Meeting of June 10, 1913.

The regular quarterly meeting of the Board of Trustees of the University of Illinois was held in the Trustees' Room, in the Natural History Building, University Campus, Urbana, on Tuesday, June 10, 1913, beginning at 10 A.M.

When the board convened the following members were present: Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson.

MINUTES APPROVED.

The secretary having presented the minutes of April 4, 1913, the following corrections were noted:

(1) To be inserted on page 210 immediately above the heading "Appropriation for the College of Medicine":

(1a) A bill from Mr. C. H. Blackall, Architect, one of the members of the Commission on Campus Plans, for professional services in the preparation of studies for the extension of the campus, and for the expenses of three trips from Boston to Chicago and Champaign, amounting to $962.36, approved by Professor James M. White, Supervising Architect.

Action on this matter was deferred.

(2) The last paragraph on page 211 to read as follows:

On motion of Mr. Montgomery, it was voted that the President of the University be given leave of absence for such period during the summer and fall of the current year as may be necessary to enable him to attend the International Conference on Education at The Hague; such attendance to be without expense to the University.

With these corrections the minutes of the meeting of April 4, 1913, were approved.

The secretary presented the minutes of the board meetings of April 24, May 9, and May 22, 1913, which were approved.

LEGALITY OF EXECUTIVE COMMITTEE MEETING OF APRIL 24, IN QUESTION.

Mr. Trevett offered the following motion:

That the minutes of purported meeting of the Executive Committee April 24, 1913, be not approved.

For the reason that no notice of the intention of holding such a meeting was given to the members of the committee.

That any action taken at such purported meeting was illegal, void, and of no effect.

On motion of Mrs. Henrotin, the foregoing motion was laid on the table for the time being. The vote on the motion to lay on the table was as follows: Ayes, Mr. Abbott, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore; noes, Mrs. Busey, Mr. Trevett, Miss Watson; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

AUTHORTIY TO CONFER DEGREES.

President James requested authority to confer degrees at the Forty-second Annual Commencement to be held on Wednesday, June 11, 1913, on the persons recommended therefor by the faculties of the several colleges

and schools and the University Senate, as listed below. On motion of Mrs. Busey, such authority was granted.

SUMMARY OF DEGREES.

Degrees in the Graduate School—		
A.M.	54	
M.S.	53	
C.E.	5	
E.E.	5	
M.E.	2	
Ph.D.	20	
Total		139
Baccalaureate Degrees—		
A.B., College of Literature and Arts	137	
B.L., College of Literature and Arts	1	
A.B., College of Science	66	
B.S., College of Science	24	
B.S., College of Engineering	179	
B.S., College of Agriculture	95	
B.Mus., School of Music	7	
Total		509
Degrees in Law—		
LL.B.	23	
J.D.	3	
Total		26
Degrees in Library Science—		
B.L.S.	8	
Total, Colleges and Schools in Urbana		682
Degrees in Medicine—		
M.D.	130	
Degrees in Pharmacy—		
Ph.G.	33	
Ph.C.	3	
Total		36
Total, Departments in Chicago		166
Total, all Departments		848

LIST OF DEGREES.

THE COLLEGES AND SCHOOLS AT URBANA.

(Degrees Conferred June 11, 1913.)

THE COLLEGE OF LITERATURE AND ARTS.

The Degree of Bachelor of Arts.

In General Courses.

(With Thesis.)

Louis Allen,
Frederick Mortimer Atkinson, Jr.,
Jessie Fay Miller,
Lena Josephine Myers.

(Without Thesis.)

Helen Abbott,
Lillian May Alband,
Ruby Letitia Allen,
Clarence Felix Anderson,
Isabella Anderson,
Peach Helen Andrews,
Glenn Cliffe Bainum,
Julia Minnetta Barber,
Leslie Carroll Barber,
Martha Elizabeth Bonham,
Bertha Estelle Bourdette,
Frances Josephine Boyd,
Lucy Center Bradrick,
James Fearon Brown,
Mary Viola Bruner,
Mabel Estelia Burwash,
Mary Gladys Burwash,
Helen Cecella Byrne,
Florence Adelaide Cassingham,
Kathleen Marcella Clyne,
Eleanor Marie Combse,
Josephine V. Conley,
Meta Consoer,
Norma Cooley,
Mallie Leona Davis,
Ruth Leone Davison,
Gladys Eade,
Hazel Elizabeth Fancher,
Mildred Helen Felmley,
Ruth Mae Freeman,
Louise Wallace Garrett,
Lloyd Elias Gohn,
Joe Carpenter Grout,
Mabel Magdalene Haines,
Paul Johnson Haldeman,
Harry Ingalls Hannah,
Fay Charles Hare,

Julia Alberta Harper,
Clara Belle Harshbarger,
George Wirt Herrick,
Joseph Howard Hinshaw,
Mary Mildred Hoskins,
Jose Ledesma Jalandoni,
Alice Sarah Johnson,
Nelle Irene Johnson,
Mae Elizabeth Kelley,
Cora Mae Lane,
Ida Clementine Larkin,
Theodore Edwin Loehr,
Sarah Eula Loutzenhiser,
Joseph McCrary McCune,
Mabel McIntyre,
Henry Theodore McKinney,
Maryon Evelyn Mounts,
Fanny Newman,
Arthur Hook Ogle,
Margaret Pack,
Helen Lucy Parker,
Lola Maude Peterson,
Opha Belle Pletcher,
Agnes Nellie Porter,
Ethel Alice Ranson,
Alice Redhed,
Harry Payne Reeves,
Lillian Riddle,
Nellie Pauline Righter,
Nellie Read Roberts,
Eva Love Robertson,
Florence Elinor Robinson,
Russel Curtis Rottger,
Richard Yates Rowe,
Ethel Imogene Salisbury,
Jacob Philip Scheid,
Otto Paul Schinnerer,
Louise Gustava Schlutuis,
Plascie Lafayette Schoolcraft,
Ralph Cleland Scott,
Edith Irene Sendenburgh,
Edith Adeline Shultz,
Bertha Anna Siemen,
Mrs. Cora Hutton Sisam,
James Roy Skiles,
Margaret Katherine Theilen,
Calvin William White,
Mary Louise White,
Helen Woodrow Whitney,
Fay Willerton,
Lulu Hazel Williams,
Belle Williamson,
Ardie Geraldine Woods,
George Edward Woods,
Mabel Fern Worrell,
Allen Thurman Wright,
Samuel Anthony Wright,
Henry Charles Zeis,
Robert Paul Zimmerman.

In Business Courses.

(With Thesis.)

Jay Austin Colvin,
Cassius Bannister Conrad,
Thomas Albright Cunningham,
Harry Catlin Fulks,
Henry Elisha Gaddis,
Lewis Throckmorton Gregory,
Charles Nelson Hill,
Arthur Seymour Nevins,
Harwell Cloud Thompson,
Wing Fooe Wong.

(Without Thesis.)

James Henry Colombo,
Frederick Boyden Cortis,
Theodore Augustus Fritchey, Jr.,
Roscoe Herman Hicks,
Fred Albert Hinrichsen,
William Samuel Krebs,
Louis Warren Lohr,
Welby West Miller,
Harry Rugee Mirick,
James Lawrence Nichols,
William Henry Pearson,
Wilbur Homer Ponder,
Willard Blaine Porterfield,
Alva LeRoy Prickett,
Temple Elliott Ridgely,
Milton George Henry Severinghaus,
Clarke H. Spitler,
Cleaver Thayer,
Clyde Hollis Threlkeld,
William Richardson Vosburg,
Claude Harrison Watts.

In Household Science.

(Without Thesis.)

Ethel May Baird,
Bess Boyers,
Margaret Fanny Leach,
Elsie Patton,
Marie Jennie Stoltey,
Irene Burchard Wheeler.

The Degree of Bachelor of Literature.

Mrs. Eliza Marilla Wright Canaday, of the Class of 1885.

THE COLLEGE OF SCIENCE.

The Degree of Bachelor of Arts.

In General Science.

(With Thesis.)

Juanita Elizabeth Darrah,
Pearl Forest Grove,
Clarence Samuel Ross,
Mildred Clayton Seyster.

(Without Thesis.)

