THIS BOOK
BESPEAKS
OUR QUALITY
AND SERVICE

The W. H. Kistler
Stationery Co.

1537-43 Lawrence Street

DENVER
COLORADO
EDITOR'S FOREWORD

The Class of 1917 presents this fifth volume of "The Prospector" to the students of the Colorado School of Mines.

A book such as this can, at best, be a brief diary of a school year. It has been likened to a mirror; but if a mirror, the dust on it has never been swept away, and mere outlines are shown.

Being cognizant of the fact that one book such as this follows in the footsteps of its predecessors, we have not tried to steer out of our course, but rather to make it a truer one.

We are especially indebted in producing this book to F. E. Briber, F. G. Brenneman, E. O. Kistler, and Miss Atkinson. Without their help our "Prospector" would long since have been wrecked on the reef of "Disaster."
To

William Battle Phillips

The Class of Nineteen Seventeen
Dedicates this Book
THE PROSPECTOR STAFF

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CHARLES W. TEETS

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T B II
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Special Lecturer in Metallurgy and Chemistry

A.B. 1862—Washington University.
A.M. 1865—Washington University.
B.S. 1867—Harvard.
LL.D. 1903—Washington University.
Special Lecturer since 1912.

William Battle Phillips
PRESIDENT

Ph.B. 1877—University of North Carolina
Ph.D. 1883—University of North Carolina
Attended the Royal Saxon School of Mines, Freiberg.
1915, President.
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James C. Roberts

Professor of Safety and Efficiency Engineering

Ph.B. 1884—University of North Carolina.
During the past five years in charge of mine rescue work and mine investigations for the Bureau of Mines in the West.
A former Professor of Metallurgy in the Colorado School of Mines.

Horace Bushnell Patton

Professor of Mineralogy and Geology

A.B. 1881—Amherst.
Ph.D. 1887—University of Heidelberg.
Professor of Geology and Mineralogy since 1893.
Fellow American Association for the Advancement of Science.
Secretary Section E, 1901.
Fellow Geological Society of America; Member of Council, 1908-10; Second Vice-President, 1914.
Fellow Colorado Scientific Society.
Victor Ziegler

*Assistant Professor of Geology*

A.B. 1908—University of Iowa.
A.M. 1910—Columbia University.
Fellow in Mining Geology.
Columbia University, 1909-1910.
Assistant Professor of Geology and
Mineralogy since 1914.

Garret A. Muilenburg

*Instructor in Geology and Mineralogy*

B.A. 1912—University of Iowa.
M.S. 1913—University of Iowa.
Geologist, Missouri Bureau of Geology and Mines.
Instructor in Geology and Mineralogy since 1914.
William Jonathan Hazard

Professor of Electrical Engineering

E.E. 1897—Colorado School of Mines.
1897, Instructor in Physics and Draughting. Since then has held various positions, becoming in 1910 Professor of Elec. Engineering.
Associate, American Institute of Electrical Engineers.
Member of Electric Light Association, American Academy of Political and Social Science, Colorado Electric Club.

Herman Fleck

Professor of Chemistry

B.S. 1890—University of Pennsylvania.
Nat. Sc. D. 1892—Tubingen University, Wurtemberg, Germany.
Professor of Chemistry since 1903.
Member Chemical Society of America; Western Association of Technical Chemists and Metallurgists; Colo. Scientific Society; Deutsche Chemische Gesellschaft.
Charles Darwin Test

Assistant Professor of Chemistry

B.M.E. 1894—Purdue University.
A.C. 1896—Purdue University.

Member American Chemical Society; American Electro-Chemical Society; Franklin Institute; American Ornithologists' Union.
Assistant Professor of Chemistry since 1903.

John Christian Bailar

Assistant Professor of Chemistry

B.S. 1901—University of Colorado.
A.M. 1905—University of Colorado.

Member American Ceramic Society; American Concrete Institute; Western Association of Technical Chemists and Metallurgists.
Assistant Professor of Chemistry since 1906.
Harry John Wolf  
*Professor of Mining*

E.M. 1903—Colorado School of Mines.  
M.S. 1913—Colorado School of Mines.  
Professor of Mining since 1912.  
Member American Institute of Mining Engineers; American Electro-Chemical Society; Colorado Scientific Society; A.A.A.S.; Teknik Club of Denver; Associate Member American Institute of Electrical Engineers.

Wm. Reuel Chedsey  
*K Σ, Τ Β Π*

*Assistant Professor of Mining*

E.M. 1908—Colorado School of Mines.  
Member American Institute of Mining Engineers; International Engineering Congress; American Electro-Chemical Society; Northwest Mining Association; Associate American Institute of Electrical Engineers.
Edward Julius Dittus
Φ Κ Ψ, Θ Τ
Instructor in Metallurgy
E.M. 1911—Colorado School of Mines.
Member Electro-Chemical Society; Teknik Club.
Instructor in Metallurgy since 1912.

William George Haldane
Κ Σ, Τ Β Η, Σ Ξ
Associate Professor of Metallurgy
B.S. 1900—Case School of Applied Science, Mining Course.
Member American Institute of Mining Engineers, and Colorado School Masters Club.
First Vice-President of the Denver Branch of the Colorado Metal Mining Association.
Acting President, 1913, 1914.
Connected with the school since 1901.
Frank Weiss Traphagen

Professor of Metallurgy and Assaying

Ph.B. 1882—Columbia School of Mines.
Ph.D. 1883—Columbia School of Mines.
Professor of Metallurgy and Assaying since 1903.
First President of the Western Association of Technical Chemists and Metallurgists; Fellow Deutsche Gesellschaft; A. A. A. S.; Society of Chemical Industry, Membership, American Institute of Mining Engineers, American Chemical Society, Teknik Club.

Charles R. Burger

Professor of Mathematics

Ph.B. 1892—University of Colorado.
A.B. 1893—Harvard, Post-Graduate Course in Mathematics.
Professor of Mathematics since 1903.
George E. F. Sherwood

Assistant Professor of Mathematics

A.B. 1904—University of New Brunswick, Canada.
A.B. 1908—Harvard University.
A.M. 1913—Harvard University.
Assistant Professor of Mathematics since 1909.

Harry Munson Showman

Assistant Professor of Civil Engineering

E.M. 1910—Colorado School of Mines.
Instructor in Mathematics 1910-12.
Assistant Professor of Civil Engineering since 1912.
Ransom Smith Hawley

Professor of Mechanical Engineering

B.S. 1907—University of Michigan.
M.E. 1915—University of Michigan.
1910-1911, Instructor.
1911-1912, Assistant Professor of Mechanical Engineering.
Professor of Mechanical Engineering since 1912.
Member, Society for the Promotion of Engineering Education.

Claude S. Johnson

Assistant Professor in Mechanical Engineering

B.S. in M.E. 1901—Purdue University.
1912, Instructor in Mechanical Engineering.
1915, Assistant Professor in Mechanical Engineering.
F. W. Lucht, Jr.

Instructor of Mechanical Engineering

B.E. 1913—University of Michigan.

Instructor of Mechanical Engineering since September, 1915.

Louallen F. Miller

Professor of Physics

A.B., A.M. 1899—Michigan University.

Instructor and Director Laboratory in Physics, 1901-1907.
Professor of Physics since 1907.
Member, A. A. A. S.; American Electro-Chemical Society; Colorado Scientific Society.
Ralph R. Knowles

Instructor in Electrical Engineering and Physics


With School of Mines since 1911.

Frederick S. Titsworth

Special Lecturer in Mining Law

C.E. 1893—Princeton.

E.M. 1895—Colorado School of Mines.

A.B. 1904—Denver University.

Instructor in Mining Law since 1911.
THE CLASS OF 1916

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J. J. Burns
Vice-President

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Walter H. Ralph
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F. G. Brenneman
F. E. Briber
J. J. Burns
August Chatin
Fan Chen
R. M. Fullaway
M. E. Garrison
C. B. Gauthier
W. A. Harrod
V. D. Howbert
S. L. Hu
J. L. Keese

H. M. Lavender
Hunyct Lee
M. M. Levy
J. M. Lliteras
R. H. Miller
H. L. Minister
N. H. Parker
W. H. Ralph
F. A. Smith
W. M. Traver, Jr.
C. R. Vorck
R. V. Whetsel
F. J. Wiebelt
H. R. Wilson
Ulysses H. Berthier
S. P. A.

Metallurgy

Born at Mexico City, Mexico, August 23, 1893. Attended Bingham School, Asheville, N. C., and Spring Hill College, Mobile, Ala. Home residence, Mexico City, Mexico.

Harold L. Bicknell
Σ N, Θ T

Metallurgy

Football Manager (3).
Junior Prom. Committee (3).
Born at Oak Park, Ill., February 15, 1891. Attended Oak Park High School. Home address, Oak Park, Ill.

Carl A. Blaurock
B Θ Π I, T B II, S. P. A.

Metallurgy

Glee Club (2).
Junior Prom. Committee (3).
Frederick G. Brenneman

Metallurgy

Class Editor (2, 3, 4).
Art Editor "Prospector" (3).
Class Secretary (4).
Senior Day Committee (4).
Secretary Geology Club (2).
Junior Member A. I. M. E.

Born at Pottsville, Penn., in 1892. Attended Bellefonte Academy, Bellefonte, Penn. Home address, Pottsville, Penn.

Frank E. Briber

T B II

Mining

Class President (1).
Social Club (1).
Track (1, 2).
Football (2, 3, 4).
Business Manager "Prospector" (3).
Senior Trip Committee (4).
Y. M. C. A. Cabinet (3, 4).
Student Council (3, 4).
Junior Prom. Committee (3).
Athletic Board (3, 4).
Class Baseball and Basketball.
Secretary Scientific Society (3).

Born at Johnstown, Pa., November 15, 1890. Attended West Denver High School. Home address, Denver, Colo.

J. J. Burns

K Σ, Θ T

Metallurgy

Vice-President Class (4).
Captain Basketball (4).
Basketball (1, 3, 4).
Freshman Football.
Athletic Board.
Freshman Ball Committee.
Smokeless Smoker Committee.

August H. Chatin
S. P. A., T B II
Mining

Fan Chen
Mining
Born at Hengchowfu, China. Attended Tsinghua College, Pekin, China. Home address, Shanghai, China.

Richard M. Fullaway
Mining
Junior Member A. I. M. E.
Member Denver Athletic Club.
Engineer Corps, Co. A, N. G. C.
Secretary Class (2).
Athletic Board (2).
Junior Prom. Committee (3).
Track (1, 2, 3), Captain 1914.
All Rocky Mountain Track Team, P. P. I. E.
Football (4).
Basketball (3).
Born at Los Angeles, Calif., November 4, 1892. Attended Los Angeles High School and Los Angeles Polytechnic High School. Home address, Los Angeles, California.
Murray Garrison

Mining

Junior Member A. I. M. E.
Engineer Corps, Co. A, N. G. C.
Athletic Editor (3, 4).

Charles B. Gauthier

Σ A E, Θ T
Metallurgy

Junior Member A. I. M. E.
Student Council (4)
Athletic Board.
Social Club (2, 3).
Athletic Editor “Prospector” (3).
Junior Prom. Committee.
Class President (2).
Freshman Football, 1911.
Freshman Football, 1912, Captain.
Track Squad (1, 2, 3).
Football (2, 4).
Basketball (2, 3, 4).
Born at Detroit, Michigan, March 25, 1892. Attended Western High School, Detroit. Home address, Golden, Colorado.

Wayne A. Harrod

Σ A E, Θ T
Mining

Glee Club (1, 2, 3).
Freshman Ball Committee.
Junior Prom. Committee.
Junior Smoker Committee.
Secretary Class (3).
Born at Fort Wayne, Indiana, April 28, 1892. Attended Fort Wayne High School. Home address, Fort Wayne, Indiana.
Van Dyne Howbert

Φ Γ Α, ΤΒΠ, ΘΤ

Mining

President Scientific Society.
President Senior Class.
President of Student Council.
President of Social Club.
Athletic Board.

Born at Colorado Springs, Colorado, August 11, 1892. Attended Cutler Academy, Andover, and obtained the degree of Ph.B. from Yale (Sheffield). Home address, Colorado Springs, Colorado.

Shih-Hung Hu

Mining

Born at Kiukiang, China, August 22, 1894. Attended Tsinghua College, Pekin, China. Home address, Kiukiang City, China.

Jefferson L. Keese

ΚΣ

Metallurgy

Born at Jahu, Sao Paulo, Brazil, January 1, 1890. Attended Mackenzie College, Brazil. Home address, Santa Barbara, Sao Paulo, Brazil.
Harrison M. Lavender

Metallurgy

Born in Scotland, October 31, 1889. Home address, Telluride, Colorado.

Hunyet Lee

Mining

Born at Kuanton, China, July 26, 1891. Prepared for college at Tokio, Japan. Home address, Swatou, China.

