK, CATLAND, GRAY, PRESTON, HIGKEY
SHEFFIELD, COLLINS, L. C. LARSON, E. T. GROAT, SEARES, DORRESTEIN, TACKABURY, ERB



Sigma Alpha Pi

Founded 1914

House: 399 South Mentor Avenue

Members

Honorary

Prof. Franklin Thomas

Dr. William N. Lacey

Prof. Graham A. Laing

Prof. George R. MacMinn

Captain Hans Kramer, C. of E.

Class of 1922

Glenn M. Webster

Lester O. Warner

William M. Taggart

Frederic A. Maurer

Robert W. Gillies

E. Geoffrey Kemp

Lloyd A. Walling

Arthur J. Garfield, Jr.

Alfred W. Knight

G. Kemper Smith

Class of 1923

Douglas A. Stromsoe

Whitton P. Davis

Bernard G. Evans

Maurice B. Ross

Richmond H. Skinner

J. Arthur Macdonald

David G. Harries

Charles S. Howard

Charles P. Walker

Harold R. Preston

Class of 1924

Oliver B. Garver

Hollis W. Moyse

E. Cloyse Evans

Earl S. Hayman

Class of 1925

Ralph Siegfried

Douglas W. Keech

John E. Kinsey

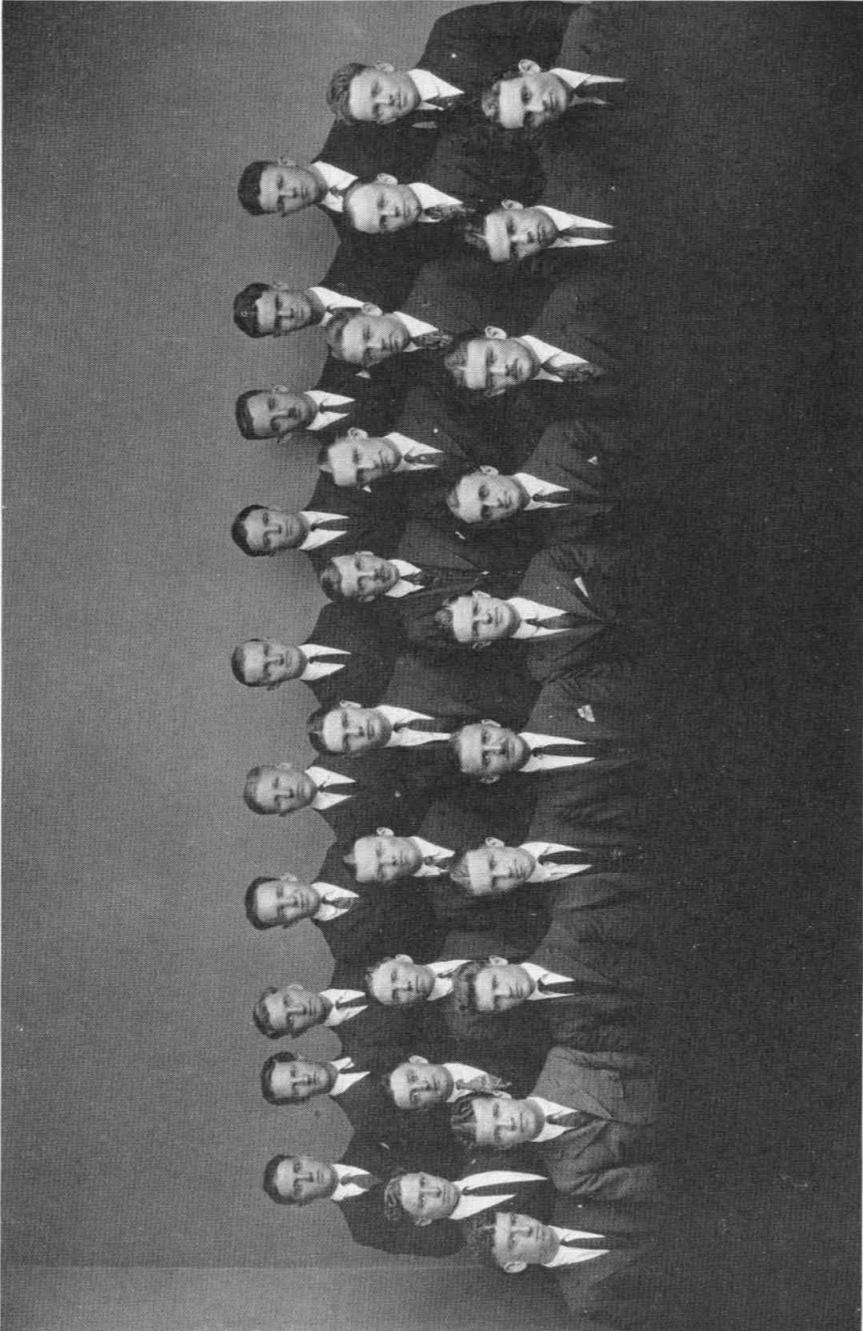
Kenneth B. Cannon

John E. Maurer

Michael C. Brunner



FRATERNITIES



HOWARD, KEECH, BRUNNER, J. E. MAURER, KINSEY, SIEGFRIED, CANNON, TAGGART, DAVIS, HARRIES
WALKER, EVANS, PRESTON, GARFIELD, MOYSE, GILLIES, WEBSTER, SKINNER, KNIGHT, HAYMAN
GARVER, SMITH, MACDONALD, F. A. MAURER, STROMSOE, WARNER, WALLING, EVANS, KEMP, ROSS



Pharos

Founded 1921

Members

Faculty

Dr. Clyde Wolfe

Dr. Arthur A. Noyes

E. Charles Watson

Will Rounds

Ernest H. Swift

Class of 1923

Grant V. Jenkins

Alva C. Hall

L. Dean Fowler

L. Merle Kirkpatrick

William P. Hand

Basil Hopper

Stanley T. Schofield

Hubert K. Woods

Donald H. Loughridge

Norris F. Bravender

George C. Kuffel

George N. Ramseyer

Charles A. Storms

Class of 1924

Albert S. Gould

Clifford W. Maltby

F. Douglas Tellwright

D. Arnold Blackburn

Kenneth C. McCarter

Kenneth B. Anderson

Class of 1925

J. Harrison Smith

James H. Ulmer



FRATERNITIES



RAMSEYER, McCARTER, BLACKBURN, KUFFEL, SCHOFIELD
SMITH, ANDERSON, MALTBY, JENKINS, WOODS, BRAVENDER
HALL, STORMS, HAND, GOULD, FOWLER, KIRKPATRICK



Pi Alpha Tau

Founded 1921

Members

Faculty

Dr. Whitney

Robert Brode

Class of 1924

Charles Forbes
Morris Goldsmith
E. Warren Hoak
Steven Kinsbury
Edgar Layton

Edward Lownes
Herbert Mitchell
Frank Pine
Leland Prentice
Willis Squires

Harry Warren

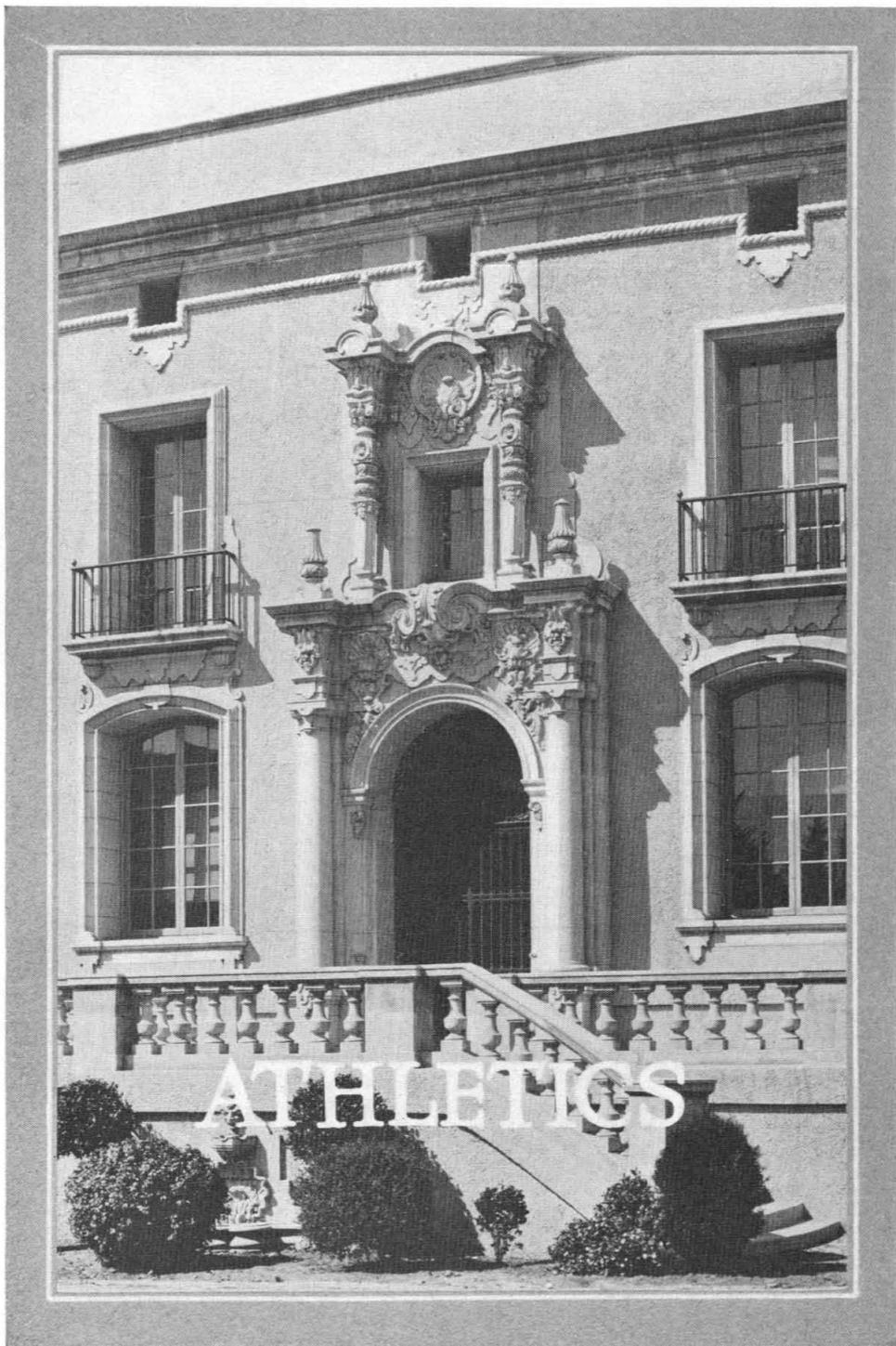
Class of 1925

Lee Miller



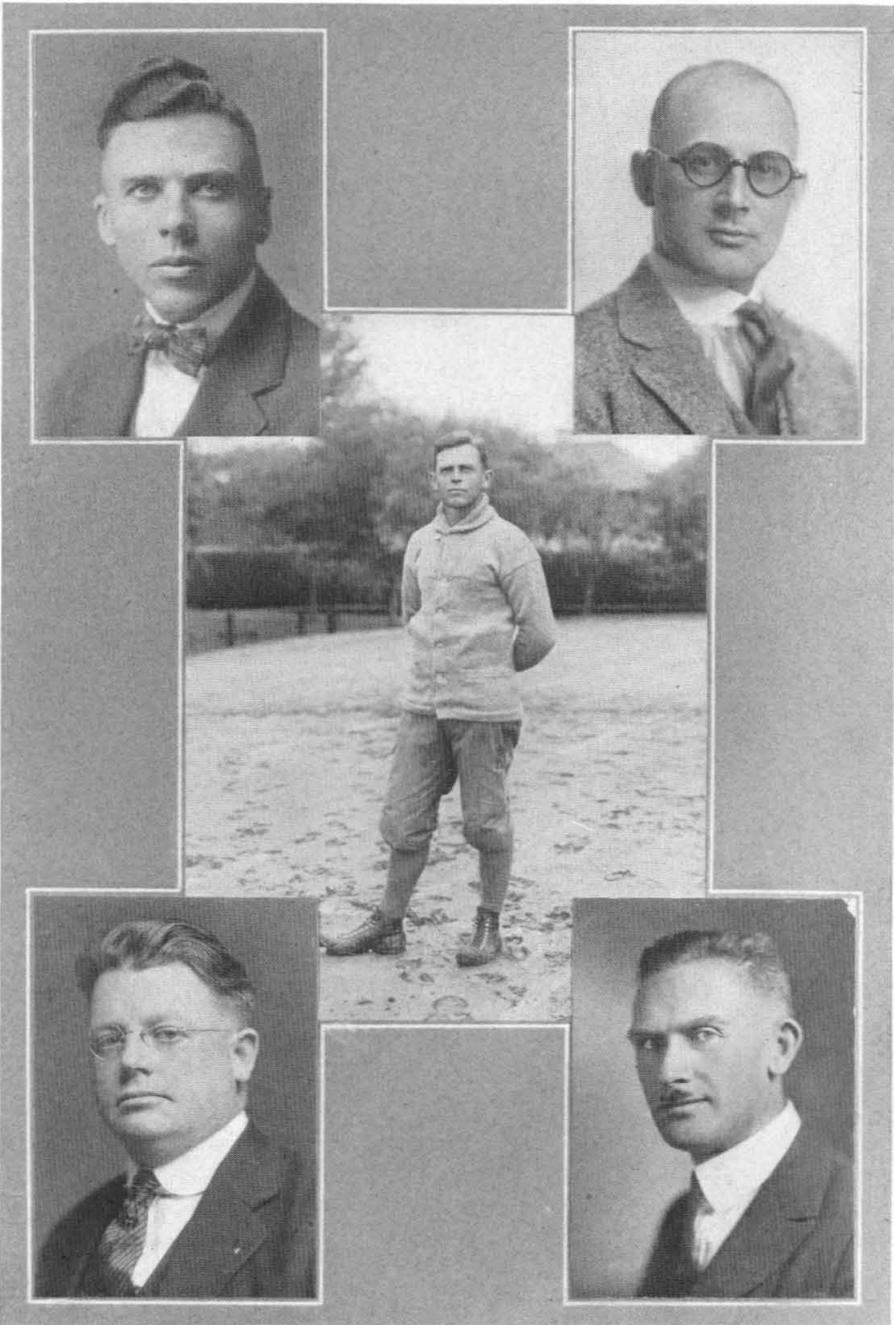
LAYTON, PRENTICE, FORBES, MITCHELL, KINGSBURY, SQUIRES
L. MILLER, GOLDSMITH, WARREN, HOAK, PINE, LOWNES







BIG "T" 1922



TENISON
SORENSEN

STANTON

MUSSELMAN
PRESTON



The Athletic Year

Entrance requirements are steadily becoming more severe, graduation requirements are also becoming worse, and yet Caltech continues to put out high-calibre athletic teams that are building up an enviable reputation for fight, spirit, and clean sportsmanship. The past year was a good example of such qualities, for though the win column did not favor Tech as often as desired, yet the teams were always feared by the other Conference colleges.

Last season the Institute was particularly fortunate in securing the services of "Fox" Stanton to coach football. His reputation as a high-class coach has done a great deal toward putting Tech on the Athletic map. In addition to football, the important announcement has been made that Stanton will have complete charge of all athletics for the coming year and will remain at the Institute all the time instead of just a few months. This announcement came as an agreeable surprise and certainly points to a big year for 1922-23.

In football C. I. T. finished in fifth place, after going through one of the hardest seasons in the history of the Conference. All the teams were strong, and it was far from a disgrace for Tech to finish as she did.

In basketball, again the competition was keen and Tech had to be satisfied with fourth place. More is expected of basketball when a gymnasium is built on the campus.

Track was somewhat of a disappointment, as far as winning goes, because of injuries and inclement weather throughout the short season; yet, prospects for the future are brighter than ever. It will not be long before this sport will be on the same plane at Tech, as football, the plane that has already been reached in most colleges.

Baseball has been a decided success, and hopes for a championship are high. Somehow or other the baseball teams turned out here have always been successes, and this year is no exception.

So ends the major sports. In the minor sports, Tech has been more successful. The tennis team finished a very close second to S. B. U. C., while the swimming team took the Conference championship for the third time.

With a gymnasium promised for the near future, championship teams will be the rule rather than the exception in basketball. With football and baseball already on a high plane, and with track pulling up fast, C. I. T. will soon be able to stack up against the best in the South. But never will the real goal of athletics be forgotten, for it is not in winning games that the best is to be had, but:

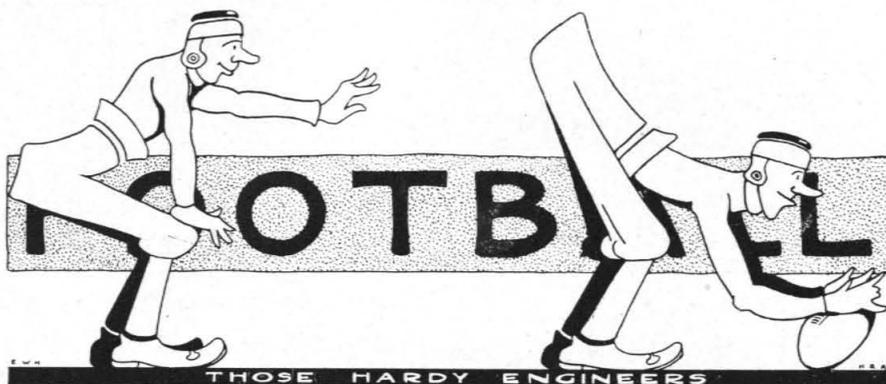
"When the one Great Scorer comes
To write against your name,
He writes not that you won or lost,
But how you played the game."