Carl Walter Allison,
Albert King Atkinson,
Johannes Petrus duBuisson,
Victor Harold Cartwright,
Homer Eldon Chenoweth,
Clarence Farnsworth Churchill,
Clifton Wirt Clark,
Harold Dudley Clayberg,
Chester Charles Dillon,
Alexander Elston,
Leo Weiss Elston,
Claribel Fehrman,
Lyman Marion Fort,
Hugo Joseph Hahn,
James Francis Harshbarger,
Edgar Paul Hermann,
Stanley Hill,
Russell Field Hunter,
George Rufus Johnstone,
Ernest Michael Rudolph Lamkey,
Cyrus William Lantz,
Francis DuLude Larkin,
Henry Even McMullan,
Theodore Decatur Meserve,
Alice Elvira Morris,
George Mounce,
Charles Everett Myers,
Alma Jessie Neill,
James Arthur Noon,
Lyle Jay Pletcher,
Charley Lyman Porter,
Merwin Logsdon Prindle,
Acors Earl Rathbun,
Bryne Lucas Ray,
Edward Michael Schalck,
George William Seiler,
Walter Andrew Shewhart,
Roscoe Raymond Snapp,
Frank Vennum Stipp,
George Fred Sutherland,

Everett Harvey Taylor,
Mabel Elizabeth Thorne,
Reuben Raymond Turner,
Herman William Weis,
Elsa Wintermeyer,
Tsing Too Woo,
Chai Kao Wu,
Chia Cheow Yen,
Yung Yen Young.

In Household Science.

Sara Blanche Elizabeth Cartwright,
Emma Margaret Fahrnkopf,
Marie Freeman,
Elizabeth Fruin,
Marguerite Elston Gauger,
Lucy Eleanor Hubbard,
Ada Eleanor Hunt,
Clara Edith Locke,
Cornelia Grace Mather,
Maud Harriett Willard.

In the Six-Year Medical Course.

Henry Marks Goodyear, Clark Culbertson Piper, William Henry Woolston.

The Degree of Bachelor of Science.

(With Thesis.)

In Ceramics.

Henry Harrison Bartells, Martin Robert Hornung, Charles Claflin Rand.

In Ceramic Engineering.

Robert Back

In Chemistry.

King Yaou Chen,
Michele Croce,
Paul Revere Croll,
Charles William Knudsen,
Jerome Francis Kohout,
John Franklin Kraeger,
George Sinclair Nutt,
George Eric Simpson.

In Chemical Engineering.

Huang Chen,
Vee Gih Chu,
Harry Rusling Cochran,
Robert McFarland Cole,
Phillmer Wymond Day,
Edward Anton Glenz,
Eugene Hendricks Leslie,
Courtland Leroy Munroe,
Irving Randolph Ruby,
Clarence Scholl,
Scott Champlin Taylor,
Howard DeWitt Valentine.

THE COLLEGE OF ENGINEERING.

The Degree of Bachelor of Science.

In Architecture.

Harry Glen Aldrich,
Frederick Edward Berger,
Wilfred Francis Blatherwick,
Alexander Rudolph Brandner,
Francis Andrew Brown,
William Henry Clare,
Harold Hamilton Crawford,
Edgar Nathan Drew,
Sozabu Furukawa,
Strawn Aldrich Gay,
James Reilly Gormley,
Roger Charles Kirchhoff,
Raymond Kenneth Knox,
Charles Babcock McGrew,
Joe Orlando Mitchell,
Thomas Edward O'Donnell,
Charles John Pankow,
Lorentz Schmidt,
Niels Chester Sorensen,
Othello Raymond Stone,
Bayard Freeman Taber,
Harold Wertz Underhill,
Arthur Mellinger Waggoner,
Wellington James Hamilton Wallace,
Leo Harold Weisfeld.

In Architectural Engineering.

Wallace Berger,
Edwin John Brockmeyer,
Harry B. Cooley,
Harold Francis Doerr,
Ferdinand August Paul Fischer,
Harry Llewellyn Foster,
Theodore John Franzen,
Paul Charles Gauger,
Richard Seaton Gregg,
Murray Samuel Hanes,
Edward A. Hribal,
Vivian Johnson Ingold,
Laurence Prescott Keith,
John Henry Kuhl, Jr.,
William James Larkin, Jr.,
Daniel Hunt McGorrisk,
George Edward McIntyre,
Ralph Uline Nichols,
Harry Vivian Roberts,
Andrew Frederick Soderberg,
Paul Valentine Strehlow,
Harry Anthony Wiersema,
William Sidney Wolfe.

In Civil Engineering.

Roscoe Harrison Albright,
William Orus Andrews,
Bartow Strong Bascome,
Ralph Anderson Bennitt,
Paul Theodore Bock,
Edward Wesley Bullard,
Nixon Lawrence Bunn,
Glen Douglas Butzer,
Howard Corley,
Charles James Craigmile,
Homer Watson Dahringer.
Euripides Fajardo y Maymir,
Wilbur Earl Flood,
Albert Stevens Fry,
Merritt Rasmus Hansen,
Emmett Joseph Healy,

Caryl Ames Holton,
Richard Frederick Huxmann,
Waldemar Karkow,
Arthur Willis Kimbell,
Stuart Farnsworth Kosters,
Frank Xavier Loeffler,
Kendall Tuttle Murphy,
Herbert Christian Petersen,
Harold Peterson,
Ralph Gerald Peterson,
Otto Coffeen Fitz Randolph,
Erwin Ambrose Reed,
Hope Edwin Reum,
Frank Charles Rohrbough,
Earl Rundles,
George Stanley Sangdahl,
Erwin Anthony Schmitz,
Edwin Henry Swenson,
Marcus Prevost Taylor,
Robert Edgar Turley, Jr.,
Chester Andrus Vincent,
Edward Wallace,
Lyman Gage Wheeler,
James Marion Whelan, Jr.,
James Gordon White,
Charles Earl Whitney,
Roy Campbell Williams,
Charles Abraham Wold.

In Electrical Engineering.

Henry Stillman Badger,
Roscoe Edward Bailey,
Stephen William Burstrom,
Thomas Hezekiah Cattron,
Elmer Washburn Coffey,
Guerney Hill Cole,
Elwin Ray Coolidge,
George Raymond Corke,
Harland Winn Corzine,
Leslie Abijah Dole,
Raleigh John Ehrhart,
Dent Ferrell,
Gustav George Fornoff,
Carleton Willard Gates,
George Lowthane Greves,
Lawrence Melville Hall,
Nathaniel Pinckard Heath,
Howard Christopher Hohmann,
Emery Ford Holt,
Charles Rush Horrell,
Tadashi Iida,
Harvey Judd Johnson,
Rupert Forrest Jones,
Walter Valentine Kaun,
Charles John Kay,
George Joseph Kay,
Lee Carson Kent,
Clarence Henry Kessler,
Jesse C. Kramer,
Robert Thomas Lattin,
Everett Samuel Lee,
Frank Edward Marshall,
Howard Mathews,
John Alvin Maury,
George William Mayes,
Francis de Sales Misner,
Philip Longworthy Ogden,
John George Penn,
Stuart Albert Ralston,
Arthur Louis Riche,
Alfred Dale Smith,
Charles Miner Whaite,
Fred Peter Wittich, Jr.,
Herman Carl Wolf,
Tsing Too Woo,
Daniel Charles Wood,
Fay Morse Wooldridge.

In Mechanical Engineering.

Walter Arthur Blakeslee,
Roland Glenn Butler,
Arthur William Claussen,
Herbert Harper Constant,
Edward Bernard Crist,
Lewis Brown Ermeling,
Louis Smith Ferguson,
Paul Hedges Gibbs,
Roscoe Conkling Harris,
Ralph Roscoe Hawkins,
Lester Reginald Larsen,
Edward Ross Luney,
Harold Stanton McIntosh,
John Howard Masters,
Martin Ira Mix,
Arthur Leslie Myers,
Charles Robert Ogle,
Benito Rene Ordonez,
Emmons Overmier,
Walter Richard Reitz,
Carl Arthur Schoessel,
Sentaro Sekine,
Arthur Moulton Simpson,
Carl August Skoglund,
Lloyd Gaston Smith,
Herbert Percy Thompson.

In Mining Engineering.

Morris Louis Becker,
Walter Stanley Middleton,
Merle Louis Nebel,
Leonard Victor Newton,
Cecil Weldon Smith.

In Municipal and Sanitary Engineering.

Noble Arnold,
Charles Malcolm Fuller,
William Carson Giessler,
John Francis Schnellbach,
Glen Howelstein Stough.

In Railway Civil Engineering.

Edward Ernest Reddersen,
Walter Clifford Sadler.

In Railway Mechanical Engineering.

Fred Joseph Prout,
Everett Gillham Young.

THE COLLEGE OF AGRICULTURE.

The Degree of Bachelor of Science.

In Agriculture.

(With Thesis.)