Milton M. Levy

Mining

John M. Lliteras  

*Mining*  

Class Football (1, 4).  
Class Basketball (3, 4).  
Class Baseball (2, 3).  
Junior Prom. Committee  
Junior Smoker.  
Social Club Committee.  
Senior Day Committee.  


---

Roy H. Miller  

*Metallurgy*  

Track (1, 2, 3).  

Born at Silver Cliff, Colorado, June 9, 1889. Attended South Canon High School of Canon City, Colorado. Home address, Canon City, Colorado.

---

Howard L. Minister  

*Mining*  

Class Basketball (1, 3, 4).  
Class Baseball (3, 4).  
Class Football (4).  
Junior Smoker Committee (3).  

Born at Zaleski, Ohio, April 3, 1891. Attended South Canon High School, Canon City, Colorado. Home address, Canon City, Colorado.
N. Howard Parker

Mining

Born at Louisville, Colorado, January 9, 1891. Attended Trinidad High School, Trinidad, Colorado. Home address, Trinidad, Colorado.

Walter H. Ralph

T B II, S. P. A.

Mining

Class Treasurer (3. 4).
Junior Prom. Committee.
Born at Glasgow, Scotland, May 18, 1892. Attended Morchiston Castle School, Edinburgh, Scotland. Home address, Valparaiso, Chile.

Frank A. Smith

Σ N, Τ B II

Mining

Track Manager (3).
Athletic Board (3).
Junior Smoker Committee.
Junior Prom. Committee.
Statistical Editor "Prospector" 1916.
Born at Los Angeles, California, August 28, 1894. Attended Los Angeles High School and Throop College of Technology. Home address, San Pedro, California.
Will M. Traver, Jr.

Σ Ν

Mining

Manager Baseball (3).
Assistant Manager "Prospector" (3).

Born at Nampa, Idaho, June 1, 1894. Attended Central City, Nebraska, High School. Home residence, Central City, Nebraska.

Charles R. Vorck

Χ Ψ, Θ Τ, Τ Β Π

Mining

Class Football (4).


Raymond V. Whetsel

Σ Χ, Θ Τ, Τ Β Π

Metallurgy

Junior Prom. Committee.

Born at Fortville, Indiana, December 29, 1891. Attended Manual Training High School, Indianapolis, Indiana, and Purdue University for two years. Home address, Fortville, Indiana.
Frank J. Wiebelt

Mining


Harry R. Wilson

Σ N

Metallurgy

Baseball (2, 3).
Class Baseball.
Glee Club 1912.
Captain Senior Ball Team 1916.
Senior Day Committee.
Class Basketball.
Class Football (4).
Alpheus Benjamin Beall, Jr., E.M.

*Metal Mining*

Basketball (1, 2, 3), Captain (3).
Tennis (1).
Integral Club Board.
Born September 26, 1893, at Sioux City, Iowa. Attended Sioux City High School and St. John's Military Academy. Home address, Sioux City, Iowa.
In Memoriam

WELLS A. FRANKLIN       CHARLES PRIOR
HARRY J. WOLF, JR.
THE CLASS OF 1917

OFFICERS

Harold E. Munn
President
Roland S. Stanfield
Vice-President
L. G. Eisele
Treasurer

T. H. Andrews
Secretary

CLASS ROLL

Thaddeus H. Andrews
Charles N. Beyrie
H. E. Boot
Howard G. Buckley
Albert K. Chan
M. M. Butler
George M. Cheney
Y. K. Chiang
Lincoln Ehnbom
L. G. Eisele
K. S. Ferguson
M. G. Heitzman
Robert Higgins
Max T. Hofius
K. L. Hsueh
W. F. Jones
C. M. Knepper
Norman E. Maxwell
J. G. Menke
Sydney Mewhirter

Harold E. Munn
W. J. Murphy
G. A. Nufio
W. F. Putnam
K. W. Reynolds
Harry A. Robinson
George H. Roll
A. D. Schoensiegel
F. C. Sealy
R. S. Stanfield
A. W. Stedman
M. E. Swigart
C. C. Taylor
C. W. Teets
B. G. Tseo
Lisle Van Burgh
R. M. Weaver
J. H. Winchell
L. K. Worth
P. C. Yuan
Someone suggests that we put down under this name merely the chorus “I was Sailing Down the Old Green River.”

Although “Andy” comes out of a town but a few miles from Pueblo, the big place has no more charms for him.

Is she? Ask Capt. Knepper. Anyhow mum’s the word.

“Andy” is Grand Foreman of the distinguished order of Cave Dwellers; i. e. such was his office when the eminent order went out of existence.

If anyone is in doubt whether golf can be played at night or not he need but ask “Andy.”

“Tom” is a native son, yea, a member of the Coast Defense. Despite all this he believes in advertising, especially in the “Denver Post.” He also receives advertisements from diminutive ladies in his No. 43 football sweater. “Grandpa” says he was made a Christian through the uttering of the one sentence, “Beatrice, darling, what have I done?” His favorite expression when consulted about the above is, “I’m off that stuff for life, no more Blondes.” As “High Pockets” he is bewailing the fact that there will be no summer school this year. In the role of “Charlie,” he is one of the sure shots of the armory squad at the “Riding Club.”  

Beyrle certainly looks manly in his working clothes.
Harry Earl Boot
B Ω II, Θ T
"DEWEY," "BEAUTY"
Metallurgy

"Dewey" is one of our most peaceful "inmates." About the only thing he has ever done out of the straight and narrow path was to make Heitzman a downy bed beneath the Tennyson street bridge. In the role of the millionaire kid his favorite pastime is jumping on ninety-eight cent watches. He quite resembles a peacock at times, especially when there are ladies present. "Dewey" always comes back to school early in the fall and without opening a book proceeds to do justice to his last crack at the various courses. He may be classed as a "Sluffer," however this applies to only one form—the pastime and not the habit.

Albert K. Chan
"GROUCH"
Mining

Chan is one of our rising baseball proteges. We have hunted everywhere for some information that would give us some foundation for "knocking" him but he is one of the few about whom nothing is forthcoming. Chan is very studious, but gets the spring fever a little sooner than the rest. He looks forward to the joyful homecoming trips every summer, perhaps because it is so pleasant in California in the summer, and maybe, for all we know, there is another reason.
Howard G. Buckley
K E
"Buck"
Metal Mining

After three years at Dennison, "Buck" finally realized the error of his ways and came out to be a real engineer. When he first arrived he professed his intention of entering the "oil game," but from the appearance of things at the present time, he is after other game. His greatest failing is his inability to retain his usual color of countenance when the ladies show him attentions. However, "Buck" is a good fellow, and we are all for him.

George Morris Cheney
Σ Α Ε, Θ Τ, Τ Β ΠΙ
Metal Mining
Junior Smoker Committee.

George came from Williams steeped in philosophy and resolved to abstain from all worldly pleasures and the society of ladies. For a time he succeeded, but all things must change and we seize the pleasures of the moment when the new year draws near. Have you heard George sing? Surely Caruso, in his search for proteges, will not suffer George to remain long buried in a mining camp.
Yung Kwang Chiang

Metal Mining

Born in Anyu Hsieu, China. Small in stature, but big in gray matter. Strict discipline is Mr. Chiang's hobby, proposed, adopted and enforced. The hour glass envies him in keeping the sands of time. "Silence is golden," is another of Y. K.'s strong beliefs.

Lincoln Ehnbom

B Θ II, T B Π

"Flossie"

Metal Mining

Track Squad 1903-04.

"Floss" has a great start on us when it comes to "tossing it," having seen, heard and felt the bull in his native country. He got tired of adobe walls and bandit stalking, crossed the border into the U. S. and returned to Golden to enter again on the vacation he dropped in 1905. One of his chief hobbies is knocking formula, especially in mechanics. He is quite a pugilist, especially on cold snowy nights, and there are some people he does not like.

He is now busy trying to make a hit with the younger generation and at the same time keep the news from the wife and children in Salt Lake.
Lewis G. Eisele

Θ Δ X

"EIZ"

Metallurgy

Class Treasurer (3).
Freshman Team (1914).
Football Squad (3).

Eisele is a "Badger" and as far as "runtness" is concerned he is of the first water. He is quite a grappler, and for that reason he turns a class basketball game into a "catch as catch can." "Eiz" is quite a "sluffer" both literally, and in reality. He is one of the "Siamese Twins," Taylor composing the other segment. He is an ardent admirer of Heitzman, especially in the Drawing Lab., for when "Heitz" chews, "Eiz" chews, when "Heitz" smokes, "Eiz" smokes, and when "Heitz" unloads his chew, there also does Eisele.

Kenneth S. Ferguson

Σ N

"HOOT"

Baseball (1, 2, 3).
Captain (3).
Class Vice-President (2).

Not wearing kilts is negative evidence so that "Hoot" can claim other than Scotch descendancy. His peculiar characteristic is extreme abhorrence of things feminine and the calculus. He has shown a remarkable inclination toward coal mining and has found the clay pits well adapted to experimental work along that line. He maintains his wonderful physique by his ardent pursual of the national pastime in which he is majoring.
Mearle G. Heitzman
B Θ II, Θ T
"HEITZ"

Metallurgy

Football (2, 3).
Baseball (1, 2, 3), Captain (3).
"Prospector" Board.
Freshman Ball Committee.
Freshman Football.

Heitzman—a big, long, German name; signifies "Heitz," a big "Dutch Tub." He is big in mind, big in frame, and big-hearted enough to be the friend of everyone. He has won for himself laurels in athletics to be envied by many. In football his cool head has come into play more than once; in baseball he has filled a vacancy by fitting snugly into the pitcher's box since his Freshman year.

We might mistake "Heitz" for a Hindu, having been caught in the garb of that people on a certain occasion in a muddy little creek.

Robert Higgins
Λ N, Θ T
"HIG," "BOB"

Metallurgy

Vice-President Class (2).
Junior Prom. Committee.
Assistant Business Manager "Prospector."

"Hig" comes from Pueblo, the town of smoke and "nuts." This might account for some of his peculiarities. "Hig" has a fondness for drawing, especially at 1:30 p.m. He is quite soft-hearted, so he makes a specialty of hunting for the softest of pillows and cushions when he would a-visiting go. He never misses a "Cave Dweller's" reunion when the Highbrows gather in Guggenheim Hall. "Hig" has the reputation of consuming more matches than any other three persons in school.
Max T. Hofius
Sigma Epsilon Theta, Theta Pi II
"Hofie"

Metal Mining

Treasurer Sophomore Class 1914-15.
Basketball (2, 3).
Track Squad (1, 2).
Editor "The Prospector."
Y. M. C. A. Cabinet.

Young "Hof-in-war" has come out of the South; from Belize to be exact, but we don't think that will help any. On his way here he stopped for a spell at Shattuck where he learned the manual of arms and a few other things. "Hof" is one of our agitators and likes nothing better than an argument to which he can only see one side. He has been duly appointed to look after the Kaiser's interests here and is surely one of his best and most devoted servants. Can any one explain Hofius' interest in the rise, decline and final extinction of the trilobites.

Kwei Lun Hsueh
Mining

Born in Kiangsu, China. Attended Tsing Wah College in Pekin last. Faithful to duty is a supreme truth with him. A miracle alone would take him from his work at any time.
William Frederick Jones
K Σ
“ROCKY,” “WILLIE”

Metal Mining
Class Basketball.
Junior Prom. Committee.

“Rocky” comes from the wilds of Wyoming and not being “city broke” has to be roped every spring, and “shod.” During his Sophomore year he was an ardent lover, and kept bankruptcy from the doors of the “Gem Theatre.”

“Rocky” wakes from slumbers at midnight and stalks forth in quest of “bull sessions.” Besides being a gay cavalier he is quite a student and intends rooting up unknown coal mines.

Captain Chester M. Knepper
Θ Τ
“CAP”

Metal Mining

The Captain graduated from Annapolis in 1884. From then on until a couple of years ago he has been surveying for the U. S. Government in almost every part of the world. Now Chedsey tries to show him how to set up a transit.

He has been in the ordinance testing department of our government and yet we see him mixing mud pies for Showman. The Captain is a collector, not of the antique but of the present, let us say, automobile coupons. He always makes it a “special occasion” on his birthday.
Norman E. Maxwell
Σ A E
"MAX," "IRE"

Metal Mining

Freshman Ball Committee.
Y. M. C. A. Cabinet.
Freshman Football.
Class Basketball.

They say that "Max" is a raw joker, and the worst of it is that he gets away with it. We suspect that the vigorous discipline of his father may be responsible for that and for other things; chiefly, "Max's" avoidance of the "fair sex" during his first two years of college. This we deplore, and greet his reformation with joy, for as every one knows, "Max" is too good a cook to be wasted.

Sidney A. Mewhirter
"SID," "THE NUCLEUS"

Metal Mining

Freshman Ball Committee.
President Class (2).
Football (3).
Student Council.