BIG "T" 1922

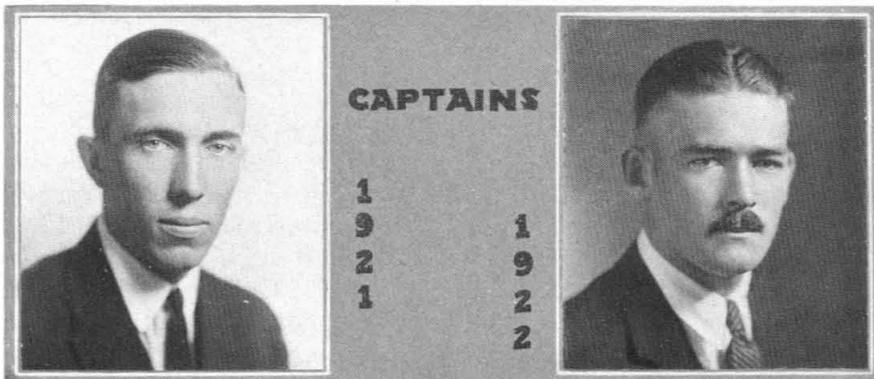


GOLDSMITH, CATLAND, PIERCE, KEMP, BENIOFF, POWERS, PINE, WILSON
BEESON, ROHLOFF, MOYSE, DAVIS, Groat (c), EVANS, BECK, STROMSOE



BYOND a doubt the greatest of all college sports, the one to bring out the best in the individual and the one to bring out the greatest amount of spirit in a crowd, is football. The drive and fight of football inspires as nothing else can. It is the backbone of college spirit and loyalty and around it are built many of the most cherished traditions of a college. And because it is a truly college sport, football cannot be successfully commercialized but will always be the tonic for real college spirit.

The past football season at California Tech cannot be counted a success as far as the standing goes, but it was a real success, for what it accomplished in the way of pushing athletics and athletic spirit up another notch. More and more is Caltech becoming a dangerous contender, and looked upon as formidable opponents. In this alone a great deal has been accomplished as shown by the close games with our old enemies, Pomona and Oxy, both of whom have looked at Tech as the "weak sister." As for spirit, no better evidence can be shown than the fact that there were enough men out for football at the end of the season to make three and sometimes four full teams, not counting the Freshmen teams.



E. T. GROAT

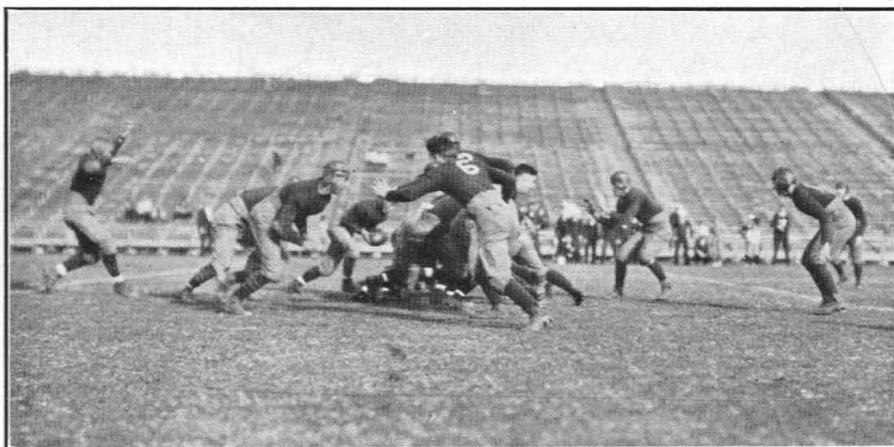
B. G. EVANS



Review of the Season

Conference Standing

	Won	Lost	Pct.
Whittier -----	5	0	1.000
Redlands -----	4	1	.800
Occidental -----	2	2	.500
Pomona -----	2	2	.500
Caltech -----	1	4	.200
S. B. U. C. -----	0	5	.000



HOLDING POMONA ON A LINE BUCK

U. S. C. Game — In Practice

With but one scrimmage in practice behind them, the Tech football squad traveled over to U. S. C. to take on the Cardinal and Gold, a team which afterward proved to be the second best in the West. The less said about the game itself, the better, the final score being U. S. C. 70, Tech 0. From the Tech viewpoint Groat's punting and passing under dire difficulties as well as his game defensive work, and the brilliant tackling of Catland and Davis, were the most commendable features of the game. The gameness of the whole squad and the clean playing of both teams were only more praiseworthy.

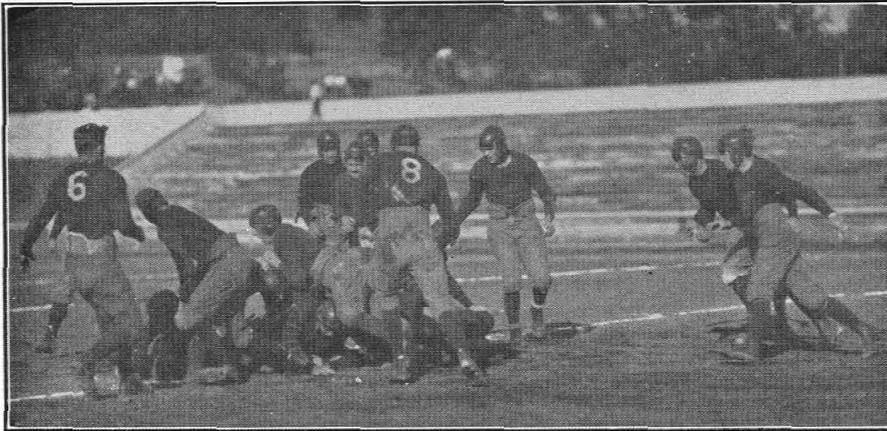


U. S. S. New York Game

With plenty of the old fighting spirit at hand, and football brains mixed in, Caltech sent the sailors of the U. S. S. New York home with the short end of a 14-0 score. The explanation is simple. Tech worked consistently throughout the game, never failing to work the correct play at the correct moment. The forward pass was a consistent ground gainer most of the time.

Tech showed marked improvement since the U. S. C. fracas. Groat's passing was of superior quality, and Kemp did his share of circling the ends quite frequently for considerable gains. The first score came in the first quarter as the result of a pass from Groat to Catland.

In the second quarter, Kemp featured with a 55-yard run. After a series of line bucks Tech lost the ball on the five-yard line. Here the sailors were forced to kick, but it was blocked and Pierce fell on the ball for the second touchdown. Neither team scored in the last half.



OXY MAKES NO GAIN THROUGH CENTER

Pomona Game

The first Conference football argument was staged with Pomona College on the Tournament Park gridiron. Never before in the Institute's athletic history had a Tech football team such an excellent chance for victory over the Sagehens and excitement ran high in the Engineers' rooting section.

At the start it looked like an all-Beaver affair, but during the second half Pomona scored twice, once as a result of a place kick by Voorhies, and again when a Sagehen back intercepted a Tech pass and romped to touchdown. Score: Pomona 10, Tech 0. Both teams had been following the "breaks" and Pomona ran across the first one in the shape of that intercepted pass.

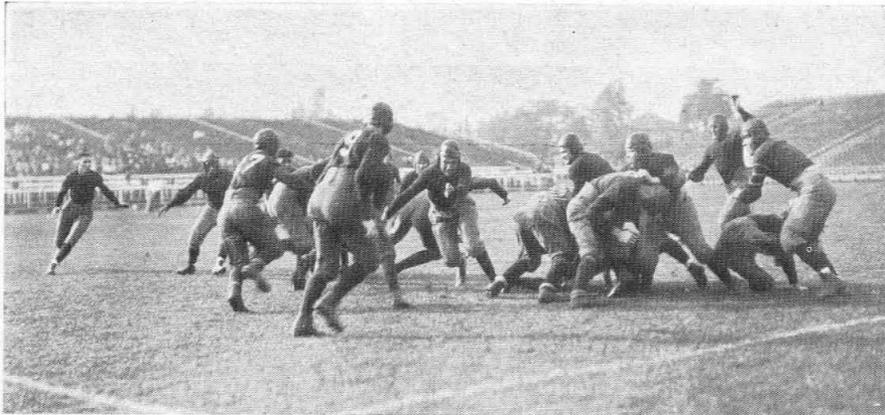
Tech's line proved superior to Pomona's in all departments, and the back-fields appeared on about even terms. Pomona's most formidable weapon was without question the forward pass, and several good gains resulted from the repeated use of the aerial attack.



Whittier Game

To the delight of Whittier's "Thundering Thousand," the Poets, after falling before the Engineers for two consecutive seasons, came back strong and capped the desirable end of a 39-0 score. The Beavers put up an excellent brand of fight throughout the affair, but except for a few tense moments in the second half, when several passes looked good for a Tech touchdown, the game was Whittier's from the start.

The feature performance of the affair was Suggett's run to touchdown after receiving Tech's kickoff at the start of the second half. Whittier's line was undoubtedly the strongest in the Conference, and as far as backfields go, the Poet aggregation appeared about the niftiest set of backs seen in the South for some time.



CAPT. GROAT MAKES 5 YARDS THROUGH S. B. U. C. LEFT TACKLE

Oxy Game

Not discouraged by the defeats served her by Pomona and Whittier, Tech went into the Oxy fracas determined to down her old rival. Neither team was able to score during the first period, although Tech passed up several excellent chances because of repeated fumbles at crucial moments. Tech's offensive looked better the second period when a beautiful pass, E. Groat to Kemp, placed the oval on Oxy's two-yard line. Here a costly penalty lost Tech a touchdown and forced Kemp to drop back for a place kick. The ball rose squarely between the posts and the half ended with Tech leading, 3-0.

Tech's section went wild when the team trotted on the field the second half. Although the Beaver defense did not look as strong the third period as it had the first two, Catland and Davis were playing stellar ball, smearing the much touted Spangler on every attempt at gains around the flanks.

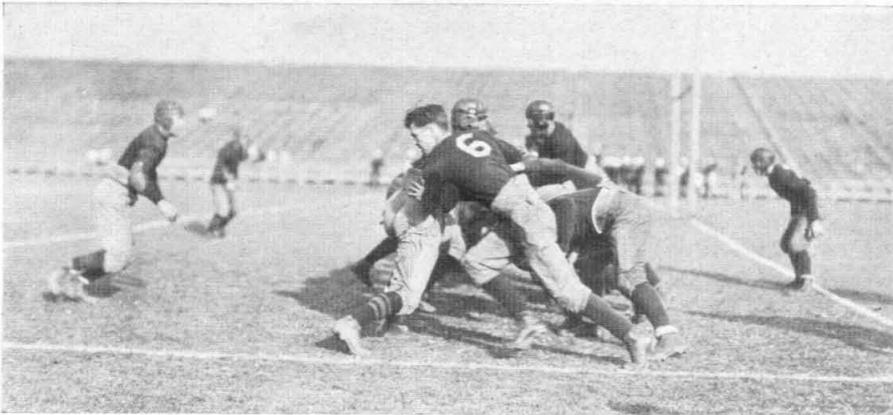
It was the fatal fourth period that proved Tech's undoing, when with Gary, Oxy's plunging fullback leading, they scored their first touchdown. Later a kick blocked by Red Jones of Oxy paved the way for another Tiger touchdown. Final score: Oxy 14, Tech 3. The game proved to be the most exciting of the whole season.



S. B. U. C. Game

Tech experienced but little trouble in defeating S. B. U. C. by the rather one-sided score, Tech 27, S. B. U. C. 0. Although at several different times the Cubs showed flashes of brilliancy, the affair, on the whole, was a tame one from the spectators' standpoint. Three of Tech's touchdowns came in the first half. Groat carried the ball across on each occasion and converted two goals. The half ended: Tech 20, S. B. U. C. 0.

S. B. U. C. uncorked a strong defense the third quarter and Tech was unable to score, but in the final period the Cubs again weakened and the Beavers shoved across another marker. An intercepted Cub pass was responsible for the final touchdown. Sellers, after intercepting the pass on the Branch thirty-yard line, picked his way through the Cub team and across the line. Groat converted.



THIRD DOWN AND 3 TO GO FOR A REDLANDS' TOUCHDOWN. HOLD 'EM, TECH!

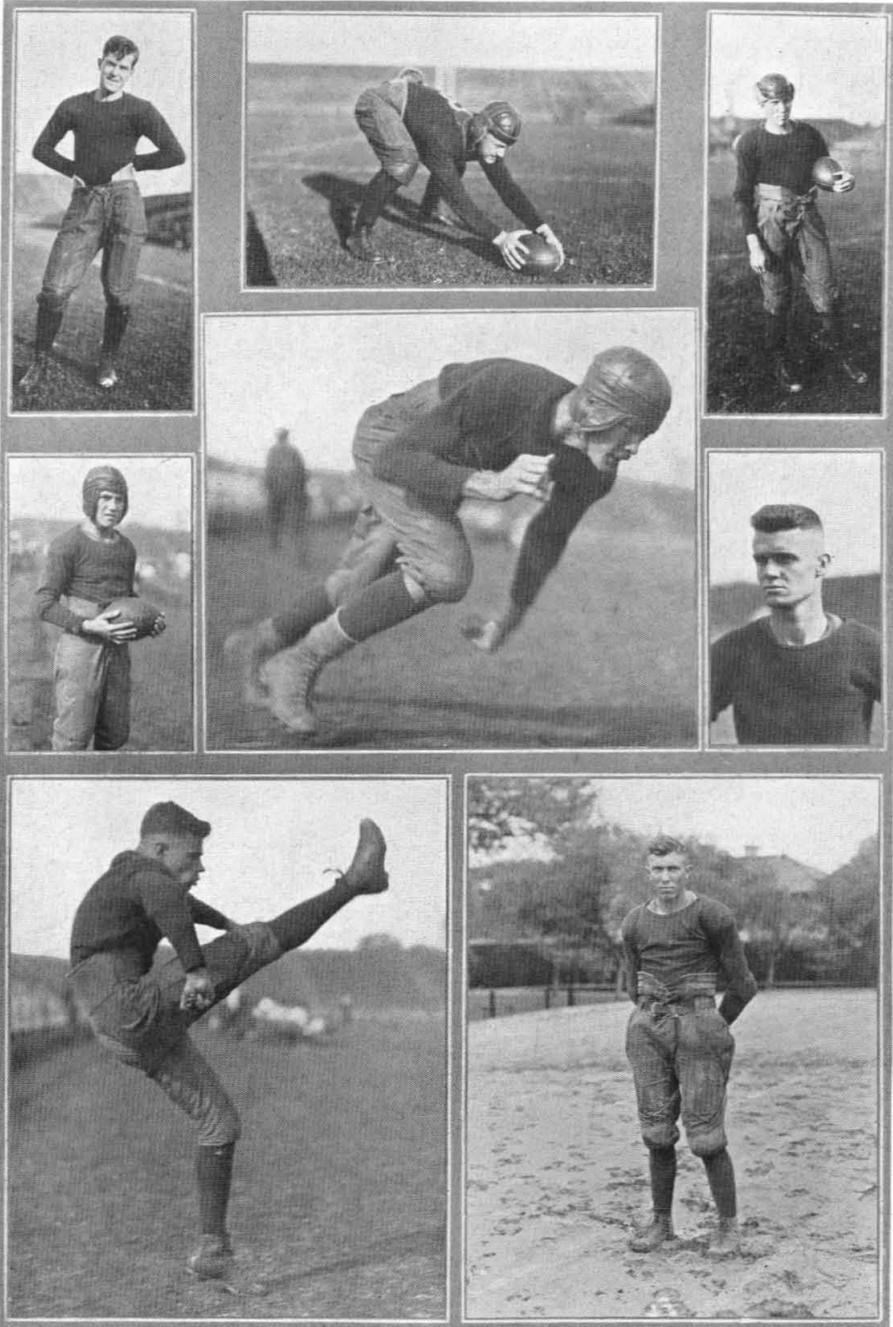
Redlands Game

Tech met Redlands in the final Conference game on the Tournament Park turf. The Bulldogs proved to be almost as formidable an opponent as Whittier, and easily landed on top of a 30-6 score. Tech's lone tally came in the final period and resulted from a successfully launched volley of forward passes. Early in the fourth quarter, after several unsuccessful bucks, Tech resorted to the aerial attack. This series of five passes completed in a row, was probably the prettiest bit of football the Beavers uncorked all season. The final pass resulted in a touchdown and ended the afternoon's scoring.

Redlands showed well on the defense and offense, while Taylor's work at quarter for the Bulldogs was of the highest order.



BIG "T" 1922





ATHLETICS



COACH "FOX" STANTON: One of the "grand old men" of the game, having been a star in both football and track in his college days, and a great coach since. He was formerly with Pomona and Occidental and came to Tech to put it on the athletic map. He will be with us at least two years more, and we hope longer.



CAPTAIN EDMUND "ED" Groat. Ed has had three years as a Varsity man, playing halfback the first year, end the second and fullback this year. His plunging and punting were always a feature of every game. He will be missed next fall.



ALFRED "CAT" CATLAND: He has had four years on the Varsity and was captain last year. He played tackle the first three years here but as end this past season he made the mythical All-Conference team. This was his last year.



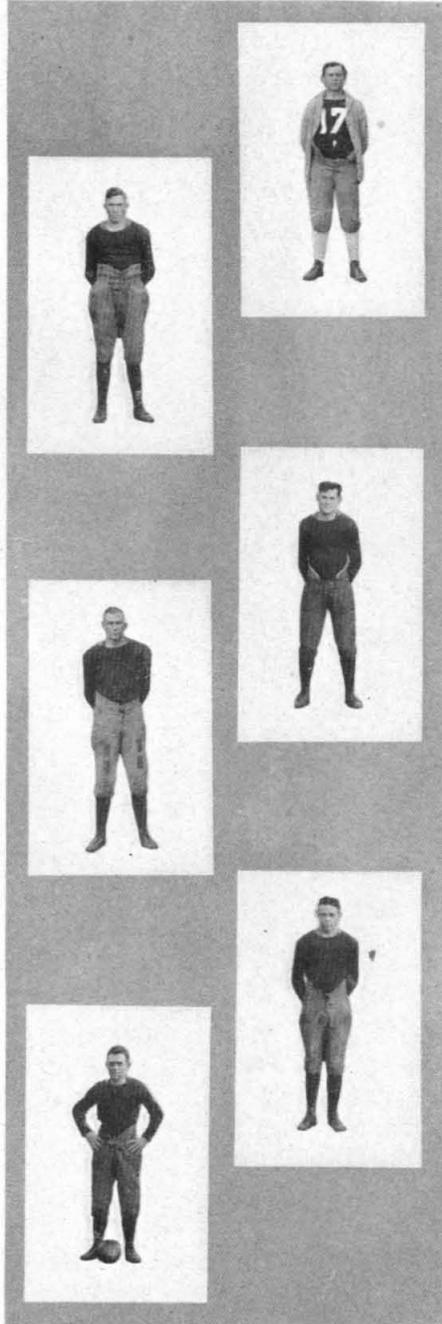
DEWEY "ROLLIE" ROHLOFF: He has put in three years of service as a letterman, playing tackle the first two seasons and both tackle and guard this past season. Injuries early in the season kept him from making the All-Conference team. He graduates this year.