Irving Myron Brazier,
Murray Copenhaver,
Robert Lucius Hegnauer.

(Without Thesis.)

Seth David Abbott,
James Burton Andrews,
Charles Austin Atwood,
Louis Peter Bauman,
Robert Edwin Blackburn,
William James Broadhead,
Arthur Maxwell Brunson,
Clarence Fletcher Burwash,
Wilbur Jerome Carmichael,

William Charles Carr,
John Ruggles Case,
Hubert Arthur Cate,
Conrad Lee Cattron,
Brahma Nath Chatterjee,
Joseph Harvey Checkley,
Co-Ching Chu,
Ernest McChesney Clark,
Walter Allen Cope,
Lloyd Costar,
Chester Watson Davis,
James Russell Dilworth,
Henry Clarence Eales,
Guillermo Filiberto Escobosa,
Trennace Flowerree,
John Raymond Foster,
George Edward Gentle,
Harry Charles Gilkerson,
Walter Frederick Handschin,
George Madison Harner,
Walter Samuel Hatch,
Clair Edwards Hay,
Arthur Floyd Heck,
Josiah Campbell Hoke,
Clyde Whittaker Hudelson,
John Harvey Hughes,
Andrew John Johnstone,
Evans Sherwood Kern,
Theodore Edmond Layden,
Pao Kan Loh,
Elon Charles Magee,
Edward Harold Mann,
Leland Stanford Markley,
Leslie Eugene Mathers,
Manley Bonham Mathers,
Charles Thaddeus Meek,
Loyal Leonard Minor,
Hsiang-yueh Moh,
John Lynde Neely,
Claude Leslie Oathout,
Harley Paris Ottman,
Harry Glenn Parkinson, A.B., Waynesburg College,
Newton Lyman Partridge,
Harry Bruce Piper,
Ford Smoot Prince,
Fritz Rein,
Charles Leonard Reisner,
Elmer Roberts,
Herbert Judson Rucker,
Fay Rumery,
Ernest Eugene Sandall,
Charles Bovett Sayre,
Wen-Yu Shen,
Raymond Stratton Smith, B.S., Pomona College, 1907,
Roscoe Raymond Snapp,
Howard John Snider,
Marshall Ankeny Souers,
Leland Stanford Stallings,
James Vail Stevenson, A.B., 1912,
Charles Nelson Tarble,
Jay Francis Thomason,
William Carl Vauble,
Chauncey Brown Watson,
James Elmo Wiley,
Alfred LeRoy Williams,
Wai Shun Woo,
Joseph Loyd Worrell,
Yung Yen Young.

In Floriculture.

Maurice Robert Bebb,
William King Palmer, Jr.

In Household Science.

Viola June Crossland,
Gertrude Louise Elliott,
Lillian May King,
Margaret Christine McClintock,
Hazel Emma Taylor,
Alice Maria Timmis,
Tessie Elizabeth Trowbridge.

In Landscape Gardening.

Robert William Hoffman,
Daniel Ray Hull,
William Lincoln Taylor, A.B., 1912.

In the Teachers' Course.

Harrison Fred Theodore Fahrnkopf,
Albert John Herbolsheimer,
Edward Harvey Walworth,

THE COLLEGE OF LAW.

The Degree of Bachelor of Laws.

Cyril Agard Burns, A.B., 1911,
Will M. Cannady, Jr.,
Benjamin Harrison Crowder,
Everett Leslie Dalbey,
James Everett Etherton,
Charles Harrison Fletcher,
Herrick Hopkins Harwood,
Henry Collins Hay,
George Wirt Herrick,
William Edward Levis,
Robert Charles Mize,
Harry Clay Moore,
Harry Edward Morgan,
Arthur Marvin Morris,
Jacob William Myers, A.B., 1911,
Charles Andrew O'Connor,
Martin Frederick Oehmke,
Clyde Harrison Parr,
Ernest Albert Rich,
Southworth Samuel Sargeant,
Fred Reeves Tate,
Emil Joseph Verlie,
Philip Henry Ward.

The Degree of Doctor of Law.

Roscoe Clarke Dillavou, A.B., 1911,
Chester Harold Farthing, B.S., McKendree College, 1909,
William Dudley Paul Farthing, B.S., McKendree College, 1909.

THE SCHOOL OF MUSIC.

The Degree of Bachelor of Music.

(With Thesis.)

Mrs. Verna Kerker Busey,
Hazel Iona Craig, A.B., 1910,
Maude Aroma Denny,
Arthur Everett Holch,
Olga Fern Moser,
Jeanette Stedman,
Gladys Agnes Stevens.

THE LIBRARY SCHOOL.

The Degree of Bachelor of Library Science.

(Without Thesis.)

Flora Margaret Case, A.B., 1912.
Elizabeth Henrietta Cass, A.B., 1912.
Edith Harley Ford, Ph. B., University of Chicago, 1910.
Laura Mary Hubbard, A.B., Western College for Women, 1896.
Martha Winifred Knapp, A.B., Ohio Wesleyan University, 1899.
Opha Belle Pletcher.
Nellie Mabel Robertson, A.B., Moore's Hill College, 1900.
Mary Torrance, A.B., Hanover College, 1900.

THE GRADUATE SCHOOL.

The Degree of Master of Arts.

In Botany.

Mabel Elizabeth Dibell, A.B., Western College, 1910.

In Chemistry.

Lloyd Hayes Davis, A.B., Wabash College, 1911.
Joseph Whitney Howard, A.B., Shurtleff College, 1912.
Frank Garm Norbury, A.B., Illinois College, 1912.

In Classics.

Mary Anna Haan, A.B., 1912.
Janet Malcolm Macdonald, A.B., Morningside College, 1910.
James Asbury Palmer, A.B., A.M., Shurtleff College, 1897, 1901.
Cornelia Ruth Seawell, A.B., Greenville College, 1912.
Lily Belle Voegelein, A.B., Northwestern College, 1912.

In Economics.

Fred Emerson Clark, A.B., Albion College, 1912.
Paul Wesley Ivey, A.B., Lawrence College, 1912.
Donald Dee Kirk, A.B., 1911.
Oscar Ross Martin, A.B., Central Wesleyan College, 1907.

In Education.

Charles Elmer Holley, A.B., 1912.
James Ellsworth Wooters, Ph.B., Blackburn College, 1908.

In Entomology.

Daniel Milton Brumfiel, A.B., Lombard College, 1912.
Alvah Peterson, B.S., Knox College, 1911.
Margaret Washington, A.B., Smith College, 1912.

In Geology.

David Grosh Thompson, A.B., Northwestern University, 1911.

In Germanic Languages.

Absolom C. Erdahl, A.B., St. Olaf College, 1911.

In History.

Byne Frances Goodman, A.B., 1912.
Jay Earll Miller, A.B., LL.B., University of Kansas, 1910, 1912.
Rudolph Hans Nottelmann, A.B., Monmouth College, 1912.
Arthur Frederic Peine, A.B., Illinois Wesleyan University, 1911.

In Household Science.

Alice Biester, A.B., 1912.

In Mathematics.

Ruby Mabel Grimes, A.B., Yankton College, 1911.
George Rutledge, A.B., 1910.
Ward Hastings Taylor, A.B., 1910.

In Modern Languages.

(English.)

Walther Albert Bucken, A.B., University of Wisconsin, 1911.
Ruth Mitchell Burns, A.B., 1911.
Ann Chester, A. B., 1905.
Sidney Hayes Cox, A.B., Bates College, 1911.
Homer Hall, A.B., 1912.
William Griffith Hill, A. B., Carthage College, 1912.
Joseph Allan Nevins, A.B., 1912.
Mary Margaret Spangler, A.B., 1911.
Orpha May Wellman, A.B., 1911.

(German.)

Sapho Cecelia Graham, A.B., Iowa State University, 1911.
Helen Dickson James, A.B., 1910.
Gretchen Katherine Lutz, A.B., Albion College, 1909.
Adolf Eduard Zucker, A.B., 1912.

In Philosophy.

Clyde Monroe Hobart, A.B., 1912.

In Physics.

Simeon E. Boomer, A.B., 1909.
Nellie Nancy Hornor, A.B., 1912.
Jonas Bernard Nathanson, A.B., Ohio State University, 1912

In Political Science.

Edward Samuel Dowell, A.B., Oberlin College, 1910.
Julius Ludwig Goebel, Jr., A.B., 1912.
Alfred Chester Hanford, A.B., 1912.
Philip Quincy Wright, A.B., Lombard College, 1912.

In Romance Languages.

Jay Karl Ditchy, A.B., University of Michigan, 1911.

In Zoology.