An advocate of preparedness; devotes his spare time to the army, bull sessions and love letters. He fought like a demon to win a football sweater which has mysteriously disappeared to realms unknown. He has won the undisputed championship of the "Armory" debaters.
John G. Menke

B Θ II

“HAPPY”

Metal Mining

Class Treasurer (1).
Freshman Football.
“Prospector” Board.
Baseball Manager (3).
Athletic Council (3).

John was born at Neola, a thriving metropolis somewhere in Iowa. Even at tender years John is said to have resigned his reportership on the “Neola Bugle,” acquired the wanderlust and after extensively touring many of the states in a side-door pullman, landed amongst us in the fall of 1913. Shortly after his arrival, John wandered into the house upon the hill, and has since been wondering if two can as one. John has a peculiar tendency of always trying to sell something, but it is always of the right kind. His love for adventure has led him into every phase of college activity.

Harold E. Munn

K Σ, Θ T, T B Π

“DAD”

Metal Mining

President Class (3).
Junior Prom. Committee.

“Dad” came to us from Mexico, although formerly from California. No one, however, would suspect this latter fact from his quiet and efficient ways. “Dad” is one of these quiet fellows who, when they talk, know what they are talking about. He has it on the rest of us in that he has fallen over the cliff and is married. This we excuse after meeting his wife, and can't blame him in the least. In after years when we are all “rustling” we expect to be able to find “Dad” among the real engineers.
William J. Murphy
ΦΚ
"SPUD," "MURPH," "SOOKIE"

*Metal Mining*

Basketball (2, 3).
Captain-elect (3).

Murphy had a foolish notion in his head that Penn State was cut out for him, but saw his mistake and immediately hied himself to our noble town. He is a quiet little fellow with a deep voice and laugh of a fat man. As a member of the "Armory" gang his chief ambition is to lead on to victory, which he does with the girls.

Gustavo A. Nufio

*Metal Mining*

A pilgrim from Central America who has journeyed over land and sea to absorb some of the thrilling lectures on innumerable subjects. Has anyone ever heard him say more than three words at once? Perhaps there is a mysterious reason for this, but as yet we have been unable to unearth it.
Webster F. Putnam
K Σ, Θ T
"CRAW," "PUT," "FLETCH"

Metallurgy

Freshman Football.

“A man among men and a devil among women.”

“Put” hails from Danvers, Massachusetts, a fact we are trying to overlook, for reasons; ask anyone who knows that part of Massachusetts. “Put” finished his student days when he graduated from High School, and since that time his hours of study have been few and far between. He is “the man of the hour,” however, when it comes to “Afternoon Teas” and “Bridge Parties.” Now that Paul’s has closed “Put” spends many a weary evening.

Karl W. Reynolds
B 0 II
“KARL,” “PEWEE,” “PORCIE,” “SQUIRREL JAWS”

Metal Mining

Freshman Football.
Baseball Squad (1, 2).
Junior Prom. Committee.

“Porcie” is the original “boy assayer.” He brags that although they might beat his time they can’t beat the Cole Eights. His chief pastime is reaching for a sack of “bull” and scratching his forehead. He keeps up his reputation as “Squirrel Jaws” by crawling around under the table. He has been loose in the head ever since he turned over in the road. His favorite story is about the match and the old man, when he goes “Pschu,” and the old woman goes “Chu Pschu.” He can always fascinate a woman, simply by blinking. By his associates he is known as “Young Peeewe” pseudomorph after Test, on account of his teaching at C. W. C. on spare evenings. As a side issue he toasts marshmallows.
Harry A. Robinson

K Sigma Theta

"Roby," "H. A."

Metallurgy

Freshman Football Manager.
Freshman Ball Committee.
Baseball (2).
Social Club.
Junior Prom. Committee.

Although of a very "shy" disposition when a "Frosh" "H. A." attended every poultry exhibit held at the Auditorium. He has apparently reformed, and now all that keeps him in Denver is business. Besides these many attributes he is an athlete, both Mexican and otherwise.

George H. Roll

B Phi Pi

"Rusty," "Spike," "Georgie"

Metallurgy

Football (2, 3).
Basketball (1, 3).

"Spike" came from Ellsworth, Minnesota, thereby conferring a great favor upon the natives of that village. He has great social aspirations, and is "lionized" by both foreign and local society. On special occasions he has occupied more space in the "Bugle" than Wilson before a war scare. His favorite indoor sport is daubing up with zinc oxide just before retiring. Doing away with the Franklin, his favorite car is the Buick roadster. My, how the girls do tremble when they see our little "Georgie."

He doesn't care if the state did go dry as he still has his tea.
Albert D. Schoensiegel

"SWING," "SCHOEN," "SWING-SHOVEL"

Metallurgy

The heat of the South courses through "Schoen's" veins. In Kentucky he arduously studied the *Fair Question*. A change of climate became necessary, and consequently we now have "Swing" in Colorado recuperating from *burns* from "Flames" and the hardening of muscles in Bisbee. Many whispered questions are asked of this strange man of the South. Did Pueblo see him in the Kaiser's interests—there was at least an element of Germany with him.

Fred C. Sealey

"FERDIE," "SWEDEN"

Metallurgy

Junior Prom. Committee.
Class Baseball (2).

Due to the theory of electromagnetic attraction Fred left D. U. and darkened our Halls. He immediately became the town "chicken chaser," having an especial desire to outrun a speedy Packard. He always shies at red hats. We wonder what attractions take him on a North tack every evening after dinner. He is an ardent admirer of Milton, his "Comus" being especially appreciated.
Out of Boston, the town of the bean and the cod, comes Stedman with a decided preference for pink teas and the accompanying impedimenta. However, the versatile gentleman is an authority on extra long revolvers and can hold his own in the ring with Colorado's best. Will "Sted" get his million? Money is uncertain, but we feel that it will not be ———-’s fault if "Sted" does not some day adorn the pages of "Who's Who."

"Swag" comes to us from the class of 1916. He was quite a card shark when he first came here, although he didn’t know an Ace from a Club. This career was suddenly closed. He is a "cow-puncher" and lady Indians have quite an attraction for him. Assaying has lots of charms for "Swag" as does the quest of the feathered flock. He is quite successful at the latter, due to long experience.
Charles W. Teets

Σ A E, Θ T

"D. A."

Metallurgy

Freshman Football.
Manager Basketball (3).
Secretary Athletic Board (3).
Business Manager "Prospector."

"D. A."—Hardness 10.
Lustre—Bright when wet.
Color—White.
Streak—None so far found.
S. G.—About 0.85.

Occurs in one specimen, globular in form, circular in cross section. Originally effervescent, now dull. Indistinct crystal characterized by prominent spherulite pseudomorph after the Oriental specie.

Lisle R. Van Burgh

"Van"

Metal Mining

Vice-President Junior Class 1914-15.
Football (3).
Junior Smoker Committee.
Class Basketball and Baseball.

"Van," the "eighteen hour kid," is the original agitator. He is a good hand with the ladies, but takes second place with a D. U. Freshman in the lead. Every big man has enemies and so has "Van" in the person of one, Traver, who will help anyone if "Van" happens to be in the opposition party. As a rock breaker he has no equal.
Ralph M. Weaver, Jr.
B Θ II
"SWEDE," "BLONDE"
Metallurgy

Freshman Football.
Social Club (2, 3).
Integral Club Board.
Secretary Y. M. C. A. (2), President (3).
Assistant Manager Football (3).
"Prospector" Board (3).
Junior Prom. Committee.
Athletic Board.

Born in Pennsylvania, "Blonde" has never had a chance. Commencing life with that handicap he has never had time to overcome it. He is an ardent admirer of the feminine sex. This failing has led him into many strange paths. A Cole Eight does not discourage him, and at present his spirit soars the walls of C. W. C. He is particularly well adapted to his Y. M. C. A. work.

John H. Winchell, Jr.
Σ N
"HEZ"

"Hez," born in Iowa, raised and kept alive in Colorado reminds one of "Johnnie Walker" with his ready wit and ever flowing smile. 'Tis said that the ladies are very attractive to "Hez." However, that may be he envies "Schoen" his natural beauty and Southern accent.

Why did "Hez" muck up at Cripple Creek last summer? Did he use a teaspoon to do the work with?
Lee K. Worth
Σ N
“Fat,” “Buckley”

Metallurgy

Baseball (1, 2).
Football (2, 3).

As a small boy “Fat” enjoyed playing with electricity and hot things, so he came to Mines to specialize in E. P. T. This was a selfish choice on his part, because it deprived many a fair weed of great pleasure.

Being fat and naturally of a tropical disposition he has had recourse to the head to do the work and not to the body. His theatre is at Juarez where he might enter the arena openly.

Pao-Chiang Yuan

Mining

Born in Fukien, China, Yuan comes to us for more knowledge. “Knowledge is power” is his advice. The ant or the bee can’t beat him in performing daily tasks. His chief mistake is that he thought ore was stored in pins (bins).
THE CLASS OF 1918

OFFICERS

Henry T. Schneider
President

Roger White
Vice-President

Earl J. Dickinson
Secretary

Norman R. Copeland
Treasurer

CLASS ROLL

Charles Albi - - - - - - Denver, Colo.
Tom H. Allan - - - - - - Denver, Colo.
Claude E. Amadon - - - - - - Pueblo, Colo.
Luther J. Buck - - - - - - Emporia, Kansas
M. Y. Chang - - - - - - Washington, D. C.
Y. C. Chao - - - - - - Washington, D. C.
William A. Charles - - - - - - Golden, Colo.
L. C. Chiang - - - - - - Washington, D. C.
John C. Clifford - - - - - - Edgewater, Colo.
Norman R. Copeland - - - - - - Denver, Colo.
Wilbur Crispelle - - - - - - Leadville, Colo.
Samuel D. Cunningham - - - - - - Silverton, Colo.
Leo H. Dawson - - - - - - Denver, Colo.
Earl J. Dickinson - - - - - - Denver, Colo.
Granville T. Eyman - - - - - - Telluride, Colo.
Charles W. Fleming - - - - - - Silverton, Colo.
R. W. Gibson - - - - - - Golden, Colo.
John D. Griffin - - - - - - Portchester, N. Y.
K. H. Hunter - - - - - - Auburn, N. Y.
Arthur C. Kinsley - - - - - - Colorado Springs, Colo.
Edward J. Krier - - - - - - Walsenburg, Colo.
David R. Locke - - - - - - San Antonio, Texas
Harold F. Maxson - - - - - - Los Angeles, Calif.
Samuel T. Mayall - - - - - - Golden, Colo.
D. E. Mayhugh - - - - - - Pueblo, Colo.
CLASS ROLL—Continued

Francis F. McCall - - - - - Eaton, Colo.
Harley H. Montague - - - - - Denver, Colo.
John J. O'Malley - - - - - Albany, Mo.
Frank E. O'Neill - - - - - Crozet, Va.
Walter T. O'Reilly - - - - - Denver, Colo.
John Henry Rabb, Jr. - - - - - Los Angeles, Calif.
Donald F. Reed - - - - - Denver, Colo.
Lindley Morton Reith - - - - - Woodland, Calif.
Donald D. Riddle - - - - - Golden, Colo.
Fitch Robertson - - - - - Pueblo, Colo.
Roger M. Shade - - - - - Denver, Colo.
Henry T. Schneider - - - - - Denver, Colo.
C. K. Seng - - - - - Washington, D. C.
Talbot Q. Shewsbury - - - - - Washington, D. C.
Alvah C. Starkey - - - - - San Diego, Calif.
(By special request)
Emory M. Tiffany - - - - - Durango, Colo.
Walter B. Tongue - - - - - Poughkeepsie, N. Y.
Wei Chang Tsen - - - - - Golden, Colo.
Charlie W. White - - - - - Birmingham, Ala.
Roger F. White - - - - - Golden, Colo.
William H. Williams - - - - - Denver, Colo.
Fritz B. Zugelder - - - - - Gunnison, Colo.
THE CLASS OF 1919