GEOFFREY "JEFF" KEMP: He has two years as a letterman to his credit, injuries having kept him from winning his letter last year. He played half and was without doubt the fastest man on the team. This is his last year.



FARRAND "SHORTY" WILSON: He has played two years on the Varsity squad as halfback and quarterback. Although one of the lightest men on the squad he was "there" with the old fight. He also graduates.





IRA "IMA" PIERCE: This was "Ima's" first year as a letterman, although on the Varsity squad last year. His playing at left tackle was always above par. He will surely be missed next year as he graduates this summer.



BEN "BENJ" BENIOFF: "Benj" was a member of the squad last year but this year he won his letter as a halfback. He has always shown lots of fight and pep, which was particularly noticeable in the Redlands game, when he played for nearly a quarter with several broken bones in his ankle. He won't be with us next year.



WALDO "PUD" POWERS: This was his first year as a letter man. He played both center and guard and could handle either one in great fashion. He leaves this year.



CAPTAIN-ELECT BERNARD "BERNIE" EVANS: "Bernie" has held down the job of guard for the past two years, and has done it a fare-you-well, being rated by many as one of the best guards in the South. He certainly has the qualifications to head a successful team next year. Good luck to him.



WHITTON "WHIT" DAVIS: This was his second year on the team as an end. His tackling and the manner of smearing up his opponents always featured. He has another year and if he doesn't show some fellows up we miss our guess.



DOUGLAS "DOUG" STROMSOE: This was his first year as end and he has another year to go. He was fast and, although light, hit like a ton of brick. He should star next season.



ATHLETICS



HOLLIS "HOLLY" MOYSE: "Holly is only a sophomore and has two years yet to go. He was captain of the Freshman team last year, and played a great game at tackle this year.



MARTIN "SHORTY" BEESON: Was half-back as a Freshman but played full-back this year. Subbing for Ed Groat was no cinch but "Shorty" made good. He has two more years to go.



HAROLD "HAL" BECK: Another Soph who ascended from last year's Freshman team. "Hal" plays center and is sure going to be good the next two years he has yet to go.



MORRIS "MORRY" GOLDSMITH: Quarterback on the Freshman team last year, Morry handled the Varsity signals this year. He was probably the youngest man on the squad. In two more years Morry should be a star.



FRANK "PINEY" PINE: Injuries kept "Piney" from playing on the Freshman team, but he sure made good this year as a halfback on the Varsity. He also has two more years.



LAURENCE "MAC" MACMILLAN: As football manager this year, "Mac" certainly delivered the goods and kept everybody supplied, as well as seeing to the transportation of the team to the out-of-town games.





Reserves

For the first time in the history of the Institute, there were enough men out to have, what might be called two distinct units; namely, the Varsity squad and the Scrubs. The former was made up of men with experience and ability. It was out of this group that the sixteen lettermen were chosen. The remaining nine members subbed when necessary, and received little or no glory. To them goes at least half the credit for the work of the Varsity. Those men who received monograms in recognition of their work as members of the Varsity squad were Webster, Whistler, Varney, Seares, Thompson, Preston, Sellers, F. Groat, E. W. Smith, Springer and Pardee. Of this bunch the first four will graduate but all the others will be here next year as mainstays on the Varsity.

The Scrubs (there's glory in that name), on the other hand, were made up of men with little or no experience, who, despite the knocks and bruises they received, came out night after night, fighting the Varsity every foot, thereby doing their duty toward making the football team a contender. As an incentive games were arranged for the Scrubs with Redlands High School and one with the Fresno Branch of U. C. The two games with Redlands High were lost by scores of 22-6 and 13-0. The one with the Fresno Branch was played in Fresno, but after a hard fight, Tech lost by a score of 13-0. The playing of these second string men was good, considering that plays and signals had to be changed constantly to fit in with the kind of opposition needed by the Varsity. And, moreover, the experience gained this year will be of great value to these men when they come out next year. Those men who received little or no glory but had the grit to stick it out were Moody, Gilbert, G. P. Evans, Shield, Morrell, Adams, Thomas, Howard, Clever, McKee, Gould, Blakeley, Watson, Stokes, Squiers, Woods, Hasting and Weisel. Capt. Kramer was coach of the squad.



ATHLETICS





Freshman Football Squad

There were several factors which combined to make the development of a winning Freshman team, a very difficult matter for Coach Musselman. In the first place there was a lack of experienced high school stars. This, coupled with the very limited amount of time for practice, gave the squad a very slow start. In addition, after a fairly good team was organized, a larger number of the men were declared ineligible on account of studies just prior to the Oxy game. Even though the team wasn't a winning one, much good has been accomplished by bringing out men who will undoubtedly be of value to the varsity next year. The large number of Frosh out this season means a large Varsity squad next year, which is absolutely essential to a winning team.

Taking the season all in all, it was fully as successful as could reasonably be expected. The fighting spirit and the "stick to it spirit" were always present, the team never quitting when the score was against them. In fact, most of the scoring by the opponents was done in the first half.

The first game played was with the beefy gobs from the U. S. S. Arizona. The team held them to one score in the first three quarters, but their preponderance of weight told in the end. The final score was 20-0.

The second game, with the Pomona Frosh, was strictly one-sided, weight and experience being much more in evidence on the Pomona team than on the Tech squad. The game was loosely played throughout, fumbles being numerous on both sides. The score was 21-0.

The Frosh then went down to Long Beach High, and were massacred to the tune of 76-0. Although fighting to the end, they could not cope with the dazzling plays pulled off by the high school.

The following week La Verne College was taken into camp by the score of 14-0, due to plunging by Kinsey and Freeman. The team played the best game of the year against La Verne, and deserved their victory.

The final game was with Oxy, and here once again the Tech Freshmen had to taste the bitter cup of defeat. The final score was 27-0, all the scoring coming in the first half; in the last half Oxy could not gain an inch.

The numeral winners were:

Freeman (captain,); Kinsey, Peterson, Helms, Laurance, Seymour, Cronk, Brunner, Alderman, Spurlin, Newcomb.

The other men on the squad were: Walters, Smith, Waterson, Maurer, Farley, Campbell, McGaffey, Walker, Robertson and Tackabury.



Bells

Motors—Bridges—Bevel Gears,
C.—I.—T. Engineers

Motors—Bridges—Bevel Gears,
C.—I.—T. Engineers

Motors—Bridges—Bevel Gears,
C.—I.—T. Engineers

Whistle

Boom—Ah—Tech—Rah!

□ □

Kiss ka ze—Kiss ka zah ho,
Hack a wee—Hack a wah ho
Si yo ki yi Californi i
Si ye ki ye Tech a Techa tee tee
Kiss ka zee—Kiss ka zah ho
Tech a tee—Tech a tah ho

o-o-o-o-o YAH!

□ □

Get 'em—BEAVERS
Get 'em—BEAVERS
Fight 'em—Scratch 'em
Bite 'em—Tear 'em
Go get 'em BEAVERS!

□ □

Fight 'em—Tech—fight 'em!
Fight 'em—Tech—fight 'em!
Fight 'em—Tech—fight 'em!

□ □

Cali—*for*—nia Tech
Cali—*for*—nia Tech
C-A-L-I-F-O-R-N-I-A
Tech—Tech—Tech!

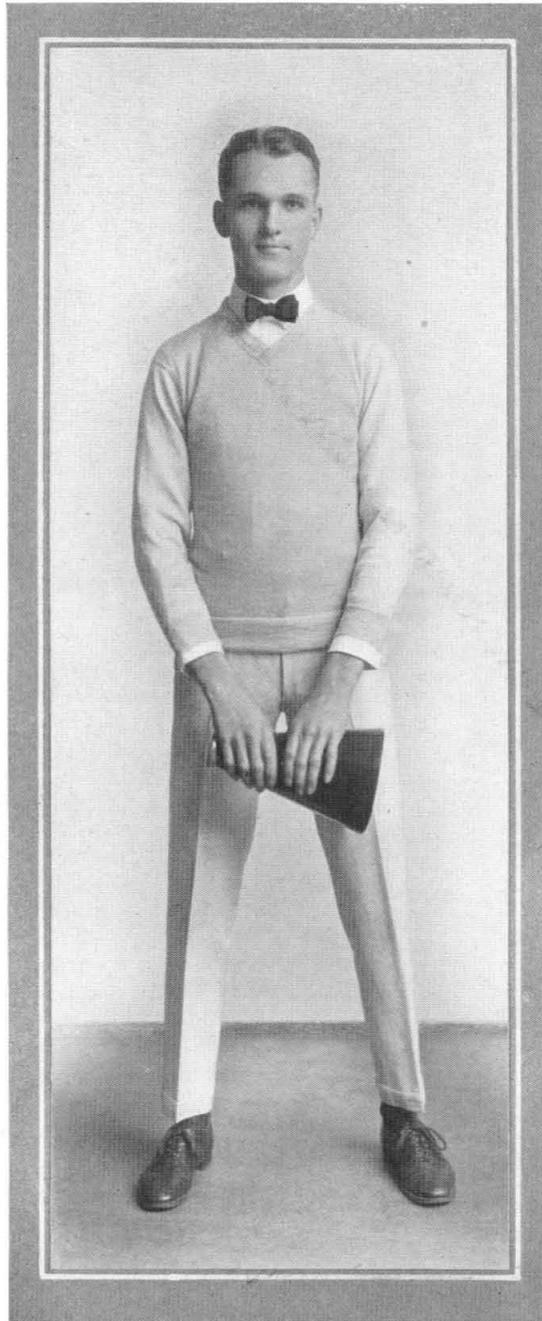
□ □

O-O-O-O-Wu-Wu
O-O-W-W-W Wow—Wow
C-a-l-i-F-O-R-N-I-A—T-E-C-H

TECH!

□ □

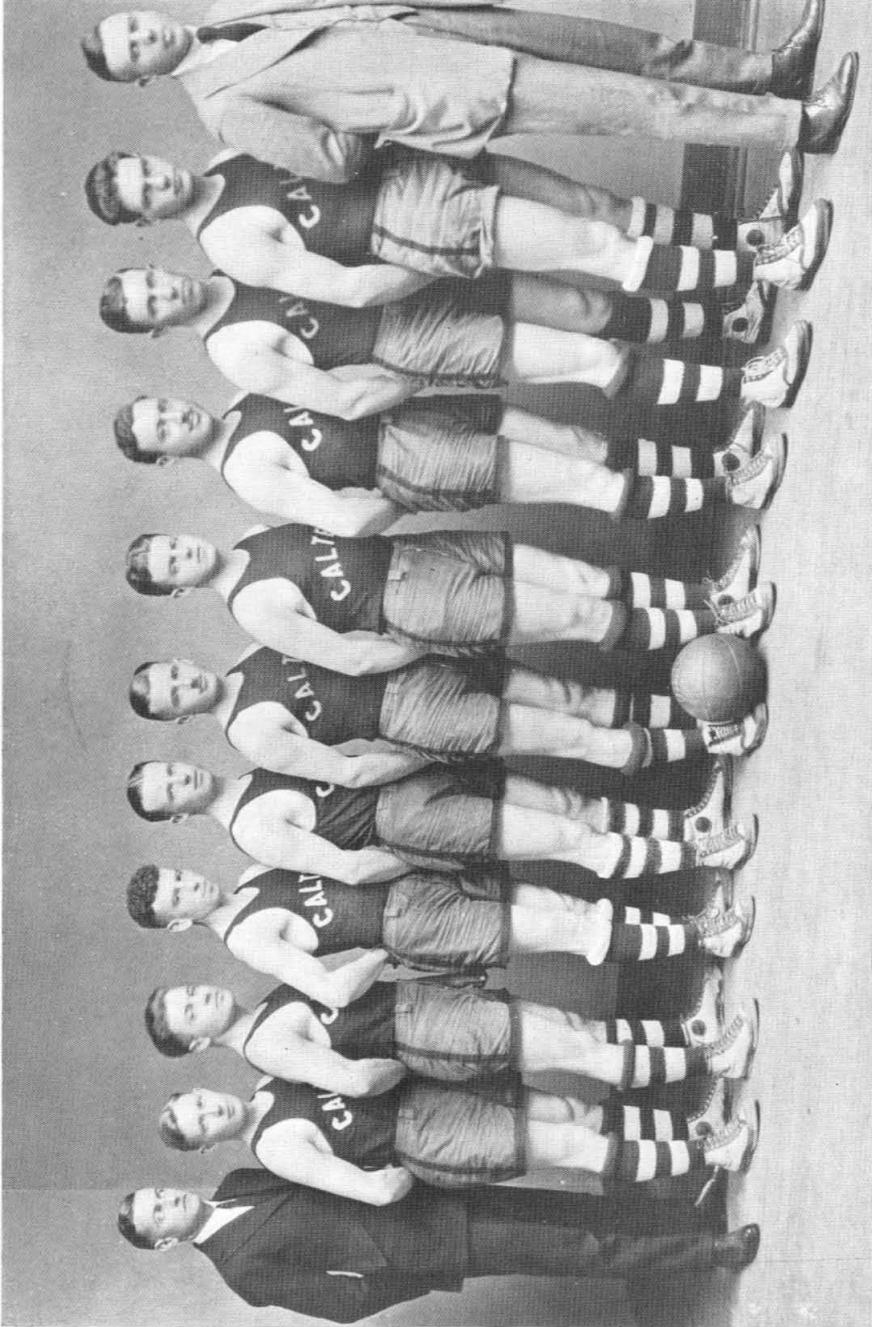
C. I. T.—Rah—Rah!
C. I. T.—Rah—Rah!
Who-rah, Who-rah
Cali-fornia Tech—Rah!



DICK SEARES, *Yell Leader* 1921-22



ATHLETICS



GRAY (Mgt.), WHITTINGTON, HECKEY, GARVER, L. LARSON, J. LARSON, VESPER, SCHNEIDER, GROAT, MOYSE, TENISON (Coach)

BASKETBALL



J. E. LARSON (Capt.)

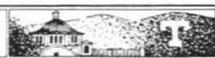
THE 1921-22 Conference basketball season ended with Tech in fourth place. This does not sound much like a successful season, but a little study of the games and scores will show that the Beaver five this year was a much better aggregation than the win and lost columns show. With the exception of two games, all of the affairs lost were lost by very narrow margins.

The failure to win more games can be laid directly to the lack of a gymnasium. Practice had to be held at night, working a hardship on the men carrying the heavy courses required. At no games did the Tech team have what they might term a home floor, in the true sense of the word. Practice was held on the Elementary gym floor, while the home games were played at the city Y. M. C. A. Although the use of these floors is greatly appreciated by the Student Body, the team cannot feel at home playing on a floor which they had not used for their practice.

When the season opened late in November a large number turned out. Among those present were Linne Larson, Art Hickey, Howard Vesper and Warren Schneider, of last year's team. In addition, Joe Larson, running teammate for his brother Linne, for two years, showed up after a year's leave of absence. Timmons, who was chosen captain at the end of last season, did not come back to college, and at the first meeting of the squad Joe Larson was elected to captain the team.

The men to win their letters were: Joe Larson, Linne Larson, Vesper and Garver, forwards; Schneider, Art Hickey and Moyse, guards; Ed Groat, center. Of these, Joe Larson, Garver and Moyse will be back next year.

The other men to finish the season and who received second team monograms for their efforts were: Alles, Whittington, Banks, Maltby and E. W. Smith.



Review of the Season

Conference Standing

	W.	L.	Pct.
S. B. U. C.	9	1	.900
Redlands	7	3	.700
Whittier	7	3	.700
Caltech	4	6	.400
Pomona	2	8	.200
Oxy	1	9	.100

Cal-Tech vs. S. B. U. C.—December 10

In the opening game of the season the Tech five was defeated by the Southern Branch Cubs by a score of 30-12. The superior brand of ball displayed by the champs was too much for the Engineers.

For the first half the game was close, with Linne Larson vying for honors with Woodward of S. B. U. C. But in the last half this latter gent opened up and began shooting from all corners of the court, with the result that Caltech had to be satisfied with the short end of the score.

Cal-Tech vs. Oxy—December 17

In a fast, well played contest Tech took Oxy down the line to the tune of 28-26. The game was one of the closest affairs ever witnessed on the local courts and not until the final whistle had sounded did Tech's supporters rest easy.

The Engineers started off like an avalanche and deluged Oxy with twelve points before they woke up. Here, however, the Tigers took a brace and the half ended with the score tied sixteen all. The last half was just as exciting except that when it ended Tech was on the long end of the score. Linne Larson, playing center, was high point man with 20 points to his credit. Joe Larson, Vesper and Garver played forward, while Hickey and Schneider were the bulwarks on the defense.

Cal-Tech vs. Pomona—January 7

In a game featured by fast, hard playing on the part of both teams, Pomona took the Beavers into camp by a 23-17 score. The inability of the Tech men to hit the basket was responsible for the loss of the game. The teamwork and passing were at a par with that of Pomona.

The line-up for this game was the same one that was against Oxy the week before, except that Ed. Groat got in to play center for the first time this season.