June Maud Ashley, A.B., University of Colorado, 1912.
Margaret Vara Cobb, A.B., Radcliffe College, 1910.
Jesse LeRoy Conel, A.B., James Millikin University, 1912.
Thomas Edgar Musselman, A.B., 1910.

The Degree of Master of Science.

In Agronomy.

Vun-din Chinzun Chang, B.S., 1912.
Wallace Macfarlane, B.S., University of Utah, 1910.
Peter John Olson, B. S., North Dakota Agricultural College, 1910.
Edward Melville Rhodes, LL.B., 1900, B.S., 1912.
Frank Archibald Wyatt, B. S., Agricultural College of Utah, 1910.

In Animal Husbandry.

Berton Eugene Carmichael, B.S., 1905.
Harry Orson Allison, B.S., 1906.
Frederick Weston Wilson, B.S., Kansas State Agricultural College, 1905

In Agricultural Engineering.

Elwin Valentine Kratz, B.S., 1912.

In Botany.

Bronson Barlow, B.S., Michigan Agricultural College, 1902.
Silas Edgar Farquher, B.S., Earlham College, 1909.

In Chemistry.

Chester Charles Fowler, B.S., 1909.
Henry Lawrence Huenink, A.B., Carroll College, 1911.
Oliver Kamm, B.S., 1911.
Roland Norton Miller, A.B., Lawrence College, 1911.
Harold Hanson Mitchell, A.B., 1909.
Fred Weaver Muncie, A. B., Wabash College, 1910.
Carl Paxson Sherwin, B.S., John B. Stetson University, 1909, A.M., Indiana State University, 1912.
Paul Stanley Woodward, B.S., John B. Stetson University, 1908.

In Civil Engineering.

Luan Chang, B.C.E., Tangshan Engineering College, 1911.
Joseph Earl Huber, B.S., 1912.

In Dairy Husbandry.

William Truman Crandall, B.S.A., University of Wisconsin, 1909.
Ray Stillman Hulce, B.S.A., University of Wisconsin, 1911.

In Electrical Engineering.

Clair Ellmore Anderson, B.S., 1911.
Leo Mahlon Apgar, B.S., 1912.
Glen David Bagley, B.S., 1912.
Hugh Alexander Brown, B.S., 1911.
Ira William Fisk, B.S., 1909.
Genjiro Jinguji, B.S., 1912.
Ippei Kiyohara, B.S., Washington State College, 1911.
Mayne Seguine Mason, B.S., 1911.
William Warren Peters, A.B., M.S., Knox College, 1911, 1912.
Benjamin Salisbury Pfeiffer, B.S., 1912.
David Chandler Prince, B. S., 1912.
Robert St. Clare Seese, B. S., 1912.
Alexander McDougall Simons, B.S., 1912.
Mitsutaka Takahashi, B.E.E., Tokyo Higher Technical School, 1904.
Archibald Beebe VanDeusen, B.S., 1912.
Edward Hardenbergh Waldo, A.B., Amherst College, 1888, M.E., Cornell University, 1890.
Frank Gardner Willson, B.S., University of Wisconsin, 1903.

In Entomology.

Edna Mosher, B.S.A., Cornell University, 1908.
Ying-Hsuan Hsuwen Tsou, B.S., Cornell University, 1912.

In Geology.

Robert Wesley Brown, B.S., Northwestern University, 1911.

In Mathematics.

Ola Mattie Josephine Eskelson, B.S., Hedding College, 1912.

In Mechanical Engineering.

Karl John Theodore Ekblaw, B.S., 1909.
William Earl Mosher, Ph.B., M.E., Syracuse University, 1909-11.
Siebolt Luke Simmering, B.S., University of Colorado, 1910.

In Physics.

Oscar Alan Randolph, B.S., Missouri School of Mines, 1911.

In Railway Engineering.

Harold Allen Houston, B.S., Purdue University, 1911.

In Theoretical and Applied Mechanics.

Willard Clarke Eells, B.S., 1911.
Harrison Frederick Gonnerman, B.S., 1908.

In Zoology.

Gertrude Amelia Johnson, B.S., Northwestern University, 1911.
Minnie Elizabeth Watson, A.B., Olivet College, 1909.

The Degree of Civil Engineer.

Arthur Francis Comstock, B.S., 1906.
Louis Engelmann Fischer, B.S., 1898.
Amund Marius Korsmo, B.S., 1909.
William Horace Rayner, B.S., 1909.
William Walter Smith, A.B., 1900, B.S., 1907.

The Degree of Electrical Engineer.

Edgar Francis Collins, B.S., 1898.
Harry Gray Hake, B.S., M.S., 1907, 1910.
Leonard Vaughan James, B.S., M.S., 1906, 1912.
Charles Dietrich Wesselhoeft, B.S., 1902.
Trygve D. Yensen, B.S., M.S., 1907, 1912.

The Degree of Mechanical Engineer.

Clem C. Austin, B.S., 1907.
Thomas Armstrong Peebles, B.S., 1906.

The Degree of Doctor of Philosophy.

In Chemistry.

James Edgar Bell, B.S., University of Chicago, 1905.
Lloyd Francis Nickell, A.B., A.M., 1909, 1911.
Ralph Sydney Potter, A.B., Lake Forest College, 1909, M.S., 1911.
Guy Yandall Williams, A.B., A.M., University of Oklahoma, 1906, 1910, M.S., University of Chicago, 1911.

In Economics.

George William Dowrie, A.B., Lake Forest College, 1901, A.M., University of Chicago, 1907.

In Entomology.

Hugh Glasgow, A.B., 1908.
Robert Douglass Glasgow, A.B., 1908.

In History.

Susan Martha Reed, A.B., Mt. Holyoke College, 1907, A.M., 1908.
Charles Manfred Thompson, A.B., A.M., 1909, 1910.

In Mathematics.

Josephine Elizabeth Burns, A.B., A.M., 1909, 1911.

In Modern Languages.

(English.)

John Walter Good, A.B., Erskine College, 1902, A.M., 1904.
Clarissa Rinaker, A.B., Blackburn College, 1903, A.M., 1911.

(German.)

Frederick Henry Adler, A.B., Ohio State University, 1909, A.M., 1911.
Philip Stephan Barto, A.B., A.M., 1906, 1910.
Irma Elizabeth Voigt, A.B., A.M., 1910, 1911.

In Philosophy.

Queen Lois Shepherd, A.B., Northwestern University, 1907, A.M., University of Wisconsin, 1910.

In Physics.

John Wesley Hornbeck, B.S., Illinois Wesleyan University, 1906, A.M., 1909.

In Zoology.

James Edward Ackert, A.B., A.M., 1909, 1911.
Harley Jones Van Cleve, B.S., Knox College, 1909, M.S., 1910.
Paul Smith Welch, A.B., James Millikin University, 1910, A.M., 1911.

HONORS.

The secretary reported for record that the following honors have been awarded by the University for excellence in scholarship:

THE DEGREE OF A.B. WITH HONORS.

IN THE COLLEGE OF LITERATURE AND ARTS.

Louis Allen, in French.
Jessie Fay Miller, in Latin.
Lena J. Myers, in English.
H. C. Thompson, in Economics.

SPECIAL HONORS.

IN THE COLLEGE OF SCIENCE.

Robert Back, in Ceramic Engineering.
Eugene Hendricks Leslie, in Chemical Engineering.
Charles Claflin Rand, in Ceramic Engineering.

IN THE COLLEGE OF ENGINEERING.

Paul Theodore Bock, in Civil Engineering.
Harry B. Cooley, in Architectural Engineering.
Albert Stevens Fry, in Civil Engineering.
Arthur Louis Riche, in Electrical Engineering.
Harry Anthony Wiersema, in Architectural Engineering.

IN THE SCHOOL OF MUSIC.

Arthur Everett Holch.

FINAL HONORS.

IN THE COLLEGE OF SCIENCE.

Ernest Michael Rudolph Lamkey,
Cyrus William Lantz,
Eugene Hendricks Leslie,
Alma Jessie Neill,
Mildred Clayton Seyster,
Roscoe Raymond Snapp,
Everett Harvey Taylor,
Mabel Elizabeth Thorne,
Chia Cheow Yen.

IN THE COLLEGE OF ENGINEERING.

Henry Stillman Badger,
Paul Theodore Bock,
Alexander Rudolph Brandner,
Harry B. Cooley,
Elwin Ray Coolidge,
Albert Stevens Fry,
Everett Samuel Lee,
Howard Mathews,
George William Mayes,
Charles Babcock McGrew,
Merle Louis Nebel,
Edward Ernest Reddersen,
Arthur Louis Riche,
Frank Charles Rohrbough,
Lloyd Gaston Smith,
Lyman Gage Wheeler,
Harry Anthony Wiersema,
William Sidney Wolfe.