OFFICERS

David Lewis Jones  
*President*

C. Albert Townsend  
*Vice-President*

Ronald S. Coulter  
*Secretary*

L. D. Mulford  
*Treasurer*

CLASS ROLL

<table>
<thead>
<tr>
<th>Name</th>
<th>City, State</th>
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</thead>
<tbody>
<tr>
<td>Earl Leo Bilheimer</td>
<td>Bath, Penn.</td>
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<tr>
<td>Lee Wilson Bird</td>
<td>North Platte, Neb.</td>
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<tr>
<td>Frank Arcularius Brown</td>
<td>Colorado Springs, Colo.</td>
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<tr>
<td>Raymond M. Carr</td>
<td>Tulsa, Okla.</td>
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<td>George Casasus</td>
<td>Mexico.</td>
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<tr>
<td>T. Martin Charles</td>
<td>Palisades, Colo.</td>
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<tr>
<td>Ronald S. Coulter</td>
<td>Golden, Colo.</td>
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<tr>
<td>Joseph M. Cunningham</td>
<td>Denver, Colo.</td>
</tr>
<tr>
<td>John C. Dyson</td>
<td>Washington, D. C.</td>
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<tr>
<td>Harold G. Fullenwider</td>
<td>Denver, Colo.</td>
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<tr>
<td>Jesse J. Fushy</td>
<td>Meriden, Conn.</td>
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<tr>
<td>William P. Huleatt</td>
<td>Chicago, Ill.</td>
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<tr>
<td>George T. Johnson</td>
<td>Denver, Colo.</td>
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<tr>
<td>Allan B. Jones</td>
<td>Denver, Colo.</td>
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<tr>
<td>David L. Jones</td>
<td>Denver, Colo.</td>
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<tr>
<td>Albert H. Keisel</td>
<td>Ouray, Colo.</td>
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<tr>
<td>Randolph Krepps</td>
<td>Oklahoma City, Okla.</td>
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<tr>
<td>Roy H. Mackay</td>
<td>Denver, Colo.</td>
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<tr>
<td>John H. Madison</td>
<td>Chicago, Ill.</td>
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<tr>
<td>John J. Mahoney</td>
<td>Denver, Colo.</td>
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<tr>
<td>Merrill H. McCarty</td>
<td>Reliance, Wyoming</td>
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<tr>
<td>Otto H. Metzger</td>
<td>Meeker, Colo.</td>
</tr>
<tr>
<td>Guy E. Miller</td>
<td>Canon City, Colo.</td>
</tr>
<tr>
<td>Loren D. Mulford</td>
<td>Golden, Colo.</td>
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<tr>
<td>Goodman B. Payne</td>
<td>Denver, Colo.</td>
</tr>
<tr>
<td>Clarence E. Peterson</td>
<td>Denver, Colo.</td>
</tr>
</tbody>
</table>
CLASS ROLL—Continued

Lawrence B. Phillips - - - - Golden, Colo.
Chester M. Pittser - - - - Gunnison, Colo.
John A. Poulin - - - - Naturita, Colo.
Carleton Richardson - - - - Norwood, Mass.
Thomas B. Romine - - - - Walla Walla, Wash.
Walton G. Rutledge - - - - McAlester, Okla.
George A. Scheutzow - - - - Oswego, N. Y.
Charles M. Schneider - - - - Colorado Springs, Colo.
Glenara A. Sherwood - - - - Golden, Colo.
Joseph P. Steppler - - - - Highland, Wis.
Theodore L. Sundquist - - - - Alamosa, Colo.
Albert C. Townsend - - - - Golden, Colo.
Y. L. Tseng - - - - Banka, East Indies
George J. Turre - - - - Denver, Colo.
H. G. Witte - - - - Hamburg, Germany
THE PROSPECTOR COURSE

The short course for prospectors was started in 1915 as an experiment. It proved to be a success, for this year many inquiries concerning the course arrived at headquarters, and on January 31st, thirty-five prospectors enrolled. News of the course reached prospectors in distant camps as well as those in Colorado and as a result seven states and Alaska were represented. The chance to obtain the fundamentals for the efficient search of the various minerals was grasped, not only by those actively engaged in the search at present but by men who wished to know more of the processes of nature.

The typical prospector, miner, lawyer, merchant, walked into class, each with his notebook. Underlying principles of chemistry, geology, mineralogy and the best principles of mining and ore reduction were taught.

At the close of the course all felt that the time had been very well spent and were prepared to go out and make their “stake.”
THE GENERAL ASSOCIATION

OFFICERS 1915-1916

George K. Kimball, '02 ........................................ President
Edward J. Dittus, '11 .............................................. Vice-President
A. C. Norton, '07 .................................................... Secretary
William D. Kilbourn, '94 ........................................ Treasurer
Orville Harrington, '93 .......................................... Assistant Secretary and Treasurer
George A. Kennedy, '95  
William B. Milliken, '93  
Russel B. Paul, '02 .............................................. Executive Committee

MONTANA ALUMNI ASSOCIATION

A. S. Richardson .................................................. President
W. C. Douglas ..................................................... Vice-President
Ross R. May ........................................................ Secretary-Treasurer

SALT LAKE CITY ALUMNI ASSOCIATION

James S. Thompson, '99 ........................................ President
Blair L. Sackett, '99 .............................................. Vice-President
A. C. Watts, '02 ..................................................... Secretary-Treasurer

The Salt Lake City Alumni Association was organized on the evening of October 23, 1915, at the Newhouse Hotel. About thirty Mines men attended the banquet in conjunction with the founding.

A constitution similar to that at Butte was adopted.

Regular meetings are held at Salt Lake City.
ATHLETICS

More important to the Miner than anything else is nerve, power and the spirit of never giving up even in the face of defeat. Of what use is theory in a trying instance if it lacks the "backbone" with which to apply it? This "backbone" can be acquired nowhere better than in an athletic contest.

Athletics need, however, one thing more. They need the backing of the student body. If a team sees support on every side it will fear nothing, but will give every ounce of power it owns. Mines athletics began with this backing.

When the school was founded fifteen men were registered on the books—the sum total of the student body. Realizing the importance of athletics these men immediately set to work and before a week had gone by a football team was out for practice. Twelve men reported for work, a thirteenth acted as water boy and the two remaining as rooters. The two rooters made more noise than twelve times two ordinary men and thus laid the cornerstone of Mines Spirit.

Now, although by far the smallest school in the Conference, a foundation was made by our predecessors, an almost invincible student body.

*The SPIRIT of MINES must never die.*
R. S. Hawley
(Athletic Director)

"Prof." Hawley as Athletic Director managed this important branch of school work with precision. He showed a great deal of enthusiasm in Mass Meetings, always being ready to help on school spirit.

Capt. Wm. C. Bryan

"Cap" filled the capacity of the good Samaritan to Mines athletes again this year. During football season he was "Johnny on the spot" with iodine and "bull," the iodine for local application and the latter to be taken internally. The combination proved a "cure all" and as a result our men were in good condition.
“M” MEN

Beall  Mewhirter
Beyrie  Miller
Briber  Peterson
Burns  Roll
Bicknell  Robinson
Coulter  Lavender
Dawson  Schneider
Ferguson  Taylor
Fullaway  Teets
Gauthier  Traver
Heitzman  Van Burgh
Hinman  Williams
Hofius  Worth
McCall  Young
Murphy

HONORARY

W. C. Bryan
E. O. Kistler
THE ATHLETIC BOARD
R. S. Hawley, Athletic Director

TEAM CAPTAINS
Football ................................................. W. H. Williams
Basketball ............................................... J. J. Burns
Baseball .................................................. M. G. Heitzman
Track .................................................... F. E. Briber

MANAGERS
Football .................................................. R. M. Weaver
Basketball ............................................. C. W. Teets
Baseball ................................................ R. S. Stanfield

STUDENT MEMBERS
Senior .................................................... Van Dyne Howbert
Junior .................................................... Harold E. Munn
FOOTBALL
THE FOOTBALL SEASON

Perhaps in the opinion of some, a successful football season is one that terminates in a championship. To us it is one in which a team, after suffering defeat, shows enough fighting spirit to win games in the face of odds.

Last year demonstrated the fact that the pre-season opinions or prophecies of the sporting writers are often wrong, and that a team assigned to the "cellar" might be on a high rung of the ladder at the end of the season.

Of last year's men, Captain Lavender, Heitzman, Roll and Worth appeared at the first blow of the whistle. Briber and Hinman were unable to report for scrimmage until the Wyoming game. Other aspiring candidates brought the squad up to thirty-five men. It was inevitable that the loss of six men by graduation, four of whom were "All-Rocky Mountain" material, would necessitate hard work and training on the part of the candidates and coach.
Wyoming

Mines.................. 19  Wyoming............... 0

Until October 16, the day of our meeting with Wyoming, the squad was hardly in fit condition. Plays were being learned, new men were broken of their bad habits, and this game was merely a trial of strength. The fact that this was the first game was clearly shown on the field. The men did not find out their strength until the last period. Three quick touchdowns brought the score to 19 to 0. Dawson and Williams gained consistently with end runs, but the field was altogether too muddy for spectacular playing.

Wyoming carried to completion several forward passes that netted them good gains. Craig, their full back, was the mainstay of the team and made some good runs.

Utah

Mines.................. 0  Utah.................... 10

Following the Wyoming game there was a marked improvement in the work displayed by the squad, and it was a formidable aggregation that journeyed out to Salt Lake on October 23. The odds were too great for the team, however. The Mormons displayed the same propensity for acquiring points that they have for acquiring wives.

In the first five minutes of play the Mines team placed the ball on the Utah 10-yard line, only to lose it on downs. Thereafter during the first half the game was played almost entirely in Utah's territory. Hinman, Lavender and Roll were forced to retire early in the contest: "Shrimp" Gauthier got a bad twist in the knee, thus crippling the team considerably. On Utah's side, Ward and McIntire showed stellar complexions.
In speaking of the game we will first quote from the Fort Collins "Review":

"All the credit in the world is due the Miners. They put up a hard, clean fight and kept it up during the entire game. They received the worst of the breaks, as witness their fifteen fumbles. The Miners have improved steadily throughout the year and are the superiors of any team the Aggies have met to date. May success be their's throughout the rest of the season and remember that the score wouldn't have been so top heavy had Lavender and Hinman been in shape."

With all due credit to the Aggies, for they had a fast and furious offense, had the team that faced them been the same as that which lined up in a later Conference game the score would never have been 35-0. We do not wish to blame the team for the loss, but rather to praise the improvement noted so soon after. The "Fort Collins Review" says that luck broke against us. Lavender and Hinman were unable to play and Heitzman and Roll were forced to retire from the game before it was well under way. Statistics will show better than words what we did.

First downs—Mines 21, Aggies 16.

Yards gained on straight football—Mines 166, Aggies 71.

Number of punts and distances—Mines, 7 for 218 yards; Aggies 11 for 413.

Number of incompletely passed—Mines 11, Aggies 5.

Number of completed passes and distance gained—Mines 1 for 7 yards, Aggies 11 for 413 yards.

Number of fumbles—Mines 15, Aggies 0.

(Nine of these were recovered by the Aggies.)

A special train carrying about 200 faithful rooters and enthusiastic town people accompanied the team. The spirit they displayed was very noticeable and they took defeat fairly given as should gentlemen.
Denver University

Mines................. 18  D. U................. 0

After suffering defeat such as the Aggies inflicted, the team covered the wound with a cooling salve by running up a pretty score against D. U. The line-up was almost complete, Lavender being the only man out. Hinman, at fullback, played a fine game, gaining 100 yards in 43 trials. Fullaway played with unusual brilliancy, making long runs, and tackling Shotwell from behind when D. U. caught a momentary glimpse of our goal. The rest of the team deserves great credit for the defensive work, especially Williams, Worth and Heitzman. Shotwell for Denver made D. U.’s spirits rise several times by his long runs.

Colorado University

Mines............... 13  C. U............... 6

Boulder would have no easy time encountering the Miners, was the opinion of one of the Denver papers after the D. U. game. Such proved to be the case. The game was an exciting one from the spectators’ standpoint and a cold one from that of the players. Two inches of snow covered the field and throughout the game the mercury hovered around the zero mark. This necessitated the playing of straight football and the absence of forward passing. Lavender was back in his old place, and despite his injuries tore up Boulder’s defense.

Boulder’s touchdown came in the first half after a fumble by the Miners on the ten-yard line. Walter recovered and carried the ball to the Mines’ forty-yard line. A succession of line bucks put the ball over the line. Mines scored in the second and third periods on straight football, Hinman making both touchdowns.
Colorado College

Mines................. 6    C. C.................. 3

After the Boulder game the fans were forced to a realization that Mines was beyond a doubt a factor to be reckoned with in the final adjustment of team standing. The two preceding games had instilled a sufficient amount of confidence into the students and team so that skepticism as to the final result was unheard. Pyke Johnson probably summed up the game best in his headline, “Hanley Squad Defeats College Tigers in Best Played Game of the Season.”

It was a wonderful exhibition of football and gave the Miners undisputed second place in the Conference race. Every tactic advanced by the College was successfully turned to our advantage and their offensive play when strongest was met by a defensive just a little better.

Our touchdown came in the second period as a result of a series of line bucks by Williams, Fullaway and Hinman. The half ended with the ball on our own 5-yard line and there were many audible sighs of relief as the whistle blew for time.

In the third quarter Garside kicked a Princeton from the 20-yard line, making the score 6-3. In the fourth quarter the ball see-sawed back and forth with no score. At one time the C. C. offense became dangerous and Dawson saved the day by intercepting a neat forward pass.

The only thing to mar the game was when Fullaway’s ankle was fractured in the first play of the second half. It was doubly hard to bear in that it represented the last play of “Steve’s” athletic career under Mines' colors and in that it robbed the basketball team of one of its strongest men.