Cal-Tech vs. Redlands—January 14

Caltech did the unexpected when they walloped the hitherto undefeated Redlands team by a score of 28-13. Taking the lead from the beginning, they were never headed. Captain Joe Larson was easily the star of the game, his shots from the center of the floor making everybody open their eyes. Linne Larson played his usual good game. Ed. Groat held down the center job in great fashion, while Art Hickey and Schneider were responsible for keeping Redlands' score down.

Cal-Tech vs. Whittier—January 21

Again the Tech aggregation did the unexpected by losing a tough game to Whittier by the close score of 17-14. From the very beginning the game was fast and furious, marked by exceptional defense by both teams, the half ending with the score tied at 8-8. In the last half the Poets pulled out to the front and kept the lead until the final whistle.

The Larson brothers were thoroughly guarded, and although Joe had a few long shots at the basket, he did not have the luck of the week before. Groat played a good game at center; Art Hickey played his usual effective game at guard, as did Schneider.

Cal-Tech vs. S. B. U. C.—January 28

True enough the Branch gained a point in the percentage column and the Engineers dropped a notch as a result of the argument, but Tech came so near smashing the Cub's championship aspirations, that Cady Works and his crew of basket tossers from the Vermont avenue institution, are still wondering what hit them. The game ended in the Branch's favor, 19-17, Si Gibbs' long basket registering the winning digits in the last minute of play.

For Tech, Art Hickey played his usual heady and beautiful game at guard, while "Holly" Moyse proved a worthy running mate. Joe and Linne, the Siamese twins, played stellar ball throughout the affair, and Groat put up a real battle at center.

Cal-Tech vs. Oxy—February 4

For the second time this year Tech's basketeers handed Oxy's five a trimming, the fracas taking place on the Franklin High floor. Occidental was hopelessly outclassed and outpointed in all departments, and the game was Tech's from start to finish, and ended with a 23-14 score, in Tech's favor.

The Beavers at the end of the first half led by the comfortable margin of 9 points, 13-4. This period as the score indicates, was all Tech's. The second half was marred by football tactics.

Groat played the basketball he had shown this season, while Joe and Linne Larson played their usual consistent and brilliant game at the forward berths. Hickey and Moyse both played stellar ball, forcing Oxy's forwards to be content with long tries.



Cal-Tech vs. Pomona—February 8

Tech's casaba men annexed a close fracas from the Sagehens on the Pasadena "Y" floor to the tune of 17-15. The score as far as Tech is concerned should have been larger, as all of Tenison's men were going poorly, and it was plainly their "off night." Home of Pomona, however, helped Tech along, for with all due care and precision he dropped the ball through the wrong hoop.

Cal-Tech vs. Redlands—February 11

A two point lead is enough to win a basketball game, and it was by just such a margin that Redlands won over Tech's casaba men. With score tied at 27 digits apiece and 30 seconds to play, a Redlands player roped a "prayer" shot from the center of the floor, which gave the Bulldogs the game, 29-27.

Cal-Tech vs. Whittier—February 18

In the last game of the season the Tech aggregation was swamped by a 47-19 score by Whittier. It was simply a case of too long a season, and the fellows had gone stale. Even at that the game was a scrap from the word go.

Whittier walked away with things in the first half and though Tech played on even terms with them in the second half the lead was too much to overcome.

The Whittier game was the last Conference game five of the team will participate in, Linne Larson, Groat, Hickey, Vesper and Schneider being lost to the college by graduation.

Freshman Basketball

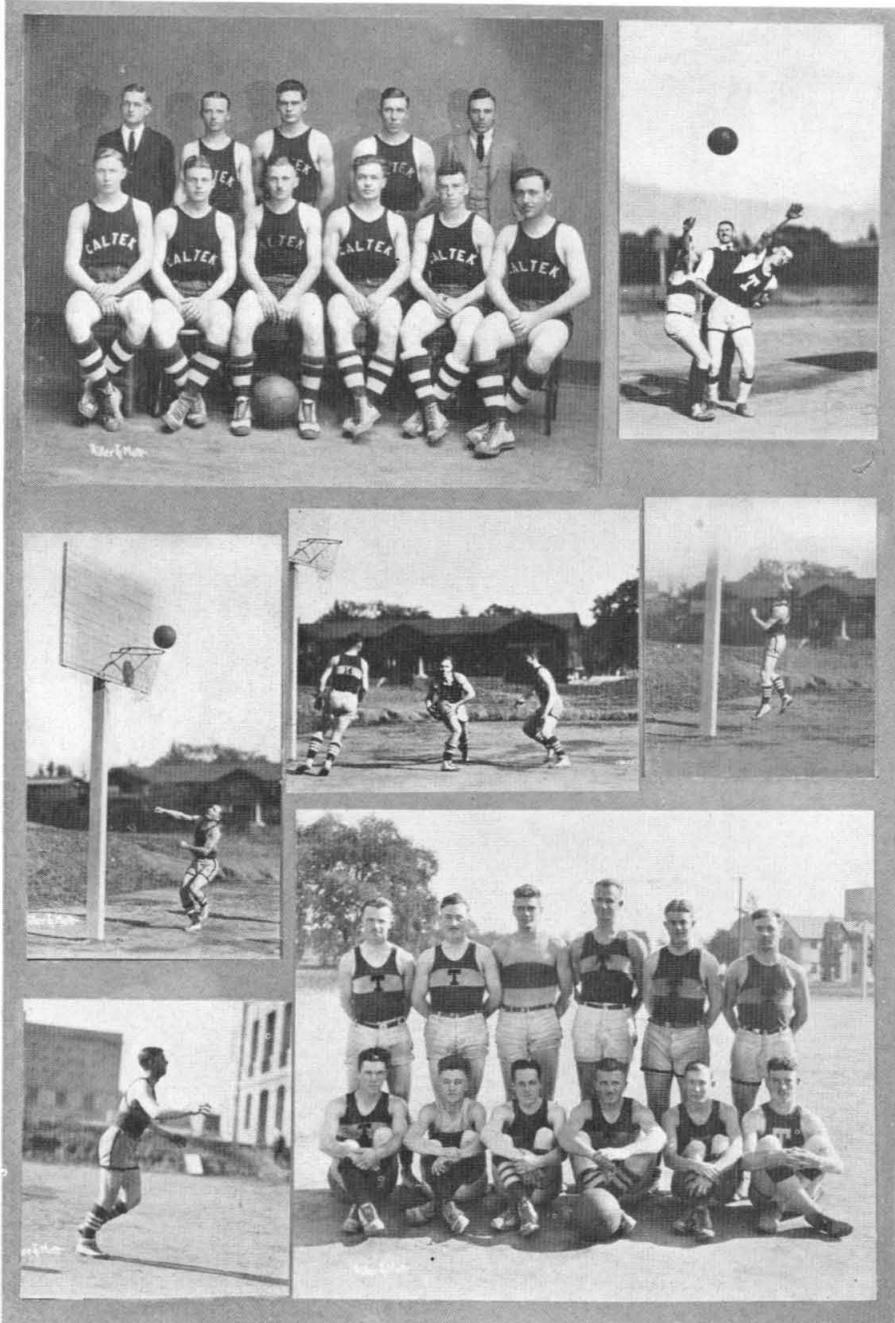
THE Freshman basketball season this year was a success, not only from the fact that they won a fair percentage of their games, but also because of the valuable service given to the Varsity by scrimmaging every Wednesday. This, despite the fact that the only available time for practice was from 5:30 to 7:00 p. m.

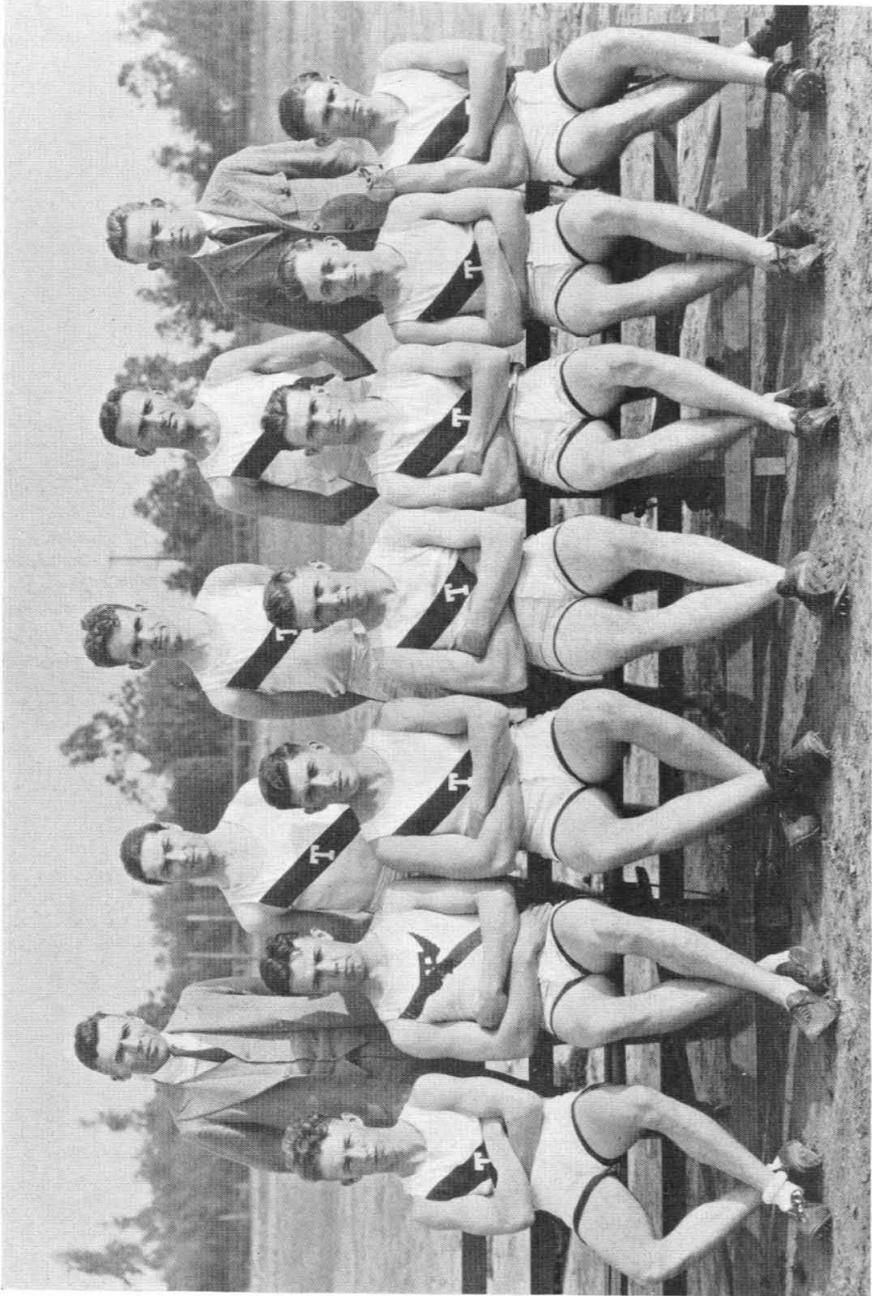
Seven games were scheduled, but only four were played. This very fact was discouraging to the team, for they would be all primed for a game, only to find it was called off. However, out of the four games played, the Frosh won two, beating Oxy and the South Pasadena High School teams. They met defeat at the hands of Pomona and Southern Branch peagreen outfits. The other scheduled games with Pomona, Oxy and Whittier were forfeited to Tech.

The men who received numerals were: Brunner, Larabee, Cannon, Freeman, Garver, Maurer, Shultz, Walters, Kinsey and Smith.

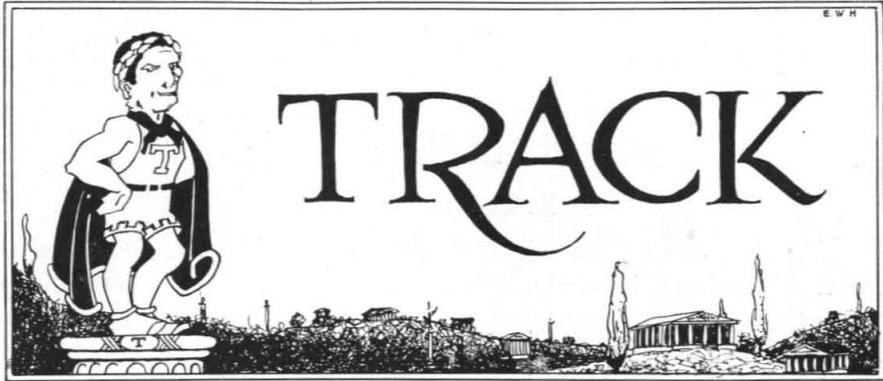


ATHLETICS





TENISON (Coach), PINE, SEARES, STROMSOE, SKINNER (Mgr.)
LIDDELL, KEMP, REEVES, GROAT, CRISSMAN, BENIOFF (c), FOWLER

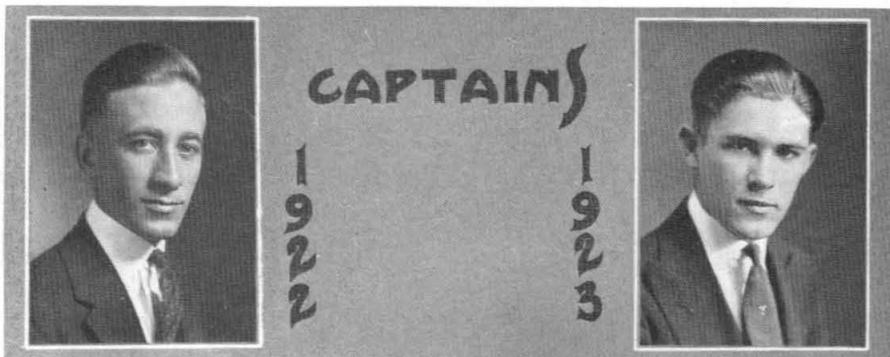


THE 1922 track season was favored with one of the largest turnouts in the history of track at the Institute. Competition was keen in all the events, as evidenced by the close scores of the inter-class meet. The relay carnival brought out a number of sprint artists who promised to burn up the Conference. All in all, everything pointed toward a successful season, but fate decreed otherwise. Jupiter Pluvius stepped in and spoiled everything, practice being cut down to about one night a week. This, together with the fact that only two dual meets could be held, cut down the number of men to win letters.

Captain Benioff seriously injured his ankle while playing football and at no time during the 1922 series of meets was he able to equal his exceptionally fast marks of the previous season. Crissman, too, was under weight and failed to display anything like his true form. Not once did he equal his marks of 22 seconds in the furlong and 10 seconds in the century during this year's competition.

With both of these valuable men out of the first place class, Tech was unable to annex the points she otherwise might have. The 1922 track letter men were Benioff (c), Groat, Crissman, Kemp, Reeves, Liddell and Fowler.

The other men who won points and thereby earned a monogram are Seares, Stromsoe, Woods, Baier, Macarter, F. Groat, Squiers, Hastings, and Pine.



BEN BENIOFF

L. D. FOWLER



Review of the Season

A. A. U. Relay Carnival

U. S. C. this year placed first in the Annual A. A. U. Relay Carnival with a total of 36 points to her credit. The meet was staged this season on February 19th at Redlands and proved to be one of the most successful affairs of its type ever attempted by the local A. A. U. The Conference colleges placed in the following order: Oxy 18, Redlands 9, Pomona 7, Tech 3 and S. B. U. C. 1.

Tech's three points resulted from a third in the eight-man one-mile relay and a fourth in the hundred. The place taken by Tech in the relay was an accomplishment worthy of note in that a field of eight fast teams took their marks in the event. The team was composed of Kemp, Fowler, Biddle, Benioff, Skinner, Lownes, McCarter and Crissman.

Crissman, in taking fourth in the hundred, led several notable dash men to the tape.

Interclass Meet

On Saturday afternoon, February 4th, the annual interclass meet was staged at Paddock Field, proving to be a big success. The Sophs carried away first honors, the Junior "dark horses" took second, the Freshmen third, and the Senior favorites, a poor fourth. The formidable showing made by the Freshman team, especially in the distances, with the big surprise of the meet.

The results were: Sophomores, 44; Juniors, 42½; Freshmen, 31; Seniors, 26½.

Pomona vs. C. I. T., S. B. U. C., and Whittier

On Saturday, February 25, C. I. T., S. B. U. C., and Whittier combined forces against Pomona in a meet held on the Claremont oval. Incidentally the trio was a bit stronger than Pomona had bargained for, and the Sagehens were forced to content themselves with 62 marks while the combine amassed a total of 78.



Crissman, Reeves and Kemp registered first places for Tech, Criss winning the century, Reeves the hammer, with a heave of 115 ft. 3 in., and Kemp the furlong. Benioff took second in the 440, Groat second in the discus and third in the hammer, while Liddell copped a second in the pole vault. Baier surprised the natives by taking third in the shot.

Of the 78 points credited the combine, S. B. U. C. took 51, Tech 26, and Whittier 1. The relay went to Pomona with Tech placing second.

S. B. U. C.—Tech Meet

On Saturday, March 5, Tech's track team fell before S. B. U. C. in a dual meet held on the High School field. A much closer score had been hoped for by Tech supporters and the rather lop-sided score of 97½ to 42½ came as somewhat of a surprise.

Captain Benioff, by winning the 440, cornered the only first place credited the Engineers. This event was a walkaway for "Benj," with Woods of Tech placing second.

Fred Groat was barely nosed out of first honors in the javelin throw after leading the field through practically the entire competition with a heave of 148 ft. 5 in., which stands as a C. I. T. record. This mark was bettered by Harlson's last heave.

Harlson of S. B. U. C. was high point man for the afternoon, winning four first places and one second. Probably the best race of the day was the half-mile in which Quinby of S. B. U. C. beat Stromsoe to the tape by only the narrowest of margins.

Conference Meet

For the second consecutive season rain interfered with Tech's dual meet with Oxy, and the affair coming as late as it did in the season, had to be called off. The annual Conference meet scheduled for the week following the Oxy "dual," was the last competition in which Tech took part.