IN THE COLLEGE OF AGRICULTURE.

Charles Austin Atwood,
Maurice Robert Bebb,
Arthur Maxwell Brunson,
Ernest McChesney Clark,
James Russell Dilworth,
Harrison Fred Theodore Fahrnkopf,
Elmer Roberts,
Charles Bovett Sayre,
Raymond Stratton Smith,
Roscoe Raymond Snapp.

IN THE COLLEGE OF LAW.

Everett Leslie Dalbey, William Dudley Paul Farthing, Emil Joseph Verlie.

IN THE SCHOOL OF MUSIC.

Maud Denny.

IN THE LIBRARY SCHOOL.

Nellie Mabel Robertson.

THE FRANCIS JOHN PLYM FELLOWSHIP IN ARCHITECTURE.

Max Alfred Montgomery, 1912.

THE B'NAI B'RITH PRIZE.

First Prize, David M. Riff.
Second Prize, Nathan C. Seidenberg.

COMMISSIONS IN THE ILLINOIS NATIONAL GUARD.

The secretary reported also for record that the following officers of the University Corps of Cadets have received commissions in the Illinois National Guard:

William Orus Andrews,
Frederick Mortimer Atkinson,
James Fearon Brown,
Wilber Jerome Carmichael,
Guerney Hill Cole,
Lewis Brown Ermeling,
Carleton Willard Gates,
Edward Anton Glenz,
Howard Christopher Hohmann,
Charles Rush Horrell,
Roger Charles Kirchhoff,
Jerome Francis Kohout,
Eugene Hendricks Leslie,
Frank Xavier Loeffler,
Merle Louis Nebel,
Ralph Uline Nichols,
William King Palmer,
Charles Abraham Wold.
Newton Lyman Partridge,
Ernest Albert Rich,
Irving Randolph Ruby,
Charles Bovett Sayre,
Carl Arthur Schoessel,
Milton George H. Severinghaus,
Marcus Prevost Taylor,
Cleaver Thayer,
Harwell Cloud Thompson,

THE UNIVERSITY GOLD MEDAL.

Henry Walter Hollard.

THE HAZELTON GOLD MEDAL.

Walter Rathfon Fischer.

DEGREES IN THE DEPARTMENTS IN CHICAGO.

The secretary presented also for record the lists of students of the College of Medicine and the School of Pharmacy upon whom degrees were conferred on the dates indicated:

THE COLLEGE OF MEDICINE.

The Degree of Doctor of Medicine and Surgery.

(Conferred June 10, 1913, in Chicago.)

Haroutoune Asadour Adrounie, A.B.,
Albert Lee Alderson, B.S.,
James Wesley Aldridge,
Benjamin S. Anspach,
Henry Wilson Averill, M.M.,
Michael John Badzmierowski,
Irving Francis Barnett,
Nathaniel Isadour Baskind,
Herman Henry Bassler, M.D.,
Ione Fisher Beem, A.B.,
James Henry Bloomfield,
Herbert Clarence Bolstad, A.B.,
Cleaver Henry Brinkerhoff,
Ernest August Bredlau,
William Riley Brown,
Frank Earl Browning,
Stephen Malcolm Burdon,
Theodore David Burger,
Marjorie Irene Cameron,
Francis Vincent Carberry,
Clyde Lowe Casey,
Francis Joseph Cayley,
John Baptist Cipriani,
Frank Neill Cliff,
Mayer Coffler, Ph.B.,
Everett Porter Coleman,
Urban Volpert Comes, Ph.G.,
Lyman Joseph Cook, A.B.,
Samuel LeCount Cook,
Robert Archie Crawford,
Drexel Lowry Dawson,
Anthony Ferdinand Delfosse,
Raymond Frank Dowell,

James Casper Droste, A.B., Ph.B.,
Warren Zachary Earl,
Alba Clinton Edwards,
Sheftel Jacob Elner,
Anton John Firtik,
Georgia Adell Filley,
Samuel Clifton Fleming, A.B.,
Chester Watson Fouser,
Adolph Mitchell Frank,
William Arthur Frymire,
Vernanda Joshua Funkerburk, M.D.,
Robert Ludwig Furby,
Leon Glassman,
Carl Henry Golbeck,
Jesse Trott Grayston,
Paul Swing Hageman,
Gwyn Forbes Haig,
John Harvey Hansen,
William Henry Hazlett,
William Albert Henke, M.D.,
Maurice Charles Hennessey,
Clara Alma Hergert,
Allan Joseph Hruby,
Lydie Jespersson,
Sven Jespersson,
Frank Hetherington Kelly, Ph.C., D.D.S.,
Ray Porter Kile,
Howard Talcott Knight,
Frank Joseph Kotalik,
Constantine John Koursoumis,
John Charles Matthew Krasa,
Disraeli William Kobat,
Alvin Wilfred LaForge, LL.B., M.D.,
Charles Philip Lapin,
Joseph Sebastian Lundholm,
Myron E. Lollar,
John Harry Luczak,
Christine Lukas,
August Henry Lueders,
Frank Chalmers McClanahan,
Eugene Andrew McCornack,
Desmond Francis McGuire,
Gordon Lawrence McLellan,
John Maxwell,
Harry Albert Meyers,
Eugene Abraham Mitzenmacher,
Marie Anna Motis, M.D.,
Emery Bowers Neff,
Harry Nichols,
Albert Goodsell Noble,
John Francis Oates,
Arthur Robert Ohman,
James Archibald Orbison,
Leroy Lowell Parke,
Frank Rauch Patton,
Leigh Klumb Patton, A.B.,
Everett Herbert Pea,
Ernest Ballard Pearson, A.B.,
Howard Samuel Perry,
Ray Humbert Petty,
John Justin Powell, B.S.,
Edward Harold Rategan,
Blake Edwin Ray,
Clark William Zugg.
Walter Joseph Ream,
Alfred Edwin Rhein, M.D.,
Imas Pryor Rice,
Robert Salem Salk,
Rufino Abriol Santos,
Alvah Lewis Sawyer, B.S.,
Isador Sidney Segall,
Harry Stevenson Seiwell,
Lewis August Seymer,
Harve Roy Sharpe,
Charles Arthur Sima,
Lloyd Himbaugh Simmons,
Bessie Belle Sinclair,
Edward Frank Slavik,
Guy Arthur Sloan,
Clarence Vernon Smith,
Floyd Albert Smith,
George Henry Smith,
Bonnell Marie Souder,
Samuel Stein,
Charles Warren Stigman,
Eldora Alice Thomas, B.S.,
Henry Howard Towles,
Max William Trentzsch,
Harvey Willard Tupper,
George Alexander Wagner, M.D.,
Raymond Lawrence Wall,
Willis Herbert Watson,
Jerome Jacob Weil,
Paul Brown Welch,
Todd J. Wilson,
Philip Herman Wolfram, B.S.,
Ralph Hueston Woods, Ph.G.,

THE SCHOOL OF PHARMACY.*

The Degree of Pharmaceutical Chemist.

Matthew Virgil Boutte (Class of 1911).
Forrest Omo Snyder.
James Silas Vann.

MATTERS PRESENTED BY THE PRESIDENT OF THE UNIVERSITY.

President James presented the following matters for consideration:

APPROPRIATION FOR MILITARY DEPARTMENT.

(1) A request from Professor George E. Frazer, Comptroller, for an appropriation of two hundred dollars ($200) to cover the expenses of the Military Department until June 30, 1913.

On motion of Mrs. Evans, this appropriation was made, the vote being as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson; noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

APPROPRIATION FOR REBATES TO STUDENTS.

(2) A request from Professor George E. Frazer, Comptroller, for an appropriation of four hundred dollars ($400) to meet rebates to students up to June 30, 1913.

This appropriation was approved, the vote being as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson, noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

* For the list of persons receiving the Degree of Graduate in Pharmacy (conferred April 24, 1913, in Chicago) *see* page 213.

IMPORT ORDER FOR ZOOLOGY.

(3) A request from Dr. H. B. Ward, Professor of Zoölogy, endorsed by Dr. E. J. Townsend, Dean of the College of Science, for authority to place an import order not to exceed one thousand dollars ($1,000) for the Department of Zoölogy for the coming academic year.

On motion of Mr. Trevett, this recommendation was approved, the vote being as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson; noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

LEAVE OF ABSENCE FOR PROFESSOR FAIRLIE.