Heitzman performed well in breaking through the opposing line. Lavender played his usual game, but was forced to retire in the second half. Gauthier’s handling of the team was a notable feature.
H. M. Lavender  
(Captain) Right Tackle

“Lav” with his thorough knowledge of the game and natural aggressiveness made an ideal captain. A great deal of credit is due to his leadership in overcoming the effects of a bad start in the Conference race. “Lav” had the misfortune of being injured in the first game and thence being out of the line-up until the game with Boulder. His return was instrumental in winning the rest of the games. His playing will long be remembered by every loyal Miner.

W. H. Williams  
(Captain-elect) Halfback

“Billy,” our next year’s captain, played his usual consistent game. He ran perfect interference and carried the ball himself for many long gains. We look for a very successful season under his leadership and even see a pennant waving.

D. D. Hinman  
Fullback

“Heine” has played on the team for four years, being on the All-Rocky Mountain team during his last two years. He never failed to gain when called upon and his interference was responsible for many of the runs made by his backfield teammates.
F. E. Briber
Right End

"Bribe" is the lightest end in the Conference, but in spite of this guarded our "left wing" in great style. He is never caught napping and always gives all he has. Who can ask more?

C. B. Gauthier
Quarterback

"Shrimp," although small in size, has a store of knowledge of football. In generalship he is unexcelled. He could always be relied upon to down a loose runner and never failed to return a punt a few yards more than was expected of him.

H. G. Heitzman
Left Tackle

"Heitz" is big and fast and uses these essential qualifications to advantage. He is a fighter and has a thorough knowledge of the finer points of the game. The receiving of "honorable mention" on the All-Rocky Mountain eleven speaks for itself.
G. H. Roll
Left End

George is tall, rangy and adept in recovering forward passes. Unfortunately he was hurt in one of the first games of the season and was unable to return to the lineup until the Colorado College game. He will be a valuable man on next year's team.

L. K. Worth
Left Guard

Lee fits into his place at guard as snugly as a cork does in a beer bottle. He bobs up in the thick of the fight and with a grin proceeds to sit on his opponents. Being heavy he was a balancing factor on the team and although not one of the wheels of the scoring mechanism, one of the principal parts of the drag net to prevent scoring on the part of the opponents.

R. M. Fullaway
Right Half

Although this was Steve's first year on the team he was one of the most valuable men. He was the fastest man on the field and twice saved our opponents from scoring by catching them from behind. His end runs and tackle smashes formed a large part of our scoring machine.
S. A. Mewhirter
Right Guard

“Sid” played throughout the year at right guard where he did great work, especially in the D. U. game. He is consistent and can be depended upon to do his share of the gruelling.

L. R. Van Burgh
Fullback

The “Count” played his star game against the Aggies where he always gained when his signal was given. “Bullet” hits the line with more than impetus. His head, like a Krupp projectile, always paves a way for him through the opposing line.

G. K. Young
Tackle

“Pete” is a new man who has made good with a vengeance. He is big and fast, and has all the qualifications of a crack lineman. Pete was a valuable man this year and should be a star next season.
H. G. Schneider  
Left End  
"Snick" is fast, and above all, a fighter. He plays the game every minute of the time as the Freshmen can testify and is exceptionally fast in getting down under punts. Henry was the captain of last year's Freshman team and has lived up to his reputation while on the "Varsity."

F. F. McCall  
Center  
"Mac," being as broad as he is tall, is an ideal center. He was the heaviest man on the team and fitted nicely in Duggleby's old place. During the next two years "Mac" will be heard of more than once.

L. H. Dawson  
Halfback  
Joe was one of the "scrappiest" men on the team. He played a strong defense and was an expert at picking holes when carrying the ball himself. Joe has left school and will not be eligible next year, but we hope to see him in a Mines' uniform the year following.
DR. WM. J. HANLEY, Coach

BICKNELL
Manager

WEAVER
Assistant Manager
Dr. William J. Hanley

The merits of a football coach are reflected by his team.

"Doc" Hanley came back to us this year, and against great odds, developed a team that took second place in the Rocky Mountain Conference.

Hanley first starred in football at Marquette, where he made the All-Western team as tackle. He later assisted Coach Juneau at both Marquette and Wisconsin.

Several men of the 1914 championship team had graduated and "Doc" had to fill the holes left with green men. He first taught college football to last year's Freshmen and later the finer points of the game. As the season advanced the team profited by the coaching and in the end defeated all the teams the Denver papers predicted would beat us.

The Scrubs

To this body of men belongs the credit of making the first team the success it was. This little band reported night after night for practice with no hope of glory for themselves, in order that the school might put out a winning team. The spirit is appreciated by both the team and the student body and the Mines will always have winning teams as long as it continues.
The Season

Due to the able coaching of “Heine” Hinman an exceptionally good Freshman team was developed this year, and the prospects for “Varsity” material from this aggregation seem bright.

The team was unable to get a complete schedule of games, but the results of the two games which they did play are sufficient to show what kind of material they are made of.

The Las Animas team was defeated by a score of 21-0 while the Cheyenne High School suffered little less, for the score was 17-0 in favor of the “Frosh.”

The “Varsity” owes a great deal to the Freshman team for the spirit they showed in coming out for scrimmage every night.

The line-up was as follows:

Ends—
  J. Bynon
  J. J. Fushey
  D. Jones

Guards—
  C. Townsend
  L. Mulford
  Q. M. Charles

Tackles—
  L. Creaghe
  M. H. McCarty
  G. A. Scheutzow
  G. Turre

Fullback—
  J. Mahoney

Right Half—
  C. Pittser

Left Half—
  C. Peterson
  E. Billheimer

Center—
  C. Prior

Quarter—
  J. Poulin
THE BASKETBALL SEASON

The 1916 basketball season was not the best one that Mines has had. The papers concede to us the “cellar championship,” a right which we take, although unwillingly.

Conditions looked favorable at first for a winning team, we even saw visions of a championship. The tarnish of the 1915 season grew more fast, however, and although bright spots showed at times, even these were dulled.

Individual playing was hassled by lack of teamwork and the team seemed unable to play as a unit.

The season opened with a practice game against the Denver Cubs. Being a light team they were soon out of the contest. Fouling was rather frequent, more on our side than on theirs.

In the next practice game the team easily beat East Denver High School, doubling their score. The Mu Theta Sigma team was likewise beaten, Gauthier starring for Mines. The Kappa Sigma team of Denver was next on our list. In the first half they were completely outclassed but “came back” in the second and beat us by a score of 34-30.

The Conference race opened on our own floor, where we met Denver University on January 25, 1916. Team work showed up at times and the result was a “nip and tuck.” Sixteen fouls were called on the Mines and five on D. U.

C. C. was our next contender. The game was played at Colorado Springs where the line-up lacked a right guard, both Peterson and Hofius having been hurt in preceding games. A score of 41-11 was the consequence.

The Aggie game played at Golden was exciting during the first half, the score being 12-12 at the end of the half. Somehow our team failed to play up to the mark during the second half and the final score stood 18-28.

During the next games the same “jinx” was behind the team as before. Time after time we went down to defeat.

Defeat has been felt: may we in the future feel the reaction of victory.
Basketball Scores

January 25—Mines...... 18
January 29—Mines...... 11
February 5—Mines...... 18
February 11—Mines...... 20
February 19—Mines...... 24
February 21—Mines...... 16
February 26—Mines...... 6
February 29—Mines...... 8

Denver University ...... 21
Colorado College ...... 41
Colorado Aggies ...... 28
Colorado University ...... 32
Colorado College ...... 37
Colorado University ...... 37
Colorado Aggies ...... 26
Denver University ...... 62
Burns
(Captain) Left Guard

"Bobby" kept his team working all of the time in spite of the scores. Spirit on a losing team is hard to get, but he had it and for that he deserves more credit than the winner. Notwithstanding the worries of the captaincy he played a hard, fast game throughout the season.

Murphy
(Captain-elect) Right Forward

"Murph" furnished the speed for the team. He played a clean consistent game, the characteristics of which were: team work, hard fighting, and brilliant head work. In appreciation of his ability, the team wisely chose him to Captain next year's team.

Roll
Center

"Spike" gained distinction this year by hard work. He was handicapped with a dislocated shoulder at the beginning of the season. Roll works well with his teammates and may be considered one of the highest jumping centers in the Conference.
Hofius
Right Guard

"Hof," the "Flying Dutchman," was a constant worry to his opponents. He continues to improve, being a great student of the game. He will be with us next season and will no doubt do what is expected of him.

Coulter
Left Forward

Coulter made his debut this year. He is a big fellow and handles himself well on the floor, being gifted with speed and a good eye. Good coaching will make him a factor in the Conference race next year.

Peterson
Guard

After ten minutes of play "Pete" always had his forward trained to stay away from his end of the field. His game was characterized by hard fighting and a determination to win.
Miller
Forward

The squad was strengthened by Miller. He is fast, heady, a sure basket shooter, and a good man to replace a forward.

The Scrubs

Never forget these men. What would a team do without them? Although such men as White, Reed, Pittser, Poulin, Minister, Traver and Crispelle did not play enough to be given sweaters they deserve to be commended more than the regulars, for they gave without hope of return.
REVIEW OF THE BASEBALL SEASON

Work was startd in the gymnasium in early February under the direction of Captain Ferguson and Coach Jones. The battery men gradually rounded into form, and when the snow melted were ready for outdoor work. The squad was made up of thirty-five men including a whole veteran "nine."

After a few preliminary contests with the Denver High Schools, and out of which the team merged victorious, they were ready for their first Conference game.

On April 3, the Colorado Aggies came down from the "country" to play a "double-header" on the Mines field. Both games were won by the brilliant playing of every member of the team.

The next stump in the "path of roses" was a game at Colorado Springs with Colorado College. Before a crowd of 800 people the "Tigers" went down to defeat by a score of 1 to 3. The game was a pitching battle between Heitzman and Davis.

April 14th proved to be an off day for the "Miners." Taking advantage of this fact the "Ministers" won a battle at University Park by a score of 7 to 1.

The last game of the season was also played against Denver University, but on the Golden field. The ninth inning came too soon, and resulted in a win for the "Ministers" by one point.

Games with Colorado University and Colorado College were "called off" on account of weather conditions.

SCHEDULE

April 3—Mines................................................. 9
     C. A. C. at Golden.................................... 3

April 3—Mines................................................. 7
     C. A. C. at Golden.................................... 4

April 10—Mines................................................. 3
     Tigers at Colorado Springs.......................... 1

April 14—Mines................................................. 1
     D. U. at Denver......................................... 7

May 17—Mines................................................. 5
     D. U. at Golden......................................... 6
Bert Jones
Coach

Bert Jones, a veteran of the National League, and of twelve years' experience, was again elected by the athletic board to coach the 1915 team. The wisdom of this choice soon became apparent. The men all rounded into fine shape, and at the end of the season, in spite of obstacles, the team won second place in the Conference.

Ferguson
(Captain) Centerfield

"Hoot," for the third successive time, was found at his old position in centerfield, which he covered with his usual brilliancy. He is an ideal captain as shown by his leadership in winning second place.

Traver
(Manager)

As a manager "Bill" was a wonderful success—no guilty ball ever escaped his clutch. "Bill" was always on deck when wanted, and deserves a great deal of credit for the success of the team.
Heitzman
(Captain-elect)

"Heitz" pitched brilliant ball throughout the season and as a result was the unanimous choice to lead the 1916 team.

Shanley
First Base

"Bud," the hardest hitting man on the "Varsity," played in old-time style. His memorable home-run in the Aggie game with bases full will not soon be forgotten.

Dodge
Third Base

"Dave," for two years a star outfielder on the team, was shifted to third base, where his work would have done credit to a "big leaguer." Dave's antics and general "kidding" will be sadly missed this year.
Walter
Shortstop

"Ott," as a "pinch hitter," was unexcelled. When a hit was needed and Walter was at bat he never failed his teammates. Consistency was his motto during his three years of service.

McGuire
Left Field

"Phil," after two years of absence, returned to school and thoroughly proved that a miner can "come back." "Handsome Phil" played in the left garden throughout the season without an error.

Worth
Catcher

Big, heavy, and a persistent drawback to his opponents, "Pat" was always ready for "Heitz" behind the bat.
Taylor
Right Field

"Carrol" played a star game in right field, and cut off many a run by his accurate throwing. "C. C." also hit consistently and used fine baseball sense.

Robinson
Second Base

"H. A.," playing his first year on the varsity, covered second so well that one of the D. U. players thought it was necessary to use his spikes to get to the base. He played an errorless game.