Occidental took first, Pomona second, Redlands third, S. B. U. C. fourth, Whittier fifth, and Tech sixth. Argue of Oxy and Allen of Redlands were the big stars of the meet. Geoff Kemp saved the Engineers from a shutout by coping thirds in the 100 and 220.



Frosh Track

DUE to adverse weather conditions, this year was particularly discouraging to track development throughout the whole South. Nevertheless, the class of '25 turned out a very credible track team, and one that they can congratulate themselves on. Many of the men give promise to be great additions to next year's Varsity team. In the interclass meet, the Freshmen made a fine showing, placing third, with a total of twenty-nine points. They practically walked away with the distances, winning first and second places in the 880, mile and two-mile; Hoffman, Keech and Scudder winning, respectively. Also, Larabee tied for second in the pole vault, and Alderman placed third in the high hurdles.

Only two meets were held; one, a triangular affair with South Pasadena and Pasadena High Schools, and a dual meet with Pasadena. In the first meet the score was: C. I. T. Frosh 57, Pasadena H. S. 54, South Pasadena H. S. 25. Pasadena won the second meet, 71-42, by unearthing a few stars who had not competed in the previous struggle.

In both meets, Tech was strong in distances, hurdles and jumps, but felt the lack of weight men and first class sprinters very strongly.

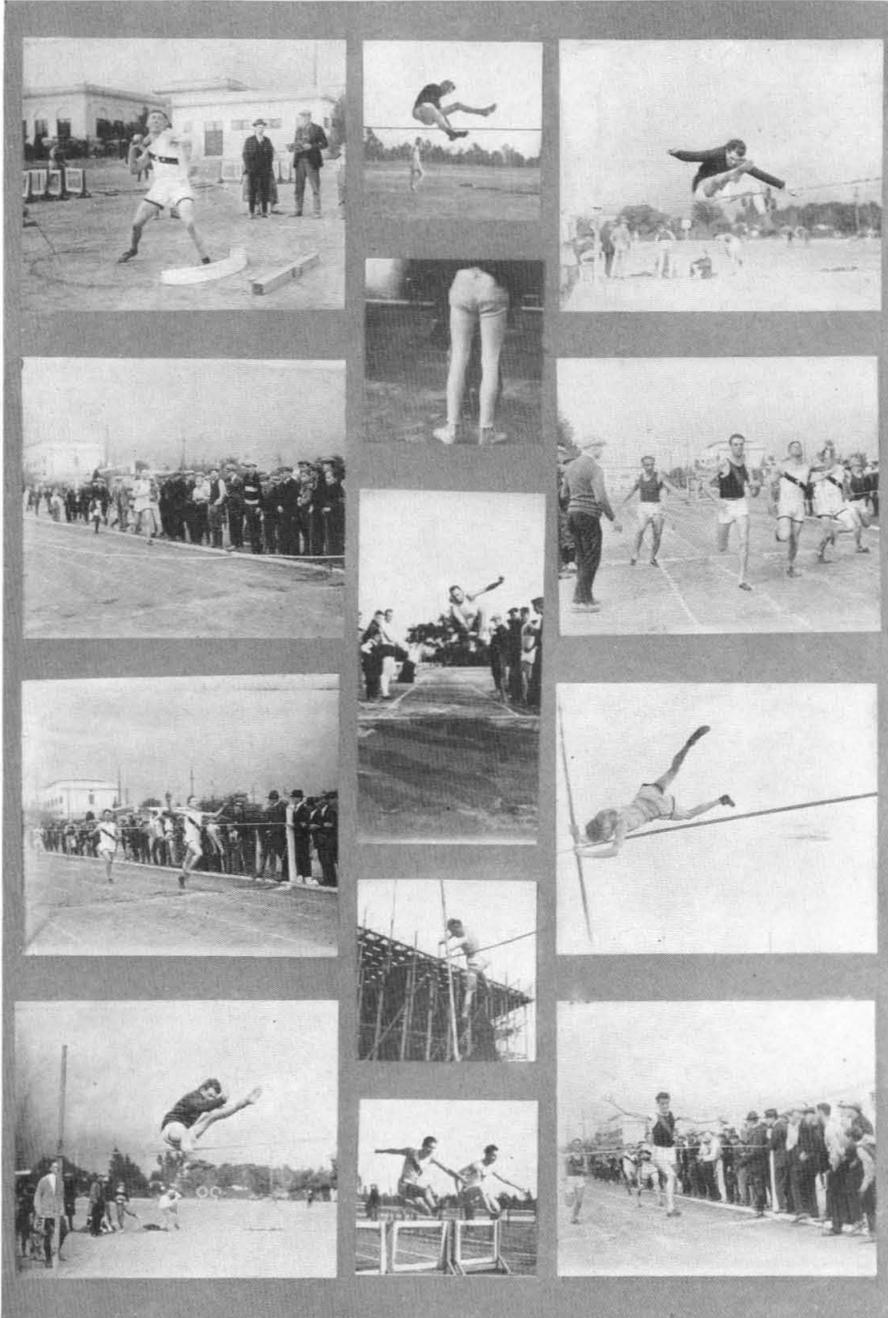
The men receiving numerals were:

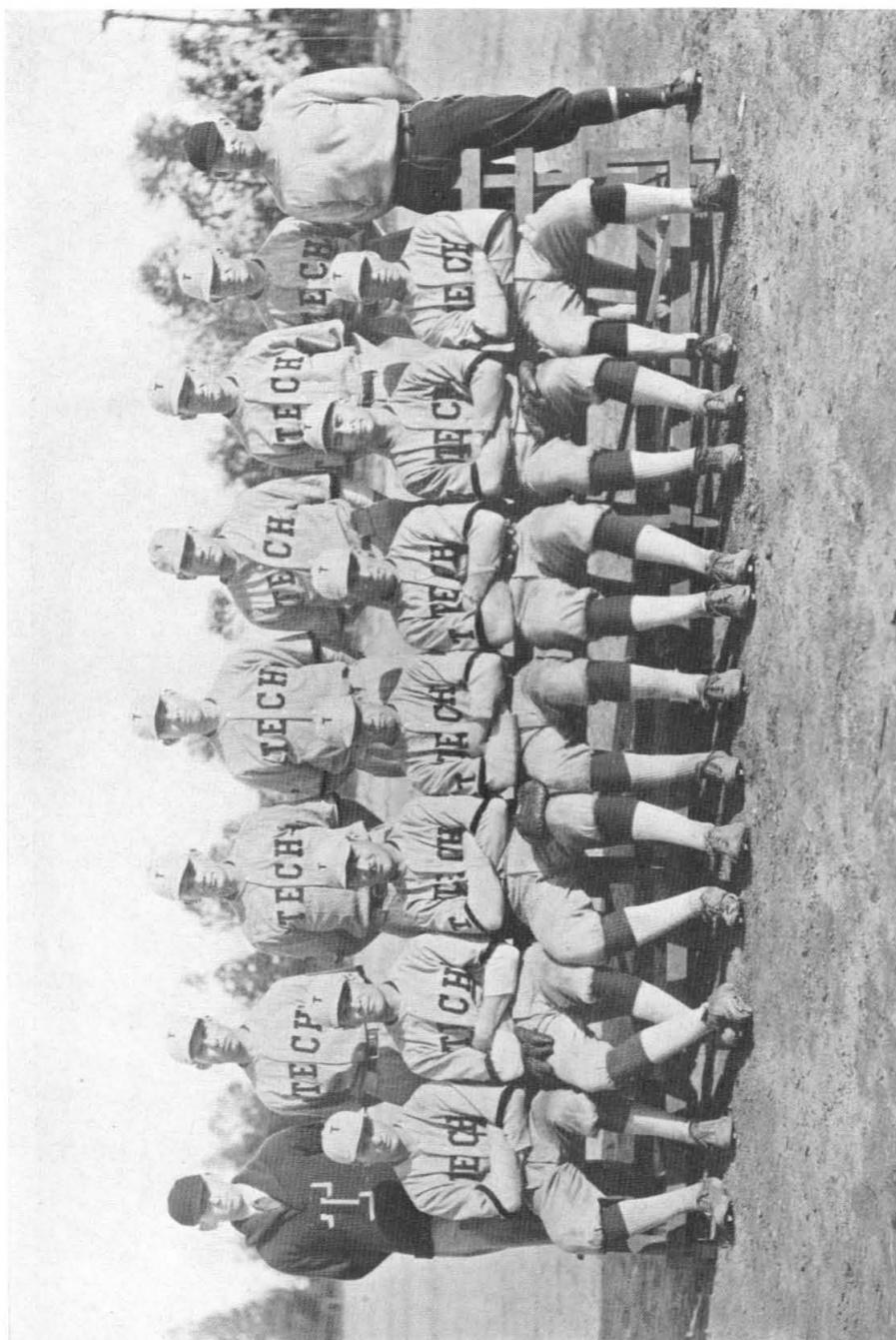
Hoffman, Keech, 880, mile.
Scudder, mile, two-mile.
Alderman, hurdles.
Allen, jumps.
Larabee, pole vault.
L. P. Henderson, 440.

Other men making points were: Cannon, Scott, McFarlin, Morrison, Laws and Schumaker.



ATHLETICS





GARVER (*Mgr.*), BANGHAM, F. J. GROAT, CAMPBELL, MOYSE, DAVIS, L. LARSON, MUSSELMAN (*Coach*)
MACDONALD, G. K. SMITH, SCHNEIDER, KEMP, E. T. GROAT, ALCOCK, PRESTON



baseball

-E-W-H-



E. G. KEMP, Captain 1922

WHEN the 1922 baseball season opened, reports from all other colleges seemed to indicate strong teams. Caltech also was confident of putting in a strong bid for the championship, even though she was not being considered by the dopesters. It wasn't very long, however, before the Beavers proved their mettle and became the most feared team in the league. At the present writing they are in a tie for first place with all the chances in the world of remaining on top when the last game is played.

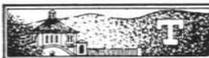
With the first call for baseball, an unusually large number of candidates turned out for both the Varsity and Freshman teams. Before long the squad was cut down to the nine picked men and four substitutes. Last year's letter men who answered the call were Capt. Kemp, E. Groat, Schneider, L. Larson, Davis and Preston. In addition to these men, G. K. Smith, Fred Groat and Holly Moyse have already won their letters as Varsity baseball men this year. The others who have a chance of winning the "T," before the season's close, are: MacDonald, Alcock, Campbell and Bangham. MacDonald and Alcock are letter men of last year.

Jeff Kemp, captain and shortstop, was without doubt the best all around man on the team, his hitting and fielding being always par excellence.

Schneider on first, G. K. Smith on second and Linne Larson on third, filled up the infield, while Holly Moyse, Whit Davis and Fred Groat handled the outfield.

Shorty Preston behind the bat, and Ed Groat in the box bore the brunt of the work. Dan Campbell and Fred Groat also stepped in the box occasionally.

The Freshmen also turned out a good team and should be of great value for next year's Varsity team.



Review of the Season

U. S. C. Game

In a pre-season game nine Engineers proved themselves just a shade better than nine Trojans and incidentally sent the U. S. C. crew home nursing the undesirable end of a 7-5 score.

Ed Groat, after weathering rather stormy times the first two innings, settled down and allowed the Trojans but one scratch hit during the balance of the affair.

The Engineers' showing was highly satisfactory, and save for the numerous errors always present in pre-season contests, the affair was all that a fan might ask for.

Whittier Game

In the first Conference game of the season the Whittier Poets were defeated by a 7-6 score. It was a weird game, the runs coming in bunches with Tech finally landing on top with the biggest bunch.

Ed Groat pitched wonderful ball, with the exception of the sixth inning, striking out 15 men and allowing but one walk. The sixth, however, was all Whittier's, the Poets raking in five runs on a home run, a walk, three hits and an error.

All the rest of the way Tech proved her supremacy. In all, the Engineers pilfered nine bases, drew four walks and eight hits. Schneider was high man with the stick, gleaning two hits out of three times up.

Innings—	1	2	3	4	5	6	7	8	9	Ttl.
Whittier -----	0	1	0	0	0	5	0	0	0	0—6
C. I. T.	0	0	0	0	4	0	3	0	x	—7

Redlands Game

Redlands thought they had a championship team until they traveled over to Tournament Park. After playing Musselman's crew for nine innings their minds were changed, for there was no doubt left about the best team. The score of 12-7 tells the tale.

Groat's one shaky inning was the first, when Redlands scored three runs. This lead, however, was just like flaunting of a flag in a bull's face, for it was no time until Tech had a comfortable lead, which she retained until the end. The features of the game were a home run by "Holly" Moyse and a neat circus putout by Jakey Smith.

Innings—	1	2	3	4	5	6	7	8	9	Ttl.
Redlands ----	3	1	0	0	0	0	0	0	0	3—7
C. I. T.	2	0	4	0	3	0	3	0	x	—12



Pomona Game

Pomona had postponed her game to go up north and tackle U. C. and Stanford, hoping to profit thereby. Nevertheless, they found it rougher going in Tournament Park than they did up north. The game was called at the end of the eighth inning, with the Beavers on the long end of a 16-5 score.

Mr. Walker of Pomona was overwhelmed by the warm reception given him by the Technicians, and after giving eight clean hits, had to retire. Dyer at this point stepped in, but was unsuccessful in stopping the slugging.

Kemp was high man with the stick, gleaning four hits out of five times at bat. Ed. Groat's circuit clout was the only hit for extra bases.

	Innings—1	2	3	4	5	6	7	8	Ttl.
Pomona -----	2	0	0	2	1	0	0	0	— 5
Tech -----	2	6	0	1	0	0	1	6	—16

Oxy Game

In an uneventful and uninteresting game, Tech's baseballers defeated Oxy's nine in the fourth game of the season. After "Doc" Haslett, of Oxy, called the game at the end of the seventh, the score stood 16-3 in Tech's favor. It was a virtual admission on Oxy's part that Tech was too much for them. And no wonder, for the Engineers' had unmercifully pounded three Oxy pitchers and there were no more to be had.

Fred Groat pitched stellar ball throughout the affair, and proved his mettle as a real chucker. Schneider featured with three doubles out of three trips to the plate.

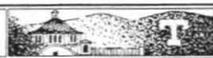
	Innings—1	2	3	4	5	6	7	Ttl.
C. I. T.-----	3	0	2	3	0	2	0	—16
Oxy -----	2	0	0	0	0	0	0	1— 3

S. B. U. C. Game

With practically the entire Student Body in the bleachers on the enemy's grounds, Musselman's crew lost one of the hardest played and toughest games seen in these parts. The game was replete with thrills and bonehead plays, and at no time could the winner be picked. Although outhit, the Cubs won by a score of 5-4, their hits coming just at the right time. On the other hand, the Engineers had the bases loaded several times, but the needed hit wasn't to be found.

Groat's pitching was of the highest sort and it was no fault of his that the game was lost. Although the defeat made the two teams tied for the Conference championship, it only added to the fight of the "Fightin' Engineers."

	Innings—1	2	3	4	5	6	7	8	9	Ttl.
C. I. T.-----	0	1	0	1	0	1	0	0	0	1—4
S. B. U. C.-----	0	0	0	1	2	0	2	0	x	—5



Whittier Game

Coach Musselman's baseballers journeyed to Whittier for the first game in the second round. A hundred Tech men and several hundred Whittierites were present to witness the bout. During their sojourn the Tech crew gathered in ten runs, the Poets netting five.

The game was a fine exhibition of haps and mishaps, Whittier losing on their mishaps. The Engineers, although minus Kemp, who was out with a bad knee, allowed but one error to mar their playing. Ed Groat, pitching, allowed eight hits but kept them scattered, meanwhile whiffing ten men.

C. I. T.....	0	0	0	4	1	1	0	4	0—10
Whittier	0	2	0	0	2	0	0	1	0—5

Pomona Game

Tech traveled to Pomona confident of adding another game to her string of victories. However, Lady Luck didn't smile in her direction and so the second defeat of the season was recorded, the final heartrending score being 3-2.

Taylor, pitching for Pomona, was master until the eighth, when a barrage of hits filled the bags and Mr. Taylor was jerked. Dyer went in and pulled himself out of the hole by allowing only two runs to come in. Pomona had already made two runs, and so the score was tied when the ninth came around. In their part of the ninth Pomona made the winning run and this ended the game.

Groat pitched his usually effective game but six errors behind him at critical moments cost him the game. This game tied things up in the league, putting Caltech, Pomona and S. B. U. C. in a tie for first place.

C. I. T.....	0	0	0	0	0	0	0	2	0—2
Pomona	1	0	0	0	1	0	0	0	1—3

Freshman Baseball

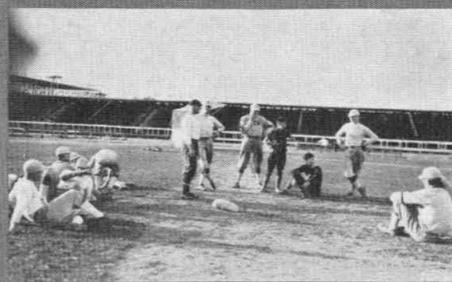
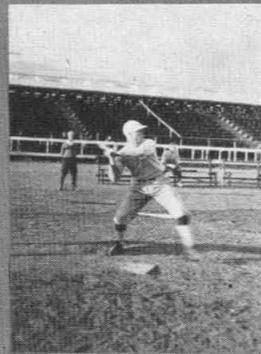
Little can be said of the Freshman team at the present time for only two games have been played, but the value of the team cannot be underestimated. Games with the Varsity have been a great help to the latter in conditioning them for the bigger games. Several of the Frosh promise to make things interesting for the Varsity men next year.

In the first game the Frosh beat South Pasadena High by a 11-6 score. The pitching of both Boorey and Hellwig was excellent. The next game was lost to La Verne College, 6-4. The game went only seven innings. Had it been nine innings the story might have been different for the Frosh were playing a better brand of ball toward the end than at the beginning.