(4) A request from Dr. John A. Fairlie, Professor of Political Science, for leave of absence, without salary, for the second semester of the academic year 1913-14; it being Professor Fairlie's desire to spend the time in Europe, chiefly in Great Britain and Germany, in the study of political and municipal institutions.

On motion of Mrs. Evans, it was voted that the President of the University be authorized to grant this request, provided he can make proper arrangements for the care of Professor Fairlie's work in his absence.

STATEMENT CONCERNING EXPERIMENT FIELDS.

(5) A letter from Dr. C. G. Hopkins, Professor of Agronomy, addressed to Dean Davenport under date of May 13, 1913, containing a statement in regard to the operation of certain experiment fields.

This communication from Professor Hopkins was received to be printed in the minutes:

May 13, 1913.

Dean Eugene Davenport, College of Agriculture.

DEAR DEAN DAVENPORT: In reply to an inquiry from President James in regard to experiment fields held by "verbal lease," I beg to say that these are fields on which the work originated essentially as cooperative experiments, in which the farmer furnished the land, did most of the work upon the field, and took the crops produced, but we insisted upon having an exact record kept, and at the end of the season, if the value of the crops produced exceeded the rental value of the land and fair remuneration for labor, then the difference was remitted by him and turned in as receipts to the University treasury. If, on the other hand, the value of the produce was less than the cost of labor plus the rental value of the land, then a bill was presented and the difference paid to the farmer by the University.

This method of operating the experiment fields first establishd was approved by yourself, by the President of the University, and by the business office. I may say that the University has never had a lease of some of these old experiment fields. Subsequently legal leases have been secured in a number of cases, but in other cases it is impossible to secure such leases.

Attention may be called to the fact that when these oldest experiment fields were thus established there was almost no definite information in existence regarding the number or character or extent of the soil types in this State. The establishing of experiment fields was prescribed in connection with the first small appropriation for soil investigation, and in order that the experiment fields might be located to the greatest possible advantage it was necessary to cooperate with farmers who had wide experience and knowledge concerning the important types of soil in other sections of the State. In order to secure uniform and representative tracts of land for the experiments the fields were sometimes located in the middle of the man's farm. In all cases there was an agreement on the part of the farmer that he would continue the cooperation for at least six years if the University so desired.

The fact that single communities have subsequently raised as high as $7,000 for the purpose of purchasing and deeding over to the University a tract of land, to be selected by us as the most suitable among a dozen or more different tracts offered, in order that field experiments may be conducted upon the land with no cost to the University, for land or rental, helps one to understand something of the benefits that have been derived from our old experiment fields, and of the difficulties under which the field experiments were begun in more than fifteen different places in the State when the total appropriation for all kinds of soil investigation was only $10,000, and when it was impossible to buy land or even to buy implements for the cultivation of the fields and care of the crops.

Later, when it became possible to begin the establishment of permanent experiment fields, we secured perpetual leases, as stated above, on some of these old fields, and we also adopted the plan of having remitted to the University as receipts from the experiment fields the value of the total produce, whether sold to the cooperating farmer or to anyone else and of requiring him to submit his bill for labor and for use of land to be paid in full by warrant.

Perhaps the expression "verbal lease" is not the proper one to use in reference to these old experiment fields, for we have no lease of the land. There are some of these old fields whose permanent possession we still hope to secure, either by donation or by perpetual lease, but the situation is such that if we should undertake to force immediate action we should, of course, lose possession of the

field at once. On some other fields we are expecting to discontinue the cooperative work at the end of the present season, which will complete twelve years of investigation covering three full four-year crop rotations. In a few cases it will be best, however, to continue the present arrangement for a number of years more if it is possible to do so, even though there is no expectation that the University may ever secure legal control of the field. While it has abundantly served the purpose for which it was established, yet if we have no permanent experiment field in the locality it continues to render large service and exert large influence every year, and it adds of course annually valuable data bearing directly upon the problems of permanent agriculture.

In the list of experiment fields which has been furnished to the comptroller and to which President James refers, I think it would be better to change the expression "verbal lease from" to read "cooperative experiment field with," and will be glad to know the opinion of yourself and President James regarding this point.

Yours very truly,

CYRIL G. HOPKINS.

RESIGNATION OF DEAN QUINE.

(6) The resignation of Dr. William E. Quine as Dean of the College of Medicine, to take effect June 30, 1913, or as soon thereafter as his successor is appointed.

It was voted to accept the resignation of Dr. Quine as Dean of the College of Medicine.

REPORT ON THE PRINTING OF THE ALUMNI RECORD.

(7) A statement from James H. Kelly concerning the preparation and distribution of the second edition of the Alumni Record; with a recommendation that the sum of five hundred dollars ($500) be paid to Mr. Kelley for extra work done in the preparation of this volume.

On motion of Mrs. Evans, it was moved that this statement be printed in the minutes, and that an appropriation be made for a payment of five hundred dollars ($500) to Mr. Kelly as recommended. The vote was as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson; noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

June 9, 1913.

President Edmund J. James, University of Illinois.

DEAR SIR: Permit me to submit herewith a statement regarding the publication of the 1913 Alumni Record.

The following appropriations were made by the Board of Trustees:

July 8, 1911, preliminary appropriation for second edition of the Alumni Record	$ 500 00
July 5, 1912, appropriation to cover expense of printing and publishing the new edition of the Alumni Record	5,000 00
	$5,500 00

Data from the alumni, faculty members, and trustees were collected under twenty-four headings on a questionnaire mailed in November, 1911. About 60 per cent of those addressed responded to the first communication. The fifth communication, registered and containing a self-addressed, stamped envelope, was finally sent to 575 addresses. This brought responses from all but 102. For these the data were compiled from records in the registrar's office. Careful inquiry from every available source gave recent addresses for all but fourteen of these.

A contract with specifications for printing three thousand copies of the Alumni Record was submitted to various printers, and the following bids were received:

Pantagraph Printing & Stationery Co.	$4,810 00
Flanigan-Pearson Co.	3,934 00
R. R. Donnelley & Sons Co.	3,825 00

On July 23, 1912, the contract was let to R. R. Donnelley & Sons for $3,825.

By February 22, 1913, two thousand two hundred (2,200) advance orders for the Alumni Record had been received at $1.50. Because of this number of orders, five hundred (500) additional copies of the book were ordered from Donnelley & Sons at 54 cents, the contract price for additional copies.

The first consignment of completed books was received from the printer April 24, 1913.

The 1913 Alumni Record contains biographical sketches as follows:

Baccalaureate alumni 1872-1911	4,998	
Graduate alumni to and including 1911 (but not included in baccalaureate alumni)	251	
Honorary alumni (not included in baccalaureate alumni)	47	
		5,296
Faculty	1,174	
Trustees	137	
		1,311

Deductions for alumni who are or were—			
(1) Faculty members	391		
(2) Trustees	10		
		401	
			910
Number of sketches			6,206
Names listed with addresses—			
1912 baccalaureate alumni	526		
1912 advanced degree alumni	112		
			638
Total number of names			6,844

SUMMARY OF ALUMNI.

From 1872-1911	5,296		
1912 baccalaureate classes	526		
Graduate alumni	731		
Honorary alumni	102		
		6,655	
Deductions for baccalaureate alumni included in graduate and honorary alumni		423	
Total number of alumni			6,232

FINANCIAL STATEMENT.

Appropriations by Board of Trustees—					
July 8, 1911		$ 500 00			
July 5, 1912		5,000 00			
					5,500 00
Disbursements—					
Student wages	$724 99				
Freight	22 64				
Express	5 70				
Supplies	4 88				
Prints	9 55				
Insurance	1 00				
			$ 768 76		
R. R. Donnelley & Sons, Chicago, May 5, 1913, Labels and Cartons—					
3,400 cartons @ $25	$85 00				
3,500 labels	6 00				
		$ 91 00			
May 26, 1913, 3,483 Alumni Record 1913; 928 pages and 12 tips—					
3,000 copies, 1,000 pp. and 12 tips est.	$3,825 00				
483 copies, 1,000 pp. @ 54c	260 82				
74.8 hours hand alterations @ $1	74 80				
206 hours machine alterations @ $1.50	309 00				
1 copy negative 8x10 Armory	1 50				
Repairing plate of buildings	2 50				
Pasting label and wrapping books singly for express	48 90				
	$4,522 52				
Less 72 pp. 3,000 copies @ $3.20 pp.	$230 40				
Less 72 pp. 483 copies @ $24 M.	11 59				
	241 99				
		4,280 53			
Total to R. R. Donnelley & Sons			4,371 53		
Total					5,140 29
May 31, 1913, bal. in appropriation					$359 71

DISTRIBUTION OF BOOKS.