Stanfield
(Assistant Manager)

"Stan" was a most valuable assistant to Traver in his pursuit of the elusive sphere. He was always busy, with a smile if nothing else, and our only regret on his behalf is that he will not be with us to care for the 1916 team.
Substitutes

Owing to the fact that the 1915 team was composed of veterans it was exceptionally hard for a new man to break into the sacred circle. Nevertheless, the playing of each of these men was exceptional and when the Seniors went on their annual trip these players stepped into their places like old members of the squad.
### Batting Averages

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THE TRACK SEASON

The 1915 Track Season cannot be considered a success insofar as the winning of points is concerned. More interest was displayed at the beginning of the season than for several years past. Some promising athletes reported for practice and did what they could to make a successful season. Unfavorable weather prevented good training for the Indoor Meet, nevertheless we entered about fifteen men. They upheld the usual "Mines' Spirit," giving all that was in them, but it was not enough. Stotz won third place in the 1,000 yards, gaining our only point. Work was started for our outdoor meets, and the team's showing gave hopes that track honors would once again come to Mines.

The team was handicapped by the condition of the track and only by the hard work of Manager Smith and Assistant Manager Salzer was practice made possible. A meet was scheduled with the Aggies but the weather interfered and deprived the team of the blue ribbon it expected.

We feel that the least said about the Intercollegiate Meet the better.

All indications point to a new athletic field, a good track and decent accommodations. With these, a good coach and a little more support from the student body we can win in track as well as in any other branch of athletics.
TENNIS

Since the completion of the three new tennis courts last fall, increased activity and interest has been manifested in this branch of sports. As yet tennis is not under thorough organization, no coach, manager or captain being in charge. This condition will probably be remedied this spring.

Last spring Mines was represented in the intercollegiate tournament in Denver by O'Malley and Rabb, Colorado Aggies and Utah University being represented also. Wells and Scott won the doubles for Colorado University. The singles were not decided.

Early in November a dual meet was scheduled with Colorado University by Professor Hawley. Miller, Whetsel, Whaler and Ferguson represented Mines. The University again won, Miller of Mines and Captain Scott of Boulder doing the best work.

Prospects are very favorable for the entry of a fast team in the Intercollegiate Meet this spring. With the material on hand and the facilities for practicing, the championship held in 1912 and tied for in 1911 should be returned to Golden.
SIGMA NU

GAMMA ETA CHAPTER

Established in 1901

FRATRES IN COLLEGIUM

1916
Harold L. Bicknell
Harrison M. Lavender
Frank A. Smith
William M. Traver, Jr.
Harry R. Wilson

1917
Kenneth S. Ferguson
John H. Winchell, Jr.
Lee K. Worth
Robert Higgins
Albert D. Schoensiegel
William H. Williams

1918
Fitch Robertson
Robert W. Gibson
Samuel T. Mayall
Roger M. Schade
Talbot Q. Shrewsbury
Earl J. Dickinson, Jr.
John D. M. Griffin

1919
Jesse J. Fushey
Thomas B. Romine
Charles M. Schneider
George A. Scheutzow
SIGMA ALPHA EPSILON
COLORADO LAMBDA CHAPTER
Established in 1903

FRATER IN URBE
Frank J. Reinhard

FRATER IN FACULTATE
Louallen F. Miller

FRATRES IN COLLEGIUM
1916
Charles B. Gauthier
Wayne A. Harrod

1917
Norman E. Maxwell
Arthur W. Stedman
George M. Cheney
Charles W. Teets
Max T. Hofius

1918
Guy K. Young
John H. Rabb
Kenneth H. Hunter
Granville T. Eyman
Emory M. Tiffany
S. D. Cunningham

1919
Lee Wilson Bird
Ronald S. Coulter
Chester M. Pittser
Raymond M. Carr
Carleton Richardson
John C. Dyson
John A. Poulin
Frank A. Brown
KAPPA SIGMA
GAMMA GAMMA CHAPTER
Established in 1904

FRATRES IN FACULTATE
William G. Haldane
William R. Chedsey

FRATRES IN COLLEGIUM
1916
Raymond Anderson
Jay J. Burns
Jefferson Keese

1917
Harold E. Munn
H. Buckley
William F. Jones
Webster F. Putnam
Arthur Robinson

1918
Leo Dawson
Norman Copeland
John Bynon
Harold Maxson

1919
Joseph Waller
Samuel Payne
Goodman Payne
John Mahoney
George Turre
Lawrence Brown
Clarence Peterson
BETA THETA PI

BETA PHI CHAPTER
Established in 1908

FRATRES IN URBE
Adolph Coors, Jr. Herman F. Coors
Grover Coors Richard Morill
Edward C. Parfet

FRATER IN FACULTATE
Herman Fleck

FRATRES IN COLLEGIUM
1915
A. B. Beall, Jr.
1916
S. Blaurock
1917
A. L. Miller
J. G. Menke
M. G. Heitzman
Karl W. Reynolds
George H. Roll
Harold E. Boot
R. M. Weaver
1918
Thomas H. Allan
Charles W. Fleming
Walter B. Tongue
F. F. McCall
J. J. O’Malley
Henry G. Schneider
1919
David L. Jones
William P. Huleatt
Randolph Krepps
John H. Madison
George T. Johnson
Theodore H. Grimm
TAU BETA PI

ALPHA OF COLORADO
(Honorary Engineering Fraternity)
Established in 1905

FRATER IN URBE
Carl Arthur Swanson

FRATRES IN FACULTATE
Regis Chauvenet
Herman Fleck
Horace Bushnell Patton
William J. Hazard
William G. Haldane
William R. Chedsey
Harry M. Showman
Frank W. Traphagen
Harry J. Wolf

FRATRES IN COLLEGIUM
1916
Carl A. Blaurock
Frank E. Briber
August H. Chatin
Walter H. Ralph
Frank A. Smith
Van Dyne Howbert
Charles R. Vorck
Raymond V. Whetsel
Harrison M. Lavendei

1917
Max T. Hofius
George M. Cheney
Harold E. Munn
Lincoln Ehnbom

HONORARY MEMBERS
Lucien I. Blake
A. A. Lakes
F. W. Swart
H. C. Parmalee
F. E. Shepard
R. S. Hawley
THETA TAU
GAMMA CHAPTER
(Engineering Fraternity)
Established 1907

FRATER IN FACULTATE
Edward J. Dittus

FRATRES IN COLLEGIUM
1915
A. B. Beall

1916
H. L. Bicknell
J. J. Burns
Wayne A. Harrod
Charles R. Vorck
Charles B. Gauthier
Raymond Whetsel
Van Dyne Howbert
Ray B. Anderson

1917
Harold E. Munn
W. F. Putnam
Charles W. Teets
George M. Cheney
H. A. Robinson
Robert Higgins
Max T. Hofius
M. G. Heitzman
H. E. Boot
Capt. C. M. Knepper

HONORARY MEMBER
Victor Ziegler
SCHOOL

ACTIVITIES
ANNUAL JUNIOR SMOKER

PROGRAM

1. Boxing .............................................. Fushey and Robertson
2. Wrestling ........................................ Bird and Pittser
3. Boxing ........................................... Starkey and Minister
4. Boxing ........................................... Stedman and Fullaway
5. Wrestling ........................................ Hofius and Eyman
6. Boxing ........................................... Butler and Dyson
7. Barrel Boxing .................................... Sealey and Turre
8. Battle Royal ..................................... Denver Negroes
ANNUAL JUNIOR PROMENADE

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FRED SEALEY  H. A. ROBINSON
K. W. REYNOLDS
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T. H. Andrews ................................ 1917
D. B. Locke .................................... 1918
G. J. Turre ..................................... 1919

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INTEGRAL CLUB BOARD

[Photo of four individuals with names: Lliteras, Johnson, Mgr; Fleming, Weaver]
THE OFFICIAL SCHOOL YEAR

May 28—Individual benedictions were called down upon the head of each "prof" considerably worn by constant use. Choice morsels of profanity were safely laid away; for final week repeats itself.

May 31—Sophomores are "regular" surveyors.

June 2—A general run on the hardware store for plumb bobs and short tapes.

June 5—Startling discovery. An enterprising see-veyor locates, by means of his level, loose "chicken" on Lookout. Stanfield and Reynolds leave to reconnoiter. 

Afternoon—Return of reconnoitering party—"Nothing doing."

June 7—Stouder sets a level up over a point without a plumb bob.

June 8—Clifford wonders if reversing the telescope inverts the image.

June 9—Squads leave for level work between Denver and Golden.

June 11—A very hot day. Faculty Row rotten. Pop's tape found not to be juice proof.

June 13—Stanfield robs the cradle.

June 15—"Bromo's" squad breaks a rod so that they can take a day off. "Butch" Meinzer gets a cup of hot coffee in his hip pocket.

June 16—A well built gentleman steps on a stake after asking what would happen if he did. He got away safely.

June 17—Heitzman plays "September Morn" in the creek after a snooze under the Tennyson street bridge. Lots of hard cider for one squad.

June 18—John Beam asks for a ham sandwich in a Jewish restaurant. Prof. waits on a curb for his squad to wipe off the suds and come out.

June 20—Stan rocks the cradle. Stedman battles a six-inch rattler and carries home a live adder for a pet.

June 21—100 degrees in the shade.

June 23—Tseo shows how to make three tapes out of one.
June 25—Hofius falls in the creek with a chain, stakes, hatchet, range pole, pins and the squad book and swims across without losing anything.

June 26—Jones carries the transit in the morning, but his squad catches him at night.

June 27—for the luva Mike, cut it out Stan.

June 29—A great night, Andy tries to sling hash the next morning.

June 30—Scotty has a headache.

July 1—Dust settled and another station established by squad 3.

July 2—Celebrations commence. Andy locates two chickens.

July 4—We believe Stan is a wet nurse.

July 7—Clifford tries to play checkers on a stadia rod.

July 9 and 10—Surveying final.

July 11—Prof. Hawley finds out in how many different ways one part of the country can be marked.

July 13—Menke mixes mortar at $2.25 per.

July 16—Car hurdles into ditch and overturns. Reynolds seriously injured. Must have been a loose nut.

July 17—Durkee in great distress over Reynolds.

July 18—Committee answers Durkee as follows: "He broke his leg and we had to shoot him."

July 19—Menke brings in oatmeal in a coffee cup. Too much on your mind, John.

Beginning of Summer School.

July 20—"Butch" tries his hand at "hashing," but finds himself short after a few days.

July 25—Calc., calc., calc.

July 26—Teets gets his first ten.

July 28—Swigart hears from the wiff.

July 30—Blonde Sherwood decides to sluff. He still makes a success of it.

August 1—Business gets tiresome. The town band tries to serenade once too often. Profs. insist upon at least an hour's work.
August 4—"Ma's" pigs start chasing the chickens and the old Jersey cow has to interfere in order to prevent the annihilation of his pets. Good work Bossy. Allow something to exist for "Ma's" mental occupation.

August 10—San Francisco papers eulogize upon the coming of a shining light from Colorado.

August 15—An epidemic of stiff necks among the summer students. Golden physicians unable to handle the many cases. Town council urged to provide more comfortable curbings.

August 15—Tramway dance.
August 23—We still have calc.
August 30—"Re-exes" start.

September 6—Frosh get on to a new wrinkle.
September 7—Frosh get a free show.
September 8—Frosh paint the "Shaft House" and we get relieved of our money.
September 9—Frosh are pulled through the creek.
September 10—Barbecue and annual tieing up of the Frosh.
September 13—Chedsey gives us the gentle art of "panning." "Dad" tries to tell Capt. Knepper something about gunpowder.
September 26—Freshman footballers appear.
October 5—Ziegler's "hikers" hold their first regular meeting on Wildcat Point.
October 12—Chedsey—"No less than one man can handle a horse scraper."
October 13—"Happy" gets a hair cut. "Bill's" harem attended football practice and even distracted the coach.
October 23—Utah 10, Mines 0, in favor of the referee.
October 25—A nucleus is found. It is the greatest member of the stellar system in captivity. George Cheney throws a pin away to find its mate.
October 25—Hofius says Trilobites were very abundant in the Lower Formations. "Pop" thought of something to write for the Magazine and has been writing it ever since.
October 28—Everything was bet on the Aggie game.
October 30—We went down to Aggieville and came back without the score.
November 1—Nufio—"The sea advances one way and the shore the other."
November 4—Hawley—"What day of the month is this afternoon?"
November 5—Johnson—"I am going to give you a rounder of a quiz."
November 6—D. U. 0, Mines 18.
November 10—Chedsey—"The climbing spurs will not stick in the iron rails."
November 15—Cheney adopted by six weeks' old calf. Even calves like to suck thumbs.
November 20—Ben declared on water to allow time for drying out.
November 26—Various irrigating enterprises undertaken.
November 27—Heitzman and Menke decide that there is no use as the stuff is made faster than they can get rid of it.
November 28—Home coming day. Those who broke training drift back.
December 2—Maxwell slips the geology department copious bull on Golden geological features.
December 5—Starkey makes a date for the "Frosh" Ball.
December 10—Freshman Ball. All the social lions appear.
December 11—Laboratory work constantly interrupted by "fires."
December 17—Minnequa Plant visited by Juniors. We will not tell what happened afterwards.
December 18—Junior Trip finished. Vacation started.
December 27—Four days left and two million quarts to be disposed of.
December 29—Supply of quarts running low.
December 30—"Consolation" Dance.
December 31—Much joy abounds. Colorado was, but is slowly ebbing away.
January 1—Back to earth and water for evermore.
January 17—Final week.
January 25—Goats picked from the Junior Class to do Annual work.
January 29—Mines Basketballers shoot two baskets.
January 30—"Andy" explains that Johnson knows a great deal about Junior M. E. but keeps the fact well to himself.
January 31—"Trap" after lecturing for one and one-half hours and dismissing the class opens his book and wonders if all were there. Prospector Course opens and she explains why she takes the course. "I take the Prospectors' course to be a help to him in after life and to be able to appreciate his work."