The men to make up the squad were: F. Foster, captain and catcher; Boorey and Hellwig, pitcher; Larabee, Kinsey, Helms, Wissig, Cannon and Peterson, in the infield; Bann, C. S. Smith, Chapman and Alderman in the outfield.

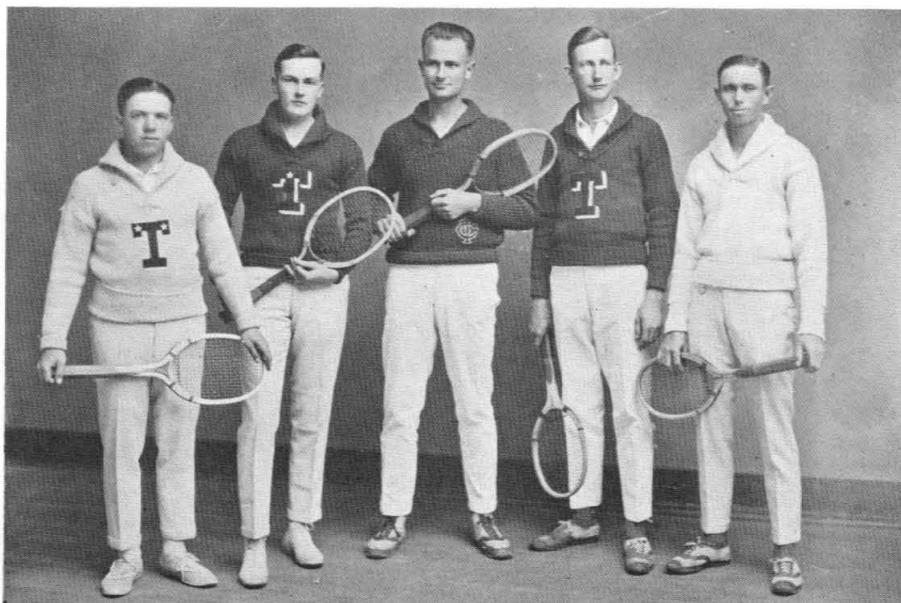


ATHLETICS





Tennis



KOHTZ HONSAKER ALLES LYNN SHUGART

FOR the fourth consecutive year Tech's tennis team came within an ace of winning the Conference championship. Starting out by walloping Oxy 7-0, they went through the other Conference teams by the same score until in the final match they were stacked up against the Southern Branch Cubs. With Lynn out on account of some sickness, the team put up one of the best brands of tennis seen in collegiate circles this year. But Busch of Southern Branch was too much, for he copped the first singles and was also responsible for the capture of the first doubles. The final score of the match was 5-2, in favor of the Branch.

Shugart and Kohtz later went up to Ojai to compete in the annual tournament with the many other stars of California. Both "Rusty" and "Shugy" were eliminated in the first round, "Rusty" meeting Busch of S. B. U. C., while Shugart drew Phil Neer of Stanford, inter-collegiate champion, as his opponent. In the doubles they were matched against Bates and Conrad of U. C., and were defeated by a score of 6-4, 6-2.

The men who took part this year and made the tennis season the most successful in the history of the Institute were: Shugart, Kohtz, Honsaker, Lynn and Alles. Although all but Lynn graduate, there were several good men unearthed in the tennis tournament earlier in the season who will be eligible next year.



Swimming



SKINNER (*Coach*), FULWIDER, GANDY, ANDERSON, SEARES, THOMPSON, AGER, KENDALL (*Coach*)
HARRIES, HODGE, KRAEGER, MYERS (*c*), MAYER, PINE, EVANS
L. W. HALL, A. D. HALL

IT seems to be a habit with the swimming team to bring home the bacon. For the third successive year Tech has taken the Conference swimming championship, with prospects for even a better team next year.

In the first meet of the season C. I. T. walloped S. B. U. C. unmercifully to the tune of 52-23. The following week the strong Hollywood high team was taken into camp by a 47-23 score. Coach Skinner won the dives, and thereby lived up to his reputation of New England Intercollegiate champ.

The Wednesday before the Conference meet, Oxy thought they would like to try their luck. They went home with the short end of a 56-23 score. Seares featured by beating Cory of Oxy in the dives.

The All-Conference swimming meet was held in the L. A. A. C. tank, under the auspices of Caltech. Tech and S. B. U. C. were tied for first with thirty points apiece; Oxy was third with 11; Redlands, 9 and Pomona trailed with one lone point to their credit. The meet was one of the closest and most thrilling ever held, and at no time could the winner be picked.

The men who made up the team were Capt. Myers, Seares, Harries, Thompson, Kraeger, Pine, Hodge, Mayer, Evans, Fulwider, A. D. Hall, Anderson and L. W. Hall. Skinner, Bolan and Jack Kendall coached the squad that turned the trick.



Wearers of the "T"

Four Stripes

- | | |
|------------------------------------|---------------------------------------|
| A. C. Catland—Football (c) | L. C. Larson—Basketball (c), Baseball |
| E. T. Groat—Baseball | H. A. Reeves—Track |
| E. G. Kemp—Baseball (c), Track (c) | R. H. Kohtz—Tennis (c) |

Three Stripes

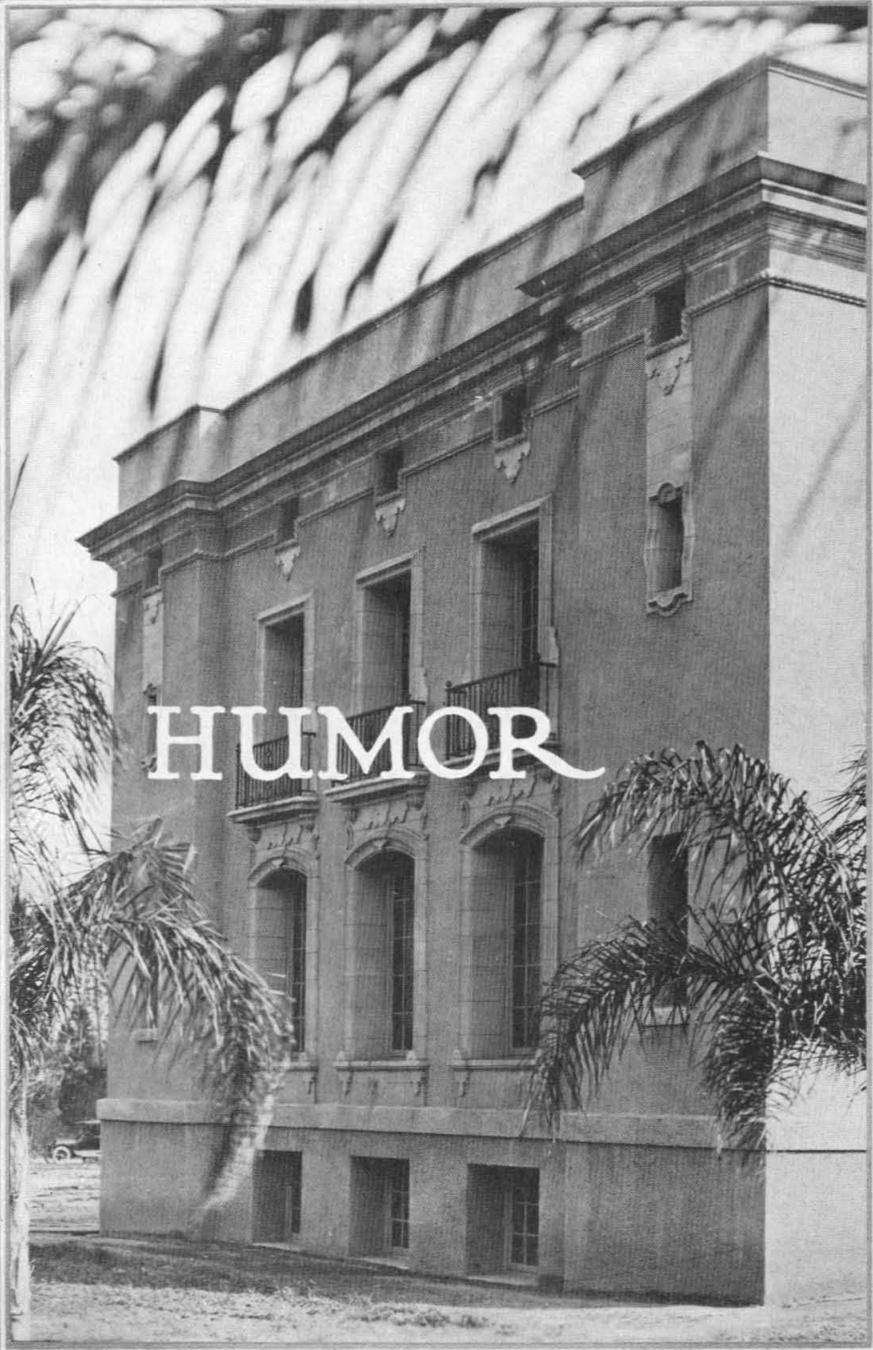
- | | |
|-----------------------------|-----------------------------|
| E. T. Groat—Football (c) | H. G. Vesper—Basketball |
| D. C. Rohloff—Football | A. S. Hickey—Basketball (c) |
| R. J. Crissman—Track | W. A. Schneider—Baseball |
| J. E. Larson—Basketball (c) | H. R. Preston—Baseball |
| W. A. Schneider—Basketball | J. E. Honsaker—Tennis |

Two Stripes

- | | |
|-----------------------|--------------------------------|
| W. F. Wilson—Football | B. G. Evans—Football, Swimming |
| W. P. Davis—Football | E. G. Kemp—Football |
| E. T. Groat—Track | T. G. Myers—Swimming (c) |
| B. Benioff—Track (c) | D. G. Harries—Swimming |
| F. L. Lynn—Tennis | D. F. Shugart—Tennis |
| R. U. Seares—Swimming | A. S. Hickey—Swimming |

One Stripe

- | | |
|---|-------------------------|
| H. W. Moyse—Football, Basketball,
Baseball | C. S. Howard—Swimming |
| M. Goldsmith—Football | B. Benioff—Football |
| F. W. Pine—Football, Swimming | M. L. Beeson—Football |
| H. R. Beck—Football | I. S. Pierce—Football |
| J. R. Alcock—Baseball | C. W. Powers—Football |
| F. J. Groat—Baseball | D. A. Stromsoe—Football |
| G. A. Alles—Tennis | G. K. Smith—Baseball |
| R. W. Preston—Track | L. A. Walling—Baseball |
| O. E. Liddell—Track | L. D. Fowler—Track |
| | E. T. Groat—Basketball |
| | A. S. Hickey—Football |



**A Callous Room Mate**

"What rhymes with zephyr?"

"Heifer," replied his room-mate; "what gal are you writing poetry to now?"

—*Log U. S. Academy.*

† † †

"'Ullo, 'awkins, whot's wrong with the bloomin' 'orse?"

"Well, you see, guvnor, 'e was rid by a lydy in pants and 'e's got a bit of a stiff neck."—*Puppet.*

† † †

We've Heard So

Boob McNutt says there is no difference between an evening and a night. But, believe us, there's some difference between an evening gown and a—awguan.—*Drexerd.*

† † †

Old Lady (crossing car tracks): "Officer, would it kill me if I should put my foot on that rail?"

Officer (Irish, of course): "No, mum, not unless you put your other foot on the trolley wire."

—*University News, Cincinnati.*

† † †

D. H.

Our idea of the supreme dumbbell is the Frosh who wrote the formula for alcohol, H O₂ C H.

† † †

The famous Indian guide of the Stillman case is now going into the movies. He ought to feel at home in Hollywood.

† † †

Two little worms were boring in dead earnest. Poor Earnest!

—*Tattler.*

† † †

"There's a fly in my ice cream."

"Serves him right; let him freeze."

† † †

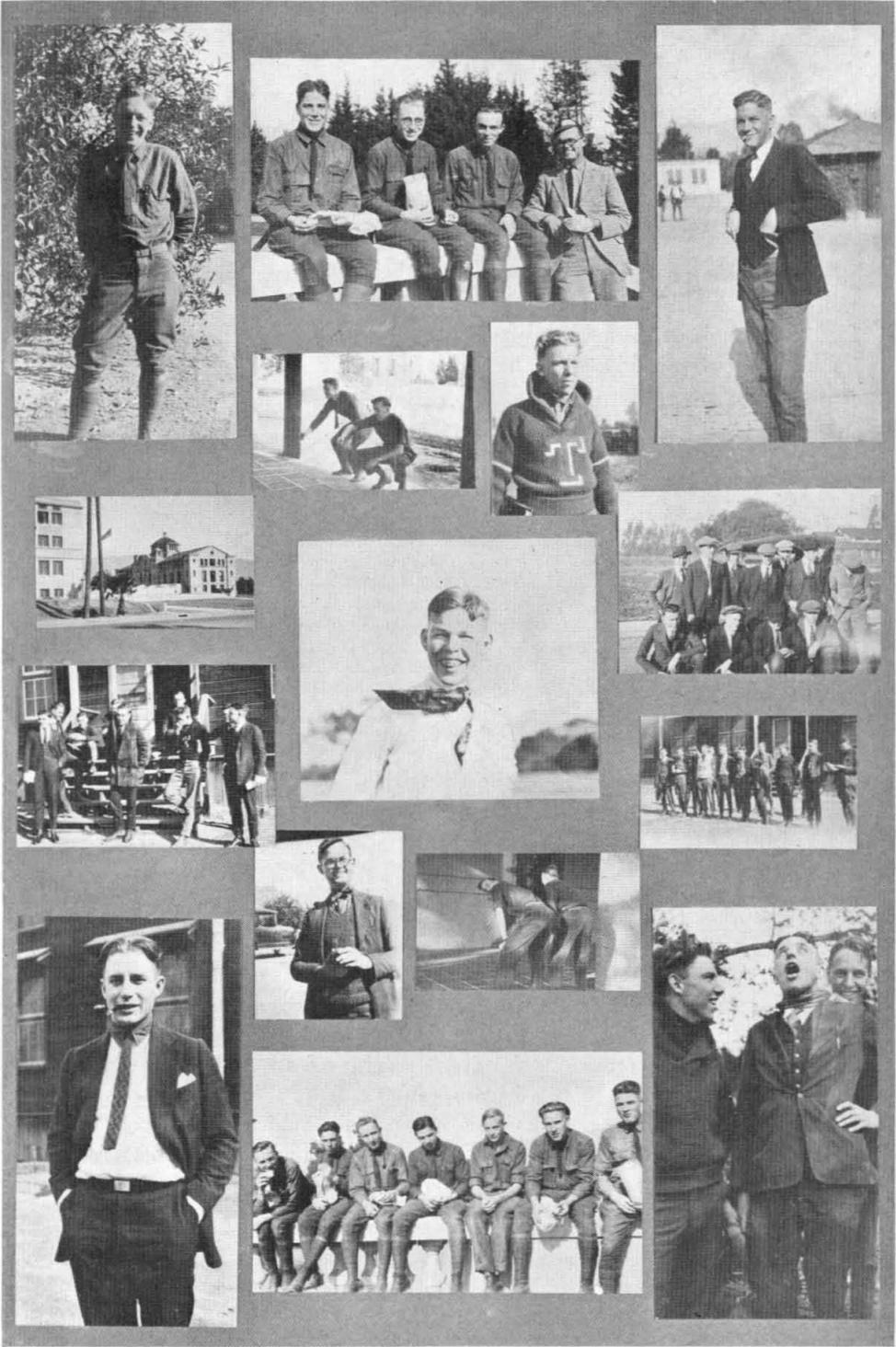
(At the Dorm Dining Room): "Milk or water?"

"Don't tell me, please; let me guess."

† † †

Old Lady (to student)—"Young man, don't you know when you have had enough?"

Garver—"Madam, I don't know anything when I've had enough; I'm unconscious."





How Much Do You Rate?

Being a Compilation of the Candid Opinions of Caltech's Spiciest and Most Daring Critics

(Note: As an interesting analysis of the worth-while qualities of certain well known familiarities about the campus, the editors have asked the more famous connoisseurs on Tech-life-as-it-should-be to furnish their ratings, of these oft-discussed subjects.) The critics are:

DUMMY DARNELL—The Dorm Rats' Funny Man.

MONK DE BLAKE—of the Y. M. C. A.

JAY ALOYSIOUS DeVoe—R. O. T. C., T. C. T., S. A. T. C., T. C. T., C. I. T. and file closer C. of E.

THE LOUIS ERB—Member A. S. B., C. I. T. and affiliated organizations.

MR. BERNARD EVANS—Associate member A. S. B., C. I. T. and late of the Marines.

JUST VARNEY—of the Weakly.

OLIVER GARVER—of Hollywood.

PLAIN MR. MACKENZIE—of the Glee Club, the army, the rifle team, the C. E. Club, the late Officers' Club, and numerous other organizations including the Y. M. C. A.

By way of calibration, the editor wishes to state that the numbers in all columns to the left of the last one on the right are the estimates of the critic whose name appears at the top of the value to Institute life of the subject judged. The basis of calculation is such that 25 represents the value of Bud Forster; 0, the value of Louie Erb; and -25 the collective value of all dorm inmates with the dorm thrown in. In between ranks accordingly. The last column on the right represents the average value of all the assessments made on the character of the victim by the critics. A (?) in one of the critic's columns indicates either complete ignorance of the subject on the part of the judge, or a desire to appear ignorant of the subject under discussion. A comparison of the averages, one with another, may bring to light some interesting facts.

For the benefit of those who saw this scheme of disseminating information in Vanity Fair before purchasing this volume, the editor desires to state that he did not do this in imitation of that magazine; they only thought of it first.