Number of copies received		3,483
Advance orders filled	2,203	
Later orders filled	140	
Distributed gratis	45	
Copies on hand	1,095	
		3,483

RECEIPTS.

To June 9, 1913	$2,375 70

ORDERS NOT PAID.

To June 9, 1913, 760 @ $1.50 ....$1,140 00

$3,515 70

Respectfully submitted,
JAMES H. KELLEY.

LLEWELLYN PRIZE FOR ARCHITECTURAL ENGINEERS.

(8) The following letter from Mr. Joseph C. Llewellyn, of Chicago, a graduate of the University of the Class of 1877, offering to establish, for a period of four years, a prize of fifty dollars ($50) per annum for a problem in design, the competition to be limited to the architectural engineers:

April 29, 1913.

Professor F. M. Mann, Champaign, Ill.

MY DEAR PROFESSOR MANN: I have noticed with considerable interest the desire of the architectural engineers at work in the offices of architects and elsewhere to acquire some knowledge of architectural design. The advantage of such knowledge is apparent to any one who has attempted to work architectural draftsmen and architectural engineers together, and I can not help but feel that any instruction which would acquaint the architectural engineers with the principles of designing would be a distinct advantage both to themselves and those who employ them.

I realize it is practically impossible to crowd into a four years' course all that a young man should have, but it has occurred to me that a prize offered to architectural engineers for the best presentation of some simple problem in design might induce them to do a little outside thinking, reading, and work along this line, so have this proposition to make to you.

I will give you fifty dollars ($50) annually for the next four years as a prize for a problem in design, limited to the architectural engineers. Beyond the four years I make no promise. It remains to be seen what good will come from the experiment.

Yours very truly,
J. C. LLEWELLYN.

It was voted that this gift be accepted, and that the thanks of the Board of Trustees be sent to Mr. Llewellyn.

LIST OF EXPERIMENT FIELDS.

(9) Lists of the experiments fields which are being operated by the Departments of Agronomy and Horticulture of the College of Agriculture.

These lists were received to be printed in the minutes:

[EXPERIMENT FIELDS OPERATED BY THE DEPARTMENT OF AGRONOMY.]

Field.	Year located.	No. of acres.	Method of holding.
Cutler	1902	18	Permanent lease with rent, $6 per acre.
Du Bois	1902	5	By rent, $4 per acre.
Odin	1902	20	Permanent lease with rent, $5 per acre.
Virginia	1902	11⅛	By rent, $8 per acre.
Mascoutah	1902	14½	By rent, $8 per acre.
Sibley	1902	7½	By rent, $6 per acre.
Bloomington	1902	4	By rent, $8 per acre.
Momence	1902	5¾	By rent, $5 per acre.
Antioch	1902	1 7/10	By rent, $5 per acre.
Galesburg	1904	25	By rent, $8 per acre.
Rockford	1904	13¼	By rent, $8 per acre.
Fairfield	1905	40	By rent, $5 per acre.
DeKalb	1906	36¼	By rent, $8 per acre.
Vienna	1906	16	Purchased by University.
Manito	1907	12½	By rent, $5 per acre.
Union Grove	1907	20	By rent, $8 per acre.
Magnolia	1907	6	By rent, $6 per acre.
Ewing	1910	20	By deed of gift.
Carlinville	1910	20	Permanent lease without rent.
Raleigh	1910	14	By deed of gift.
Unionville	1910	20+	By deed of gift.
Minonk	1910	15	By deed of gift.
La Moille	1910	20	By deed of gift.
Mt. Morris	1910	20	By deed of gift.
Dixon	1910	20	By deed of gift.
Lebanon	1910	20	By deed of gift.
Aledo	1910	20	By deed of gift.
Carthage	1911	20	By deed of gift.
Clayton	1911	20	By deed of gift.
Hartsburg	1912	20	By deed of gift.
Oblong	1912	20	By deed of gift.

LIST OF EXPERIMENT FIELDS—*Concluded.*

Field.	Year located.	No. of acres.	Method of holding.
Newton	1912	30	By deed of gift.
Pana	1912	30	By deed of gift.
Sidell	1912	20	By deed of gift.
West Salem	1912	24	By deed of gift.
Enfield	1912	20	By deed of gift.
Toledo	1913	17	By deed of gift.

April, 1913.

[EXPERIMENT FIELDS OPERATED BY THE DEPARTMENT OF HORTICULTURE.]

April 15, 1913.

Dean E. Davenport, Urbana, Ill.

DEAR DEAN DAVENPORT: In response to your request for information regarding the experimental fields now in operation by the Department of Horticulture, I beg leave to submit the following:

The only experimental tracts owned by the department outside of Urbana are a 76-acre farm at Olney and the 19-acre Gunn orchard near by. The orchard has been used for spraying and renovation experiments, and the 76-acre tract has been planted with some 400 varieties of apples and peaches which have been bred for the purpose by the department. We also have considerable small fruit area on this place. The plantings of both small and orchard fruits will be greatly extended this year.

The only tract which we have leased at the present time is the 19-acre Eggington orchard 4½ miles west of Flora in Clay County. Adjoining this tract we have fourteen acres at what was known as the Hannon orchard, which has been under our supervision for twelve years. The 14-acre tract is used by the department for fertilizer experiments.

The balance of our experimental work has been and will continue for some time to be, conducted in cooperation with the owners of orchards, wherever we can make the most satisfactory arrangements for the pursuance of the work. During the past three years we have had twelve acres at Neoga in cooperation with Mr. H. A. Aldrich; at Anna two acres in the Anderson orchard; and at Griggsville five acres in the Turner orchard.

In addition to the orchard work, we have had experimental vegetable work at Anna, Cobden and Kinmundy, in cooperation with tomato and melon growers. These areas, however, have been small, never more than two acres in extent.

If this does not give all the information you desire for the president, I will be glad indeed to go more in detail.

Respectfully submitted,
J. C. BLAIR,
Head of Department of Horticulture.

ASSIGNMENT OF BALANCES, COLLEGE OF AGRICULTURE.

(10) A recommendation from Dr. Eugene Davenport, Dean of the College of Agriculture, that the following prospective balances be assigned as indicated:

Prospective Balances.

Veterinary science	$6,800 00
Agricultural extension	7,000 00
Unassigned balances	2,200 00
Total	$16,000 00

Assignment of Prospective Balances.

To the College and Experiment Station	$6,500 00
To the Horticultural Department	4,500 00
To the Dairy Department	4,000 00
To the Household Science Department	1,000 00
Total	$16,000 00

On motion of Mrs. Evans, this recommendation was approved.

REPORT OF THE WORK OF THE RESEARCH LABORATORY IN NUTRITION.

(11) A report from Dr. H. S. Grindley, Professor of Animal Chemistry, of the work of the Research Laboratory in Nutrition from its establishment in 1897 to the present time

This report was received to be printed in the minutes:

May 6, 1913.

President Edmund J. James, University of Illinois, Urbana, Ill.

MY DEAR PRESIDENT JAMES: I transmit herewith Exhibit A to E inclusive, which give summaries of the funds, results, publications, etc., of the Research Laboratory in Nutrition since the beginning of the work in 1897.

Exhibit A gives a list of the special research funds of the Research Laboratory in Nutrition.

Exhibit B gives a summary of some of the more important results of the Research Laboratory in Nutrition since the beginning of the work in 1897.

Exhibit C gives a list of the publications from the Research Laboratory in Nutrition from 1897 to the present date.

Exhibit D gives a list of the manuscripts ready or almost ready for publication.

Exhibit E is a collection of quotations from investigators who have either quoted the results of this laboratory or have written us regarding the results of our investigations.

I shall be pleased to furnish you any additional information you may desire in this connection.

Very truly yours,
H. S. GRINDLEY.

EXHIBIT A.

SPECIAL RESEARCH FUNDS OF THE RESEARCH LABORATORY IN NUTRITION, 1897-1901.

The research work in nutrition in this laboratory was started in 1897, with the cooperation of the Office of Experiment Stations of the United States Department of Agriculture. The first researches in nutrition of this laboratory were made to determine the food requirements of man.

From 1897 to 1907 the United States Department of Agriculture assisted this research laboratory by granting, during this period of ten years, $7,500 to aid our researches.

During 1902 and 1904 this nutrition laboratory received two grants from the Elizabeth Thompson Science fund of Boston, amounting to $550.

In 1906 and 1907 the laboratory received two grants, amounting to $1,000, from the cold storage interests of Chicago.