February 2—Bicknell asserts that a trip to Denver doesn't cost much now-a-days. $1.65 will take you to a couple of picture shows and a chop suey dinner.

February 4—Trap—"Just one point more before we go on."
Prospector is very disconcerted on the car. She has something about c.c. She is quite convinced that C. stands for carbon, but the presence of the second C. mystifies her.

February 7—"Happy" shows us how to solve triangles.

February 8—"Deke" Minister thinks he is a cross between Annette Kellerman and "Billy" Sunday.

February 9—"Trap" feels cold about the head, having donated the barber 35 cents. "Pop" issues his Macedonian cry of "Butte or bust."

February 10—George Cheney goes to class with gala colors which are promptly removed.

February 11—Chedsey gives us the etiquette of Durham and talks about his little "Gurley."

February 12—Some one roped Buck into a game of checkers. When Buck lost the game he angrily asked Dave how much he owed him for playing.

February 16—Briber and Howbert leave on their vacation.

February 18—C. W. C. Glee Club entertained at Guggenheim Hall.

February 19—McCall has panoramic picture of himself taken.

February 21—Doc. Roberts does his semester's work.

February 22—Why does George Cheney go out every night with a sack of oats?

February 23—Chedsey—"I have checked over this problem in the Metal Miner's Pocket Book and find no mistake in it so it is presumably all right."


March 8—Murphy shaves.

March 10—Junior Smoker.
SPECIAL DATES
The Junior-Senior Football Game

November 20, 1916, was the scene of one of the bloodiest football games ever witnessed on the Mines field.

Both teams had practiced diligently for two days, with frequent visits to the training quarters, better known as “Paul’s.”

After a short signal practice the game was called. Three or four pipes and as many “humps” appeared in the line-up, and after the owners of these had been severely reprimanded the same were collected and taken from the scene of battle.

The Seniors won the “toss-up” and the East goal. The Juniors kicked into a strong wind. The ball see-sawed back and forth with no score in the first quarter. In the second quarter the wind was with the Juniors and they decided to make the best of it. Using straight football with good line hitting on the part of the “death defying” Hofius, assisted by O’Neill and Weaver, the ball was carried to the Seniors’ 2-yard line for first down. A touchdown was then registered by Cheney, the heady quarter. Here a serious question arose. The wind that had so helped in the making of the first score had torn down the goal posts. Hence how could it be determined whether or not a goal was kicked? It was finally decided to rely on the referee. Despite the argument the ball went far to the left of the goal leaving the score 6-0 in the Juniors’ favor.

In the third quarter the score remained unchanged. In the fourth, however, the Seniors were up to do or die. They chose the former and to that end each one took a “bracer.” Immediate response was the result. “Deke” Minister found himself the recipient of a lucky pass and shot over the line for the Seniors’ count. The Seniors failed at goal. Thus the game ended with a 6-6 score.
THE JUNIOR TEAM

THE SENIOR TEAM
THE JUNIOR-SENIOR LINE-UP

<table>
<thead>
<tr>
<th>JUNIORS</th>
<th>SENIORS</th>
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<tbody>
<tr>
<td>Hofius</td>
<td>Fullback</td>
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<tr>
<td>O’Neill</td>
<td>Right Half</td>
</tr>
<tr>
<td>Weaver</td>
<td>Left Half</td>
</tr>
<tr>
<td>Teets, Murphy</td>
<td>Ends</td>
</tr>
<tr>
<td>Robinson, Ferguson</td>
<td>Ends</td>
</tr>
<tr>
<td>Stanfield, Stedman</td>
<td>Tackle</td>
</tr>
<tr>
<td>Maxwell</td>
<td>Tackle</td>
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<tr>
<td>Ehnbom, Higgins</td>
<td>Guard</td>
</tr>
<tr>
<td>Jones</td>
<td>Guard</td>
</tr>
<tr>
<td>Higgins, Andrews</td>
<td>Center</td>
</tr>
</tbody>
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Howbert
Schoensiegel
Vorck
Wilson
Smith, Keese
Lliteras
Berthier
Harrod
Whetsel

Those who fell in the battle, which ended in a 6-6 score, were Van Dyne Howbert of the Seniors and Arthur W. Stedman of the Juniors. May these brave warriors live long in the memory of their fellows.
The Junior Smoker—March 10, 1916

This year’s Smoker was voted one of the best in the history of the school. The committee deserves due praise for its success.

“Smokes” were passed out to the large crowd gathered for the fun, the ring was cleared and the stunts began.

The first thing on the program was a fistic encounter between Robertson, representing the Sophomores, and Fushey of the Freshmen. They put up a very clever act which was declared a “draw.” Bird and Pittser next changed the subject with a wrestling bout, Bird representing the Sophs and Pittser the Fresh. Neither of the two got more than one fall. Butler and Dyson put on one of the best bouts of the evening in the boxing line. “Long Tom” Starkey and “Runt” Minister played “Mutt” and “Jeff” for three rounds. “Deke” was too short for Starkey and Starkey was too long for “Deke” so that they had a hard time connecting with each other. “Deke” knocked Starkey down twice, but this was due mainly to the latter’s top-heaviness. One of the main points brought out was that a seven-footer can be made to go between two ropes not more than two feet apart.

Stedman and Fullaway occupied the heavyweight scene but their accomplishments in the boxing art exceed words.

Hofius and Eyman met on the mat to settle an old feud. Luck was with “Hof” for one fall and then he had to retire on account of a bad knee.

Turre and Sealey, being rather tender in the lower parts, decided to protect themselves with barrels. After rolling on each other for some time they decided that it would be better practice to do without the barrels and so mixed it in the open.

The S. A. E.’s furnished music.
MINERS ATTACK CAMPUS OF FOE

BY PEKE JOHNSON.

The Football Player Who Found Himself

This is the story of a football player who found himself and of how in so doing, he gained much satisfaction in certain football camps and correspondingly joy in another one. The center of an athletic and a certain man, as the clean cut like of his physique suggested, he has yet enough weight to make his comrades, an attack to be dreaded and not for speed he justifies himself as highly in football, just as many a well-built man in track. He looks like a football player, he trains faithfully, he has all of the athletic make-up which a football coach would set upon with an admiring appreciation. Yet he lacked something when he first set foot upon a problem, when he had to practice, for he was anything but a star mark with a terrific speed that made him appear almost invincible. He could tackle and block and he had all of the instinctive looking upon the field. Whenever the ball was handed around there was no indication of the change and ready. Two and three men were waiting for him when he came from the line and the onlookers were willing he beat any break. But the transformation was complete. His gains were sure. There was no stopping at the line. Two sometimes three men were necessary to bring him down. He had made, apparently for all time, the backbreaking which most marked his play in other contests. To a work he had found himself as surely as the ship slipping into the heart.

First Cause.

How we go back to the early days of his career in the game, to relate a story that never appeared in the newspapers and which will serve perhaps as a new to his peculiar acceptance of that kick in the face. He was a scrub and just getting into the game. He had all of the confidence of the young player and he was an enthusiast with it. Then, as in this last season, for long and range, mix, and then, too, he was kicked in the face. He came out with all of the teeth broken or lost and some broken.

This, as we have said, caused great concern to the school and the athlete, nonetheless, as perhaps may be imagined, great concern and yet not to be felt. He was not in the midst of the action and the player was put down. He had been waiting for the next time, so had no particular attention had been paid to him, a matter came and a backfield man, he planned to make a big play. The play was kicked away when, in fact, with that judgment (the most grateful that can be) (a football player) gained upon his career, it seemed that he was destined to score and he was upon the football field, uncovered by players and with others, one of these things that pass the football screen, quickly and swiftly and of not only as data for the more prominent characters.

When the Change Came.

Then, in the dark, there was a sudden change, in a certain game the team was being led badly and oddly excited. He had been half a minute out in the game and no particular attention had been paid to him, a matter came and a backfield man, he planned to make a big play. The play was kicked away when, in fact, with that judgment (the most grateful that can be) (a football player) gained upon his career, it seemed that he was destined to score and he was upon the football field, uncovered by players and with others, one of these things that pass the football screen, quickly and swiftly and of not only as data for the more prominent characters.

The Football Player

Of course, an incident of this kind is not calculated to inspire any favorable opinion of the game of an athlete. It may amount to a dull, indeed, a thankless, a quick change of passion, then apps. or it may appear and deprive him of the kick may be. But it is not as clear that the man submitted to a sign. He is the man with a possible salvation. It is not that he is a submariner and feeling a possible salvation within himself a new power that carries him beyond the physical gain of the moment. Yet, if we are to believe witness to the incident, the world of the athlete himself and finally trends which followed, it was in the particular way that this particular athlete found himself.

The After-Effects

From that moment until the close of the game he showed, a complete transformation. The first man was suddenly it was all of the sudden in this man who attempted to stop him when next he carried the ball and who found himself carried away with the play by a human steam engine that failed to stop in his name but went given signal. Later others learned about it last day, and on the following morning his name appeared in the uttermost of the name with a new interest attached to it. He had been one of the best ground gainer of the eleven. He still play in the game is not continuous.
WARNING

ALL YE PUNY FROSH

LISTEN!

WHEREAS, IT HAS COME TO THE NOTICE OF SOPH, THE SOVEREIGN LORD OF THE FROSH, THAT THE BARBARIAN HORDES OF THE UNCIVILIZED COUNTRIES SURROUNDING OUR BEAUTIFUL CITY AND PRINCIPALITY THREATEN TO SWEEP DOWN INTO OUR PEACEFUL HILLS, AND UNDERMINE OUR PRINCIPAL INDUSTRY WITH THEIR PRIMEVAL IGNORANCE;

BE IT KNOWN THAT SOPH, LORD OF THE FROSH, AND ONE OF THE SIGNATORIES OF THE TRIPLE ENTENTE NOW RULING THIS LAND OF LIBERTY AND LEARNING, DECLARES THAT:

GOLDEN IS IN A STATE OF WAR, AND CALLS UPON ALL MEMBERS OF THE TRIPLE ENTENTE TO BE READY TO DEFEND OUR PEACE AND PROSPERITY TO THE FULL EXTENT OF OUR TIME-HONORED TRADITIONS;

RESIDENCE BY ANY PERSON NOT A MEMBER OF THE TRIPLE ENTENTE WITHIN OUR MIDST SHALL CONFER NO SOCIAL, CIVIL OR OTHER RIGHTS, EXCEPT UPON AND WHILE WITHIN THE LIMITS OF THE NEUTRAL TERRITORY HEREINAFTER DESCRIBED;

ALL BUILDINGS, EXCEPT THE SHAFT HOUSE, OF THE GREAT INSTITUTION OF LEARNING NOW FLOURISHING UNDER OUR PROTECTION, WHEN ACTUALLY POLICED BY PROF, THE GREAT, SHALL BE NEUTRAL TERRITORY, TO AND FROM WHICH THE FROSH SHALL HAVE THE RIGHT TO COME AND GO WHEN HUMBLY ATTIRE AND CARRYING NO CONTRABAND OF WAR;

THE FOLLOWING ARTICLES ARE CONTRABAND, AND THEIR POSSESSION BY THE FROSH A BELLIGERENT ACT: LOUD (INCLUDING WHITE) SOCKS; TIES OR OTHER APPAREL OF ANY COLOR OR FASHION DISTASTEFUL TO SOPH; STARCHED COLLARS; UNCUT HirsUTE EXCEPT UPON THE SKULL (EXCLUDING THE FACE, WHICH SHALL ALWAYS BE CLEANLY SHAVED); TOBACCO OR ANY IMPLEMENT OF USE THEREFOR; AND MALTOUS, VINOUS AND ALCOHOLIC DRINK WITHIN OR WITHOUT THE CARCASS OF THE FROSH;

CONGREGATIONS OR ASSEMBLIES OF THE FROSH, EXCEPT WHEN CALLED BY PROF, SHALL CONSTITUTE UNFRIENDLY ACTS, AND SHALL DISPERSE WHEN SOPH COMMANDS. ALL FROSH SHALL ALSO SLINK FROM SIDE-WALKS OR OTHER PATHS WHEN ANY MEMBER OF THE TRIPLE ENTENTE APPEAR THEREON. SHALL WEAR THE CAP WHICH SOPH PRESCRIBES, AND SHALL SALUTE BOTH MAN AND BEAST WITHIN OUR DOMAIN. NO FROSH SHALL APPROACH THE SHAFT HOUSE UNDER ANY PRETENSE OR AUTHORITY.