HUMOR



SUBJECTS SUBMITTED TO CRITICISM	Mr. Mackenzie and Dummy Darnell	Monk de Blake	J. A. De Voe	The L. Erb	Mr. Evans	Just Varney	Oliver Garner	The Average
Major Klein.....	-25	20	25	-25	0	?	10	5
B. V. D.'s.....	-25	?	?	25	?	?	10	5
Two Miler Preston.....	-25	-15	-20	-20	-25	-15	-20	-23
Bobbed Hair (for office girls)...	-25*	25	?	10	25	0	0	6
Military Department.....	-25	15	25	25	-25	-25	?	-2
The "Tech".....	-25	8	?	10	-15	25	0	-1
The Editor.....	-25	0	?	25	0	26	-25	0
Assembly Cards.....	-25	?	?	?	?	?	?	-3
"T" on Mountain.....	-25	25	?	25	25	25	25	19
Critics of Above.....	-25	-25	?	-25	-25	-25	-25	-24
Jay De Voe.....	-25	-10	15	?	10	10	0	0
Flappers in General.....	-25*	25	?	25	25	25	25	17
Flappers in Particular.....	+25 -25	0	?	25	75	0	25	17
Tau Beta Pi.....	-25	-25	-25	-25	-25	-25	-25	-25‡
Mr. Evans.....	-25	0	?	-10	25	0	-25	-3
Harold Beck.....	-25	0	?	25	0	25	0	3
Waxed Zits.....	-25	0	?	-25	25	0	-25	-20
The Book Store.....	-25	-25	0	0	0	15	-25	-9
Bud, the Dog.....	-25	25	25	25	25	25	25	24
Bud, the Electrician.....	-25	0	25	15	?	20	?	5
The Dorm as an Outrage.....	-25	-25	-25	-25	-25	-25	-25	-25
The Dorm as Anything Else....	?	?	?	?	?	?	?	?
The Glee Club.....	+25 -25	25	?	0	0	15	0	2
Plain Mr. Mackenzie.....	+25 -25	0	3	0	0	0	0	-3
Formal Scuds.....	-25	25	?	25	0	25	25	10
"Why I Came to Tech".....	-25	?	13	?	?	?	-25	-7
L. Erb's Value to C. I. T.....	-25	-25	?	25	-25	10	0	-6
Garfield's Cigars.....	-25	?	?	25	25	25	25	+12
Fanny Wilson's Smile.....	-25	20	-15	10	3	1	6	0
G. K. Smith's Tuxedo.....	-25	0	?	15	25	10	25	8

*Note: We question these decisions of Mr. Darnell's and Mr. Mackenzie's.
 ‡Note: Undoubtedly indicates "sour grapes."



The Calendar

As It Was

The Calendar Editor desires to place all blame for the shortness and scarcity of information in the calendar for this year on the head of the "deer peepul" who want their Annual without a year's wait for it. They rush the copy in to get it out on time. But, realizing that every activity of the college year deserving of mention should be done so, it has been attempted to forecast the activities for the rest of the year. Watch us hit it right!

None of the information given in the calendar is guaranteed, and the Editor takes this means of informing the public in general and Tech Co-eds in particular that no responsibility is taken for mixed dates or misunderstood phraseology.

* * * * *

Future Dorm inmates arrive.

Dorm razzed.

Y. M. C. A. Financial Drive begun.

Summer foliage in evidence; Piney's clipped bangs attract attention.

Frosh class received.

Other classes register—indifference.

Dorm razzed.

Frosh rules published.

Sophs challenge to pole rush.

Catland shaves.

Frosh accept challenge.

Dog, Burt, et al arrive; inspected.

Frosh donate their Praises, decorative scheme of Main Hall takes on snappy appearance.

Pole Rush rules published.

Frosh win Pole Rush.

Sophs object to Pole Rush rules.

Foundation in course in Air-Cooled vitamins laid.

Apollo blushes as consequence of Rush.

Apollo found chewing canvas and parked four feet above ground on barber pole—green with envy over popularity of rivals.

Seniors decide to think less of head contents and more of head covering. Talk hats. Webster talks.

Frosh unsort their collected assorted clothing.

L. Erb decides to show qualifications for A. S. B. Pres. Enticingly describes camp life.

Extra! ! U. S. C. first team forced out of game with Tech at end of first half; second team ready to quit at end of second half.

Paul Lowry quits writing up "Times" sports.



HUMOR



CHAS. J. BIDDLE
ALIAS
"DIDDLE"



DONALD W. DARNELL
ALIAS
"DOD"



ROBT. J. CRISSMAN
ALIAS
"PED"



Wm. T. TAYLOR
ALIAS
"BYLE"



DEWEY C. ROHLLOFF
ALIAS
"SKIE"



BEN DINIOFF
ALIAS
"BENJ."



HUBERT A. REEVES
ALIAS
"WOZZY"



B. ELWOOD DATTY
ALIAS
"VEST"



EDMUND T. GROAT
ALIAS
"GOAT No. 1"



Wm. D. POTTER
ALIAS
"DOT"



DOUGLAS C. MACKENZIE
ALIAS
"DUCK MUCK"



JOHN I. SHIELD
ALIAS
"SHIMMIE"



Amos razzes Dorm.
Seniors talk hats. Web. talks.
U. S. S. N. Y. gobs sunk in Tournament park.
Dorm rats think about dance.
Rohloff thinks about dancing.
Dorm dance postponed.
Rolly takes up dancing.
Rolly dances.
Date for Dorm dance set immediately.
Gockley and Ager argue about the continent.
160 Frosh debate between what they have to be to get the Junior Prize
and what they may get out of it.
Collins bulls around.
57-0, or Why Heinz got Pickled farce, staged downtown.
Pomona defeated to tune of 14-0 by enthusiastic Sophs.
Beaver arrives on scene of Sagehen's defeat.
Pomona gets revenge for Tech's twilight victory.
Frosh indulge in pre-post-season track meet or something at Long Beach.
Martels defeated.
Seniors talk hats. Web. pleads.
Dorm razzed by Amos.
Whittier develops razzberry spirit.
Hot day—hot night—hot time in Whittier—hot dam!
Office bobs its hair.
Occidental by proxy fumbles its way to a victory.
Hurry call sent for designer of peg billiard balls—footballs with handles
desired.
Seniors decide to wear Stetsons. Web. subsides.
Frosh entertain themselves and the Sophs.
One Senior Sombrero appears.
Etiquette book sent to binder's to be repaired.
Prof. Laing talks of illiterature.
New rule of compulsory attendance at Assemblies instituted.
Brady and Pierce attend assembly.
Faculty limits entrance size of Frosh class.
Faculty by same announcement shows its intention to cut down present
size of other classes.
Fourteen Juniors and Seniors receive Beaver razz postcards. Fourteen
amateur sleuths deduce the author. Razzberry spirit denounced.
Another fearless Senior buys hat—appears.
Cubs defeated by Jugless Fellers—Seller's version.
Y. M. C. A. Financial campaign begun.



HUMOR



RAY W. PRESTON
ALIAS
"PINKY"



LEWIS J. WELLS
ALIAS
"FRENCHY"



HAROLD S. OGDEN
ALIAS
"CURLY"



HAROLD R. PRESTON
ALIAS
"SHORTY"



HOLLIS W. MOYSE
ALIAS
"PILA"



OLIVER B. GARVER
ALIAS
"LOTA"



JAY J. DE VOE
ALIAS
"JAY JAY DE HOND"



DONALD C. ADAMS
ALIAS
"ANTHROPOID"



GERALD A. AMOS
ALIAS
"A. MOOSE"



ROBT. M. WHITING
ALIAS
"SCHWEINHUND"



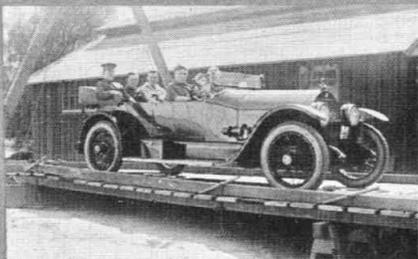
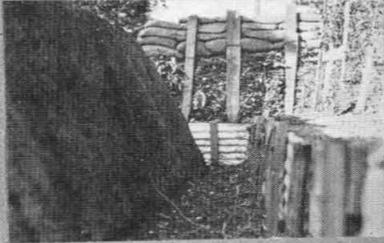
SAM. L. DIACK
ALIAS
"SNICKLEFRITZ"



GERALD A. AMOS
ALIAS
"THE GAMBLING MOOSE"



Frosh queen Prep Girls—Frosh taught manners.
Geology class discovers 20th Century Eohippus—is horsed.
Orange trees start leaving the campus.
Amos razzes Dorm.
South notices his need for facial adornment for first time—rest of college cheerfully welcomes any change or disguise.
“T” party in the mountains. Frosh know how mountains are made—they blew there.
Chemists go to Opid’s—Ritchie retires undefeated.
Class presidents inflicted on assembly.
Ogier and Scott melt on “T”.
Frosh pajamarino—one Frosh in B. V. D’s.
One pair of green pajamas sold.
Football banquet shows up candidate for honorary member of Dorm S. S. Club.
Faculty razzes Amos.
Faculty razzes everybody.
Rain, Rain, Rain, Rain—Rain.
Reverse invitations sent out by faculty.
Four Senior hats seen at one time on Campus.
Those Christmas ties and sox in evidence—Frosh dance.
Depreciation joke appears in Tech and is appreciated.
Varney tells 422 people that he was ignorant about it. They knew it from looking at him.
Laing’s repetition of English joke passes 100 mark.
Good meal served at Dorm.
Waffle retreading parlor sought by Myers. Non-skid syrup patent issued to him.
Art Hickey, et al donates to upkeep of our illustrious city.
Hot Rivet appears. Large proportion of issue quickly reaches Broad-oaks and Ortons.
Doug Sellers recognizes self as large part of Institute life.
Tech thrilled by discovery of musical talent in our midst. Motion before A. S. B. to shoot all extemporaneous band leaders on sight. Motion ought to be passed.
Jakey Smith stays awake through a whole lecture.
Part of Senior class hears “manifestly.” Strong betting as to limit of use of word, correct or not.
Dorm S. S. Club finds Amos’ place hard to fill.
Diack and Scott mix a while. Synthetic boxing to be discouraged.
Rule against hazing of Freshmen disregarded. Goods hazed—ought to have been shot.





Call sent out for Big T humor. Call again, please.

Campus infested with short length, small boy breeches for a short time.
Catland shaves.

Y. M. C. A. Financial drive begun.

Seniors wear more hats.

Call made for records of Seniors during college years.

Fourteen Seniors, including Ed. Groat, Rolly and Shimmie, forced to purchase new headgear. Howe, Fleming, et al turn in blank sheets.

Ogden's car catches fire at Torrance—spectacular feat of dirt removal and re-removal.

Faculty announces 3-hour exams at end of each term.

Student body decides to have 3-hour exams at end of each term.

Juice faculty is more flush—Sorenson returns.

372 students try 3-hour exams.

358 students decide they don't like 3-hour exams. We didn't get to see the other 14. They accepted a leave of absence.

And now, ladies and gentlemen here is where the high-power forecasting ability of the Calendar Editor comes into play. In the light of past events, kindly verify our judgment.

THE FOLLOWING THINGS WILL HAPPEN

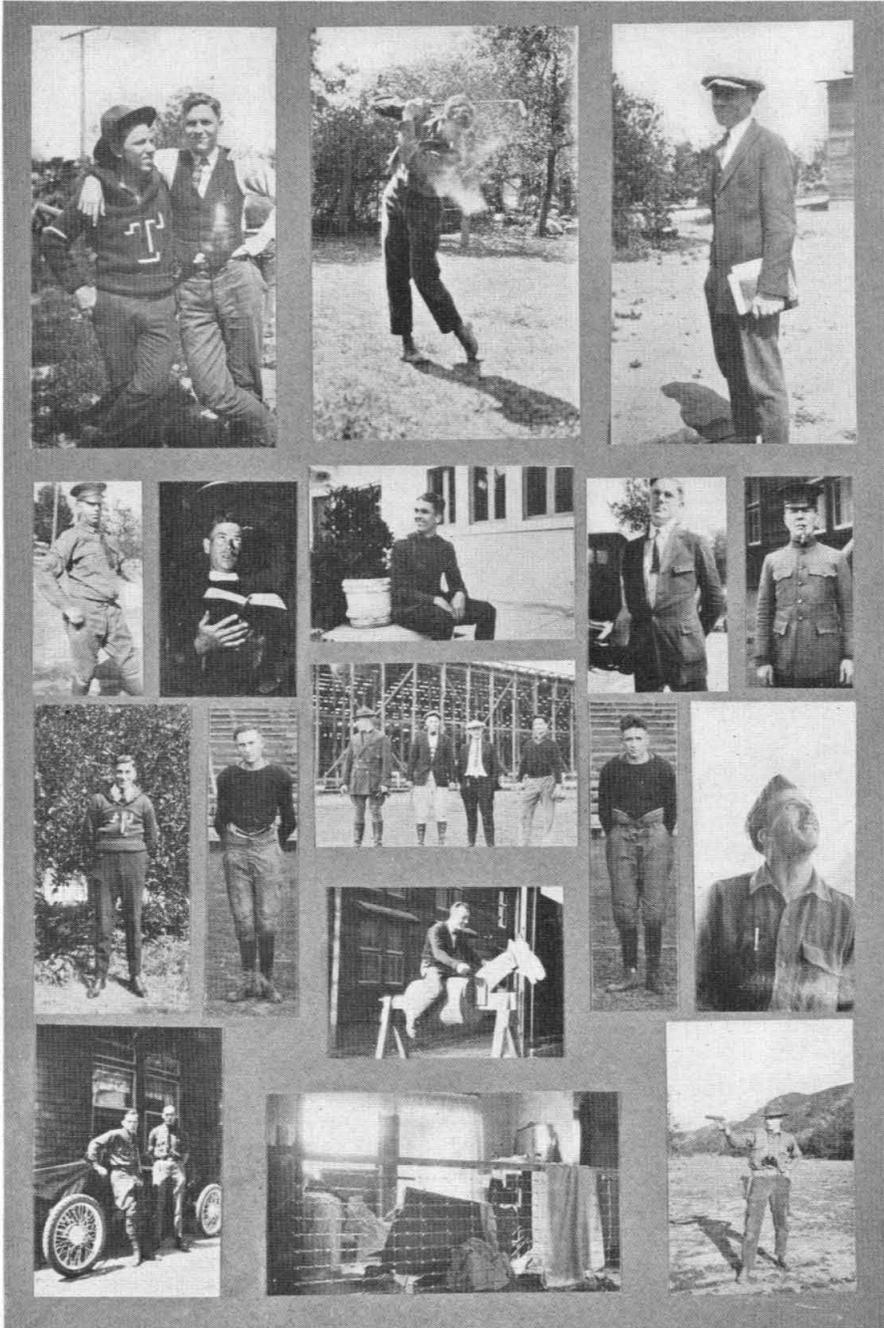
The Dorm will be razzed; Darnell will wear his first and second term shirt; there will be a Senior Sneak Day; some of the low-brow Seniors will try to sneak off and study to boost the class average; Byll Taylor will drive his Regal Undercut without a hat; there will be a Senior-Junior dance; the Y. M. C. A. will start a financial drive; community dances will be patronized by Seniors who desire to show their freedom from care, and then sit up half the rest of the night wondering about their work.

There will be exams at the end of the third term; some Seniors will be in suspense as to graduation until the time to graduate; the Dorm S. S. club will meet several times; the call for copy for the Big T will go out several times before it will be heeded; the issue of the Big T will be set and postponed from four to eight times.

There will be ten baseball games played by each college in the Conference; there will be an assembly most every Monday; the rest of the Senior class will be introduced to Manifestly; Prof. Laing will get another whack at the E. & E.'s; the Seniors will give a class day program; most of all the Seniors will graduate; all of the Seniors will look for a job; some of the Seniors will get jobs. College will close for the year; the Y. M. C. A. will close its Financial drive.



HUMOR





Colorado Street

(In the style of popular realism)

By CHARLIE CHUMP*

Dedication

To the good-hearted, gullible, pious folk of Little Iowa, the transplanted Middle West, America's intellectual Sahara, the stronghold of the T. D. & L. and P. E., the community of the safe and sane—Pasadena.

1. Verdure

"----and a little child shall lead them."

—D. W. Griffith.

1.

When a very little boy Ferdinand was born in a weatherbeaten farmhouse on Colorado Street. It is now called the Maryland Hotel.

2.

Before his fourteenth birthday, Ferdinand had signed the pledge, learned the ten commandments, and read the Swamproot Almanac.

3.

When he was five years old Ferdinand lay in bed with a terrible fever, counting the yellow and green squares on the ceiling. There was a puddle-like brown smirch there too. And yet why? That was the question that bothered Ferdinand as he reached to the table by his side, pulled the cork out of a little test tube-like bottle, put it to his lips and swallowed a pill.

4.

In the distance a cow moo'd, an ass brayed, and the old clock on the mantel ticked on—remorselessly.

2. Adolescence

"----and he learned about women from her."

—C. B. DeMille.

1.

It was during the week of grand opera at the Encyclopedia Britannica Club, that Ferdinand had his first "affair de coeur," lamentably, which is life.

2.

"Ferdinand Flux—sounds like a cylinder oil." The little sprite was saying, somewhat amused. She was watching Ferdinand milk the Flux steed-of-all-work, and held the bedraggled tail of the old cow in her hand and playfully flicked the flies from off its back into the milk pail.

* (NOTE: Mr. Chump is not a relative of the Charlies Paddock and Varney.)



3.

The picture she made leaning there lingered with Ferdinand for many years afterward. He fell in love, instantaneously, and remembered the time his brother Joe, while doing the family wash, had hit him in the face with a wet sock. It was like that.

4.

She left a moment later and Ferdinand turned back to his work and spat—ferociously. And the next morning the Flux family poured milk on their toasted corn flakes and never dreamed that Ferdinand had spat rather carelessly.

5.

A month or two later He took Her to a party and returned home late at night. It was now after eight o'clock. He climbed into bed and lay there looking out of the window at the twinkling stars and the heap of provincial French scenery just outside. A cool summer breeze floated up the path—from the barn, and Ferdie lay there sleepless.

Amidst the fragrance of the barnyard.

He was learning to think. He would be a radical.