THE FROSH SHALL NOT RESIST IN ANY WAY OUR ACTS AND COMMANDS, EXCEPT TO OBEY THE GREAT LORD SOPH WHEN HE SHALL DESCEND TO PULL THE FROSH ACROSS THE SAVE IN A TUG OF WAR UPON THE WEDNESDAY AFTERNOON OF SEPTEMBER THE NINTH, UPON THE EVENING OF WHICH GREAT DAY FOR ENTERTAINMENT OF THE BARBECUE, THE FROSH SHALL BE TAMELY TIED, BOTH HAND AND FOOT, IN TOKEN OF THEIR SUBMISSION TO OUR SOVEREIGN WILL;

IN FURTHER TOKEN OF THEIR SUBMISSION TO OUR AUTHORITY, THE FROSH SHALL PAINT OUR GREAT LETTER "M" UPON THE GOLDEN HILLS SATURDAY, SEPTEMBER 19TH NEXT.

ALL VIOLATIONS OF THESE PRINCIPLES SHALL BE VISITED WITH SUCH PUNISHMENT AS SOPH SHALL PRESCRIBE
THE WIT OF SOME

Dad Munn—"I'd hate to get tight some night and walk in the power plant and see all the motors dressed in these kimonos and chimies."

Ralph Knowles—"They are not kimonos, they are motor coats."

Teets spelled fusing f-u-s-s-i-n-g—in a E. P. T. report. "Happy" returned the report saying: "Fussing not applicable to fuses."

Higgins (speaking of girl riding bicycle)—"You ought to have seen that girl's leg."

Worth—"You should say limb, not leg."

Higgins—"Did you see it?"

Worth—"No."

Higgins—"Well, I'm telling you what I saw."

Prospectress (coming from mining class)—"I can load and I can shoot and I can do everything but drill."

Prospector—"Ha, ha, I can do the whole durn business."

A Junior's report containing C's and D's was returned from his father with the following addition. "Don't see many A's, you must be in the Ass class."

Before—"Butte or Bust."

After—"Busted at Butte."
A HANDBOOK OF FACULTY

Designed for use in the field or the classroom

A Composite of the Investigations and Conclusions of the Juniors of THE COLORADO SCHOOL OF MINES

FIRST EDITION
Copyright, 1916,

By

The Class of 1917, C. S. M.
1. Phillips, B.S.

(Prexy)

Lustre—Bright.

Color—Gray.

Cleavage—Cubic.

Easily fusible and gives off dense clouds of abnoxious gas.

Occurs in isolated crystal in Guggenheim Hall.

Compare with Baron Munchausen.

Associated with radium baths.

2. Haldane

(King Bill)

Hardness—9.

Lustre—Adamantine.

Color—Brown to pink.

Streak—White.

Cleavage—Prismatic.


B. B.—Easily fusible giving off sarcastic remarks.

Associated with iron, lead and zinc.

Occurrence—Never around Assay Lab.

Recognized by blow pipe test.
3. Patton

(Bunse)

 Lustre—Metallic.
 Color—Dark to dull.
 Cleavage—None.
 B. B.—Exfoliates when moistened with alcohol.

 Occurs in large individual crystals, often fossiliferous.
 Is the source of sleep for Juniors. Important in Geology, being a constituent of many rocks.

4. Chauvenet

 Hardness—Just right.
 Lustre—Silky.
 Color—Silver white.
 Streak—White.
 Sp. G.—Impurities may lower it by .0000001%.
 B. B.—Fuses to a bright golden button, insoluble in any scandal.

 Occurs in nuggets and knowledge-worn pebbles.
 Is in great demand for all purposes.
 This material is highly valued. Chiefly seen amusing students with bum jokes in lecture rooms.
5. Hazard

(Happy)

Hardness—Medium.
Lustre—Sub Metallic.
Color—Colorless to white tints.
Streak—White.
Cleavage—Perfect.
B. B.—Infusible.

Occurs in distinct crystal terminated by large plume-like forms. These cocks combs are distinctive.
Also found in hair or cob web-like forms.
May be electrified by heating.
In general demand for electrical purposes. Never occurs with meat.
The appearance below the cleavage face is unsymmetrical.
One of the magnetic substances. Valuable.

5a. Knowles, BS:

(Ralph)

Hardness—8.
Lustre—Vitreous.
Color—Gray, black, green. (In general described by dirty.)
Cleavage—Perfectly disgusting. (Usually very tough.)
Sp. G.—Heavy.

Emanates disagreeable brown liquid when chewing. On heating explodes giving off expressive language.
Occurs in disseminated scales associated with electricity.
Sometimes gives off a musty or clayey odor.
A pest on the market.
6. **C. D. Test**
(Pewee, Tiny)
Hard to get along with.

**Lustre**—Waxy.

**Color**—Pasty white to yellowish.

**Cleavage**—None.

**Taste**—We never tried it.

**Sp. G.**—12.6.

**B. B.**—Decrepitates violently on being asked a question. Turns red at times but regains original color when cool.

Occurs in the Chem. Lab. frequently showing cavernous faces.
Is usually associated with “Doc” and “Dad.”

Used in enormous quantities in the manufacture of fertilizers.
The hardness and change of color is distinctive.

---

7. **Burger**
(Ma)

**Hardness**—10.

**Lustre**—Very weak.

**Color**—White, yellow, yellowish brown, or light tints of blue, green or pink.

**Cleavage**—No cleavage. Conchoidal fracture. Brittle.

Thin plates are flexible but not elastic.

**Sp. G.**—Indeterminable.

**B. B.**—Easily fusible. When struck with a hammer emits sparks and the odor of arsenic.

An impure, soft, dull, hydrated variety occurring as a glistening efflorescence on certain soils. Is finely granular like the yoke of a hard boiled egg. Used as an unimportant source of mathematics and as a substitute for No. 12.
8. Fleck, B.S.

(Doc)

Lustre—Vitreous.
Color—Light brown.
Streak—Red.
Cleavage—Fair pinacoidal.

B. B.—In lectures always springs the same jokes.
Is isomorphic with Phillips. Pseudomorphic in degree after Haldane.
Valuable for its use in chemical compounds.

9. Traphagen

(Trap)

Hardness—Soft.
Lustre—Very silky.
Color—Indistinguishable on account of the overgrowth.
Streak—White.
Cleavage—Fair.

B. B.—Fuses easily, leaving a magnetic residue.

Occurs in radiating structures and in hair-like forms, either delicate radiating groups, or complexly interwoven. Twine with a cigar-like effect. Often found in cotton-like, fibrous, divergent groups or tufts or as interlaced fibres. Weathering washes the amygdules out of this labyrinthal form.

Used as a furnace lining.
10. Bailar

(Dad)

Hardness—1.

 Lustre—Greasy.

 Color—Pistachio green to greenish brown.

 Streak—Gray or grayish green.

 Brittle uneven fracture. Opaque.


B. B.—Easily fusible. Decrepitates rapidly. Effervesces vigorously in any condition of \( \text{H}_2\text{SO}_4 \).

Occurs sitting in acid under a step-ladder showing a peculiar schiller or glistening lustre. Does not seem to be a homogeneous substance but appears to be made up of several unidentified minerals. Sometimes occurs in small particles. Used in the manufacture of fine paving material and gun powder.

The appearance is so distinctive as to make confusion with other minerals improbable.

II. Miller

Hardness—10.

 Lustre—Dull.

 Color—Canary yellow.

 Conchoidal fracture.

B. B.—Fuses in a match flame.

Occurs in structureless masses which look like, and possess all the properties of Bees-wax except its stickiness. Fond of stale jokes which sometimes seep out on the surface forming stagnant pools.

Has a lathe-shaped form which fits well into a snug black coat.

Has all the \textit{physical} properties of all other substances.

The appearance is characteristic.

Not valuable.
12. Sherwood

(Blonde)

**Hardness**—10.

**Lustre**—Adamantine.

**Color**—White.

**Streak**—None.

**Cleavage**—Perfect octahedral. Brittle.

Transparent to opaque.

**Sp. G.**—5.8.

**B. B.**—Unaltered.

Occurs fine granular to compact massive. Usually associated with other valuable minerals but often found with a gangue sluffing off loose rocks.

A very valuable mineral since it is the chief source of all known mathematics.

13. Hawley

**Hardness**—Uncertain.

**Lustre**—Waxy to resinous. Rarely dull.

**Color**—Usually white, though sometimes brown.

**Streak**—White.

**Cleavage**—Perfect prismatic.

Opaque.

**Sp. G.**—1-1.5.

**B. B.**—Infusible but turns gray.

Occurs in very long and slender crystals. Very compact and disseminated through the gangue. Rarely pseudomorphic.

A very rare specimen because of its general uses. Is valuable as the only source of mechanical engineering and sometimes as a source of mathematics.
14. Showman

**Hardness**—9.

**Lustre**—Varnish like.

**Color**—White.

**Streak**—Same as color.

**B. B.**—Only mechanical reactions.

Usually occurs in prominent places. Is very flexible in actions and opinions. Associated with a large number of formulae, the composition of which are indeterminate. In afternoons it may be found with mud pies, or in the vicinity of cement, briquettes, etc.

Is very unimportant except in the case of some Senior who got hung up in Mechanics.

Valueless.

15. Titsworth

**Hardness**—Not yet determined.

**Lustre**—Metallic.

**Color**—Dark brown and red.

**B. B.**—Infusible.

Occurs in large individual crystals. Important to Seniors for practical purposes.

Rare.
16. **Dittus**  
   (Dit)  
   Lustre—Vitreous.  
   Color—Dark brown to black.  
   Cleavage—None.  
   Sp. G.—2.00.  
   Associated with iron and steel. An important constituent in metallurgical processes. Only mineral capable of interesting everybody.

17. **Wolf**  
   (Harry)  
   Hardness—Sufficient.  
   Lustre—Metallic.  
   Color—Dark.  
   Streak—Green.  
   Hair parting due to worry over students' flunking.  
   B. B.—Occasionally effervesces with a funny (?) joke.  
   Important in mining.  
   Found almost exclusively at Idaho Springs.
18. Chedsey

(Bill, Brother Bill, ?™"")

Hardness—Soft.
Lustre—Greasy.
Color—Slimy.
Streak—Lemon.
Cleavage—Poor.
Not translucent.

B. B.—Will burn readily with a disagreeable “oily” odor. Leaves a skeleton.

Occurs in very long and slender, distinctly terminated forms, exhibiting a curved structure. May also occur in spear-head twins. It has a grating appearance when in crystal form.

Can be sawed into slabs and used to line furnaces, or carved into trinkets. Also employed to adulterate paint.

Pseudomorph after every other known substance. Seldom occurs pure enough to be valuable.

19. Johnson

Hardness—0-1.
Lustre—Vitreous.
Color—Yellow, brown, black, red, green, white.
Streak—Greenish black.
Cleavage—None. Uneven fracture.

B. B.—Boils with spurting.

Rarely triboluminescent.

Occurs usually as a crust looking like wax, sometimes in compact clay-like or loose mealy masses; also pseudomorphic after a machine design prof.

Of little or no value, but is frequently associated with rare minerals, an association which is beneficial.
20. Ziegler

Hardness—5-6.
Lustre—Pearly.
Streak—Far from yellow.
Cleavage—Good.
Transparent.
B. B.—Unaffected.

This is one that is wholly magnetic. Occurs in nuggets in and around the geology lab.
Associated with Patton and Muilenberg.
The change of color when "fussed" is distinctive.
A rare but important substance.

21. Muilenberg

Hardness—3-4.
Lustre—Adamantine to dull.
Color—White to colorless.
Streak—Like color.

Very sextile and cuts like wax. Flexible but not elastic.
Often smooth or greasy to the touch.

B. B.—Becomes magnetic.

Occurs sometimes as a dull lustred earthy mass. Sometimes deliquescent in the bath tub.
22. **Lucht**

**Hardness**—Soft.

**Lustre**—Adamantine.

**Color**—Blue.

**Streak**—Colorless.

B. B.—Violent reaction when “fussed.” Usually occurs in the Drawing lab. A very *simple* formation.

The common development of an intelligent look makes it a hard compound to determine. This is characteristic.

Crystals are very long and slender.

May be used as an ornament, substitute for soap, fertilizer, or numerous other things.

Very unimportant.

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23. **Roberts**

*(Safety First)*

**Hardness**—3.

**Lustre**—Dull.

**Color**—Brilliant.

**Streak**—White.

**Cleavage**—Seldom recognizable.

**Sp. G.**—1.435.

B. B.—Is easily absorbed in any topic, especially coal mines and Honor Systems.

Occurs almost anywhere. The form usually present is an angular dome, very much flattened. By suppression it often appears what it isn’t. It is very scaly. It may be better examined by cracking it on an anvil and examining the fragments with a hand lense.

Very unimportant.
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