3. *Amour*

"Love and limburger cheese have displaced Newton."

—*Dr. Epstein.*

At twenty-five years of age Ferdinand graduated from the Little Iowa Barber College (now called Occidental College) and hung out his striped shingle on Colorado Street.

2.

At college Ferdinand had done little in an athletic way—such as joining a fraternity or changing his underwear. He was more intellectual and he edited the Barber College year book.

3.

This was how he met Maizie. She had come up to him in the moonlight the night of the commencement ball and after an embarrassing pause during which they both realized that they had sought each other throughout the ages she called softly,

"Skinney" (But he wasn't, though, really.) And he answered:

"You may call me 'Ferdie.'"



4.

Then after that they sat in the moonlight as two lovers have done since time began. They still had their illusions and were happy. Finally just at dawn he reached out to her and, taking the Barber College Annual from her lap, he signed his name underneath his picture and a poem he had written on the opposite page.

5.

An old frog on a log in the pool nearby flopped into the water, an owl wailed dismally—way off on a wooded hillside, and an apple that had stayed on the branch too long fell from above into Ferdinand's lap and nearly ruined his best suit.

Eight years later they were married.

4. Milestones

"A bird in the hand——"

—G. R. McMinn.

After a few months of married life Ferdinand thought that now he knew all there was to know about women. Then Maizie presented him with twins.

5. Lilies

"God is in His Heav'n—let joy be unconfined."

—Mack Sennett.

The years passed by relentlessly, ceaselessly, futilely. Life for the new and rapidly growing Flux family became one damn movie show after another. Ferdinand grew bald and absent-minded. One morning he went to the kitchen sink to wash his teeth and after a number of vain attempts he remembered that he had put them in the shaving mug the night before.

2.

A few more years passed by, futilely. Maizie's tongue became sharper and sharper; his profession poorer and poorer, until finally he died, a poor demented old soul of the transplanted Middle West. There were four or five Fords at his funeral. The folks were the same as had attended his baptism, his graduation, his wedding.

3.

A cow moo'd in the distance, an ass brayed, and the Fords wended their way homeward like boys from school. And old Ferdinand Flux turned over in his grave and smiled contentedly. He had at last found happiness.

If this is realism make the most of it!

The End (Merci a Dieu!)



HUMOR



? and- ?



Soulmates



Bobby 'n- ?



Oh, Eddie!!



The Gang



Office Force



Scandalous!!



Our "Louie"

**Not So Long From Now***(A One-Act Play)*

CHARACTERS

Smith, a successful business man of thirty-five.

Smythe, his friend, who sells insurance, real estate and Eskimo Pies.

(The scene is Smith's office. The time, 1935. As the curtain rises Smith and Smythe are talking.)

Smythe: Remember that "egg," Smith, who we used to razz—graduated in our class—a regular "neck." Name was Ichabod or something. He was quite a "stude" and nothing else.

Smith: Yeh. He was an awful ass. Hopeless. What about him?

Smythe: Nothing much. Only I'm working for him now. (They both laugh.)

Smythe: And do you recall old "Rawhide" Jones, funny looking, shy as the dickens, thought women all angels or some other kind of bric-abrac, if he thought of them at all? He couldn't dance, never stepped.

Smythe: Ye-ah?

Smith: My wife's in love with that guy!

(There is a pause)

Smythe: I know where we can get a drink.

Smith: Hooray!

(They go out arm in arm as)

The curtain falls

† † †

Go West, Young Man

Speaking of modest attire, we read the other day of a New York dancer who "came on the stage clothed only in a string of twenty-eight beads and twenty-six of these were beads of perspiration."

—*Awguan.*

† † †

Temperance Lecturer: "If I lead a donkey up to a pail of water and a pail of beer, which would he choose to drink?"

Soak: "The water."

T. L.: "Yes, and why?"

Soak: "Because he's an ass."

—*Chaparrel.*

† † †

Bernie—Where did you skate when you first learned?

S. B.—Why, I think you're perfectly horrid!

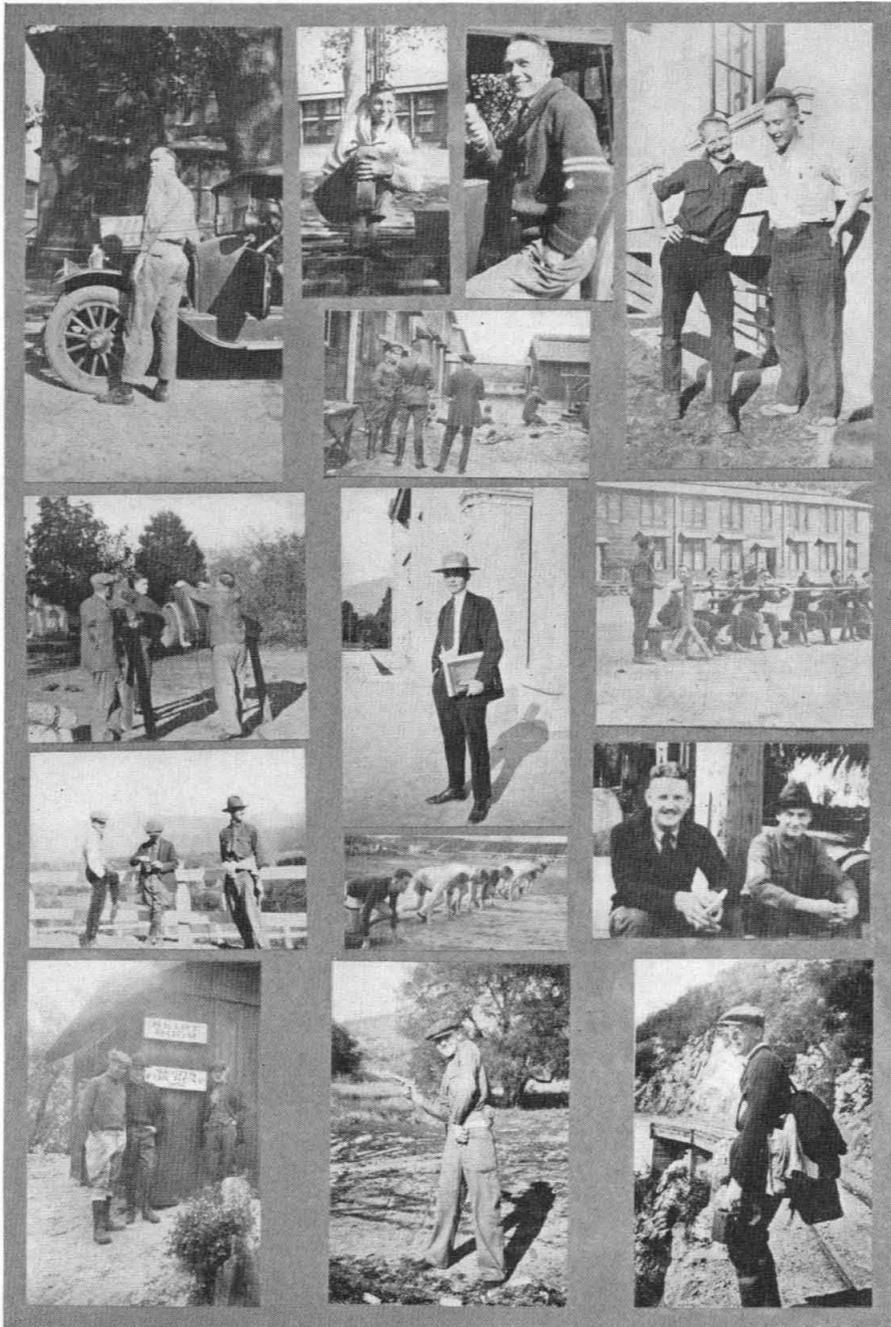
† † †

Visitor—"What does the chaplain do here?"

Frosh—"Oh, he gets up in chapel every morning, looks over the student body, and then prays for the college."—*Lehigh Burr.*



HUMOR





Amour Libre

She didn't like my Ford
 ---a taxi.
 She didn't feel dressed (quite apparent)
 ---flowers.
 She hadn't eaten since breakfast
 ---dinner.
 She'd heard "The Bat" was thrilling
 ---theatre.
 She had a crush on Max Fisher
 ---grill.
 * * * * *

And coming home
 She asked me
 What I thought about
 Free love.

The Baby Vamp

Is a carved wax rose
 In a black Ebony vase
 (Pronounced vaws)
 Which if lifted
 Reveals the price tag
 —38c.

Kisses

Are either oases
 On the sands of Time
 Or mudpuddles
 On the boulevard
 Of Destiny.

The Snake

Is a versatile creature
 He haunts
 The "Roof"
 Or the "Grill"
 By night
 With his
 "On time" tux
 Stacomb
 And pulchritude.
 * * * * *
 And by day
 Sells neckties at
 The Dollar Shirt Shop.

Her Hand

Is soft and white
 Her fingers
 Taper easily
 Like strands of silk
 Blown
 In the wind.
 But this is all a bluff because
 She holds her fork
 Like
 A tomahawk
 And it never slips.

Her Lips

Seem soft
 And red
 And droop like
 Tender
 Flower petals.
 But they
 Must be tough
 Because
 She eats with her knife
 And doesn't cut
 Them.



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SINCE 1912

Courageous Frosh in Dorm: "Hay, Mister, just let the cheese move this way, will you?"

* * *

Orton—Does she dance badly?

Oxy—Yes, if the chaperones aren't looking.

* * *

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By DR. BERTHOLD A. BAER

WELL-MEANING Editors have said that through my writings I have lifted death out of a horrifying state into a socially conversable subject, out of Darkness into Light. Why should the funeral service of a beloved departed be dreary, mournful, tearful? Why make them a memorial of heartache and grief, instead of a memorial of pleasant thoughts, of a happy past, and a belief in a bright future?

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Tate—Hasn't that soprano an awful repertoire?
Piney—Yeh, and her dress makes it look even worse.

✦ ✦ ✦

“Just think, old top, in Japan you can get a good wife for fifty cents.”

“Well,” drawled the cynic, “a good wife's worth that.”—*Jester.*

✦ ✦ ✦

“What do you think of Venus?”

“Ah, there's a heavenly body for you.”

—*Lampon.*

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Are like false teeth.
They must be
Taken out every night.

✦ ✦ ✦

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Is a dried apple
That
Has never been
Picked.



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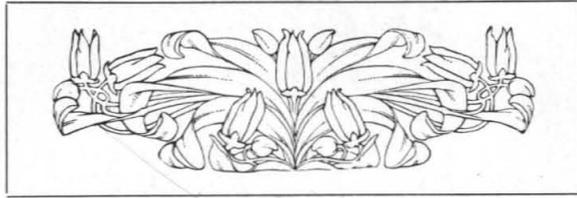
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THE REASON

First Social Climber—That's a pretty tie you're wearing.

Second S. C.—Yep, I'm still rooming with Joe.

* * *

Diner—Look, waiter. There's a gray hair in this soup!

Waiter—Ah, m'sieur is like me. M'sieur regret also ze little blond cook who is done. —*Sketch.*

* * *

“Thank Heavens,” said Lady Godiva, “bobbed hair won't be in style until several hundred years from now.”

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ROMANCE

He had been reading knightly romances, and grew dissatisfied with the present sordidness of the world. He believed it his duty to insert romance into his daily grind.

One rainy day, therefore, he sallied forth to perform some knightly errand. Perceiving a lovely princess about to step from her limousine to the muddy pavement, he hastened towards her and spread his fur coat under her dainty feet. She gazed upon him in wonderment. "Well, of all the damn fools!" she exclaimed.

✦ ✦ ✦

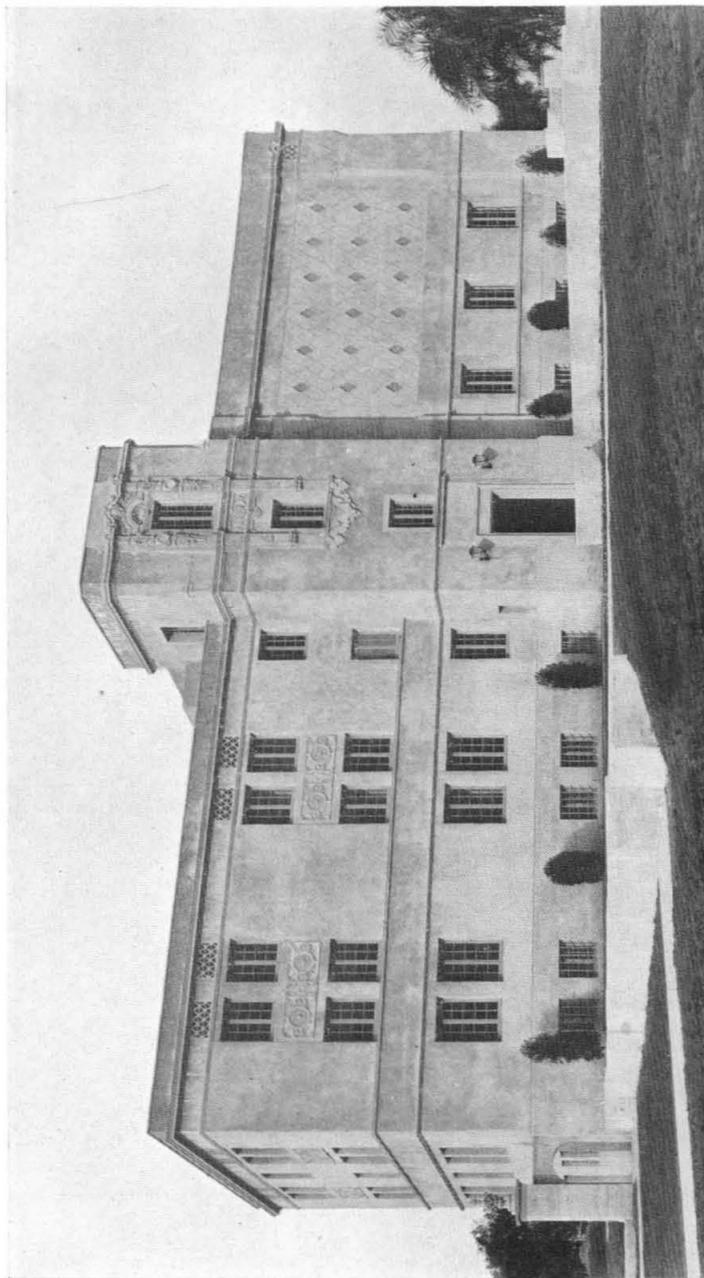
The sights presented by the short skirts the dear girls are wearing nowadays remind me of the following article which appeared in the Podunk Poodle: "Some of our trees ought to be pinched for reckless display of limbs. They fairly flaunt them in your face as you walk along the sidewalk."

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NOT ON TECH'S

Subscriber—Why don't you have any more really good jokes in your paper?

Editor—Ah—er—you see, we have a lady compositor in the printing room now. —*Illinois Siren.*

* * *

Larson—"That girl's like tissue paper!"

Hickey—"How's that?"

Larson—"Tearable!"

* * *

"And now, my dear brethren, what shall I say more?" thundered the Reverend Dr. Longlung.

"Amen!" came in sepulchral tones from the students.

—*Log U. S. Academy.*

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Our Billy—I heard something about you today.

Embryo—It's not true, I never did such a thing in my life.

✦ ✦ ✦

Moore—Whence the black eye, old thing?

Jakey—I went to a dance at Marlborough last night, and was struck by the beauty of the place.

✦ ✦ ✦

Eloise—How would you define raw material?

Algy—The plot of any French novel.

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Smythe at Junior-Senior Prom—This floor is awfully smooth. It's hard to keep on your feet.

Partner (same place)—Oh, then you were really trying; I thought it was purely accidental.



We wonder how long it'll be before those vulgar eggs will have to quit speaking of women as "skirts."



She (frigidly to man who has just cut in): "Did I understand you to say that your name is John Smith?"

He (slightly oiled): "No, Pocahontas, you did not."

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OVER-CAPITALIZED

Post—Professor Talkem has ten letters after his name, but he doesn't know enough to go in when it rains.

Mortem—Another distressing case of over-capitalization.

* * *

Dan—What would you do if I should kiss you?

Hon—Pretend to be surprised.

Dan—And if I shouldn't?

Hon—Be surprised.

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QUERY

She: Don't you think that talkative women are the most popular?

He: What other kinds are there?

—*Boston Beanpot.*

† † †

“Gracious! That skirt is so tight that I can plainly see what you have in your pocket!”

“But I have no pocket.”

“Then what is that lump?”

“Oh, that's a mosquito bite!”

—*Houston Post.*

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MARYLAND HOTEL

NOT THIS YEAR

He—"At a football dinner a man got up and left the table because someone told a story he didn't approve of."

She—"Oh, how noble of him! What was the story?"

✦ ✦ ✦

UNMENTIONABLES

The criterion of ignorance was displayed by a certain Frosh who called the statue in front of the A. S. B. office the Venus de Milo.

✦ ✦ ✦

A teddy bear is an unmentionable which has taken the place of what was formerly numerous unmentionables.

✦ ✦ ✦

An optimist is a simple soul with a rip in the seat of his trousers of which he is blithely unaware.

✦ ✦ ✦

The happiest man in the world sits on a saw horse in a small padded room and thinks he's Napoleon.

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Los Angeles, Cal.

Hi-brow: My love is like a babbling brook.
Lo-ditto: Dam it.

+ + +

Frosh: "Some pup you have there? Where do you keep him?"
Soph: "In my room, of course."
Frosh: "But it ain't healthy to keep a dog in your room."
Soph: "Well, he's a strong dog and seems to stand it pretty well."

—The Owl.

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Gwendolyn—"What makes your hair look so peculiar. Is it bobbed?"

Carolyn (in very dishevelled state)—"No, Tommed."

—*Purple Cow.*

* * *

"Don't you think it would be a good idea to marry one of the Sultan's daughters?"

"Maybe," said the Afghan Prince. "But which daughter?"

"I dunno. Write for a catalogue."

—*Life.*

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