During the years 1898 to 1907 the Illinois Agricultural Experiment Station furnished, with the approval of the Trustees of the University, this Research Laboratory of Nutrition $8,500 for this work.

From 1907 to 1909 the American Meat Packer's Association appropriated $50,000 for the nutrition investigations of this laboratory.

From 1908 to 1911 the Trustees of the University voted $28,745 for our researches.

EXHIBIT B.

SUMMARY OF SOME OF THE MORE IMPORTANT RESULTS OF THE RESEARCH LABORATORY IN NUTRITION SINCE THE BEGINNING OF THE WORK IN 1897.

1. The investigations have proved conclusively that the cheaper cuts of meat are just as wholesome, just as nutritious, and in every way just as good as the more expensive cuts from the same carcass, except that the latter give greater gratification to the palate.

2. The researches of this laboratory have resulted in the perfection of a precise method of roasting meats, by which it is possible to cook meats under conditions that can be exactly controlled with scientific accuracy, thus giving products that are more palatable, more digestible, and therefore more nutritious, than such meats cooked under conditions less accurately controlled. The results of this line of investigation have been made the basis of a valuable fireless cooking device by a prominent American manufacturing company.

3. The results of extensive and elaborate digestion experiments which have been made by this Research Laboratory show that meat of all sorts is to be classed among the very digestible foods, and that differences in kind, cut, or method of preparation for the table have less effect upon the ease or the thoroughness of digestion than has been frequently claimed. These investigations have conclusively demonstrated the fact that meats have a very high nutritive value considered from the standpoint of their digestibility.

4. As a result of 150 experiments to determine the losses of nutrients occurring during the cooking of meats, it has been shown: (a) That considerable water (34 to 67 per cent) was lost no matter what the method of cooking, the greatest amount being lost in pot roasting and sauteing, a moderate amount in boiling and broiling, and the least amount in roasting; (b) that the losses in crude protein varied from 1 to 7 per cent, the greatest loss occurring in boiling and the smallest in broiling; (c) that the losses of fat varied from 5 to 44 per cent, the greatest loss occurring in roasting and pot-roasting, while in sauteing considerable fat was added to the meat; (d) that the losses of mineral matter varied from 3 to 45 per cent, the greatest loss occurred in boiling and the smallest in sauteing. In general, the various methods of cooking meats materially modify the appearance, texture, and flavor of the meat, and hence its palatability, but have comparatively little effect upon the total nutritive value.

5. The extensive dietary studies of the inmates of the State charitable institutions which have been made by the workers of this laboratory under the auspices

of the Pellagra Commission, appointed by Governor Deneen to investigate the cause of this disease and to study the food conditions of the inmates of these institutions of this State have shown that the dietaries of the inmates of these institutions of this State are chiefly vegetable in nature and that they undoubtedly could be decidedly improved by increasing the amounts of animal foods, and by giving them more variety by furnishing fresh fruits and vegetables in season to insure the proper quantities of mineral elements. Quite aside from any contribution to the pellagra question, these researches have clearly demonstrated that the broader problems of diet in public institutions are well worthy of continued investigation by methods which are accurate and by persons who are competent.

6. The nutrition investigations upon man that have been made by this laboratory have given by far the greatest amount of exact scientific data upon the normal nutrition of man that has ever been obtained up to the present date, as the result of one continuous investigation of a group of men. The detailed study that has already been given to this vast mass of experimental data shows beyond doubt that scientific and practical results of much value to the science of nutrition and of direct benefit to the people of this State will in the end be the outcome of these researches. The results of this investigation are of fundamental importance and value to the nutrition of man in disease, and are therefore of inestimable value to sanitary and public health, as also to the sciences of medicine, physiology, nutrition and biological chemistry.

7. These investigations upon the nutrition of man have shown that nitrates are widely distributed in our common foods, especially fresh vegetables and fresh fruits, and that individuals living mainly upon vegetables and fruits ingest as much or even more nitrates than individuals consuming one-half to three-fourths of a pound of cured meats per day. It is evident from the results of these investigations that nitrates are present in a number of the organs and the fluids of the animal body. Further, it seems more than probable that nitrates in minute amounts enter into many of the processes of metabolism in the animal organism just as they do in the plant organism.

8. Recent statistical methods have been successfully applied for the first time to the interpretation and study of the experimental data of metabolism experiments upon man and farm animals. The application of these statistical methods to such data is of more importance, for thereby the deductions will be logical and more nearly correct and therefore of greater significance and of more influence in securing the health of the public.

9. The investigations of this laboratory have shown that there are apparently significant seasonal variations in practically all of the nutritional processes of man. For example, the average number of red cells in the blood of twenty men in November was 5,732,000 per cubic millimeter, while in July the number averaged only 4,721,000.

10. The large amount of scientific data recorded in connection with the nutrition experiments upon men furnishes important information as to the influence of the different classes of foods, i.e., vegetable and animal foods, and also as to the influence of different kinds of individual foods, i.e., meats, milk, bread, fruits, etc., upon the nutrition and the health of man.

11. Our researches have shown that in the case of normal adult men, eating an ordinary mixed diet, the average number of fecal bacteria excreted daily is about 33x1012; the average daily bacterial dry substance about 5.34 grams; and the daily bacterial nitrogen 0.585 grams, making up 46.3 per cent of the total fecal nitrogen. There is considerable individual variation in the average quantity of fecal bacteria even in persons taking the same diet. The number of fecal bacteria brought to development on artificial media is a minute fraction of the total fecal bacteria microscopically visible.

12. The studies of this laboratory have shown clearly that there is marked variability in the functional activities of the same man or lower animal and of different individuals of the same species. For example, the coefficients of variability of the average quantities of the various forms of urinary nitrogen excreted in twenty-four hours by six normal men were as follows: Urea nitrogen 6.8 to 8.2; ammonia nitrogen 6.7 to 13.5; creatinin nitrogen 5.6 to 7.7; uric acid nitrogen 4.2 to 11.5.

13. About 280 individual digestion experiments with steers, 50 with swine and 18 with sheep have been made. It is impossible to summarize in any detail at this time the results of these experiments. Among the most interesting of the results are the following: (a) The apparent coefficients of digestibility of the feeds vary inversely as the amounts of feed consumed i.e., a steer on maintenance apparently digests relatively more from a given ration than a steer on full feed; (b) a ration containing a liberal supply of protein is more digestible than one containing a minimum amount of protein; (c) apparently the coefficients of digestibility of clover hay are increased when the proportion of concentrates—corn and oil meal—in the ration is increased.

14. A large number of experiments have been made to determine the influence of different kinds of feeding stuffs upon the growth, fattening, and nutrition of beef cattle, swine and lambs. Several publications giving the results of these lines of research are now either in press or being prepared for publication.

15. It has been demonstrated experimentally that a daily ration consisting of ground corn, blood meal, and an ample amount of calcium phosphate, containing only 0.27 pounds of digestible protein, and yielding 3.40 therms of metabolizable energy per 100 pounds of live weight, was not sufficient for normal nutrition of pigs.

16. It has been proven by experiments that daily rations consisting of ground corn, blood meal, and an ample amount of calcium phosphate, containing 0.68 and 8.89 pounds of digestible protein, and yielding 4.18 and 4.39 therms of metabolizable energy per 100 pounds of live weight, were sufficient for the normal nutrition of pigs.

17. We have apparently proved that steers may be fattened upon a very low protein ration. The results obtained clearly indicate that Chittenden's theory as to the desirability and economy of low protein rations for men should be closely studied both theoratically and experimentally from the standpoints of the lower animals and of the economic production of beef, mutton and pork.

18 Our experimental results show that the quantity of feed furnished fattening steers decidedly influences the proportion of the feed digested by the animals. The greater the feed eaten, the less is the coefficient of digestibility of the nutrients.

EXHIBIT C.

PUBLICATIONS FROM THE RESEARCH LABORATORY IN NUTRITION.

A. From 1897 to 1906, Inclusive.

1. *A Study of the Milk Supply of Chicago.* By Jane Addams and H. S. Grindley. University of Illinois. Agr. Exp. Sta. Circular, No. 13, pp. 1-18 (1898).

2. *A Study of Foods.* By H. S. Grindley. Published by the Department of Chemistry of the College of Science of the University of Illinois, Circular, pp. 1-7 (1898).

3. *Analysis of Foods.* By H. S. Gridley. University of Illinois, College of Science, Circular, pp. 1-14 (1899).

4. *Nutrition Investigations.* By H. S. Grindley and J. L. Sammis. U. S. Dept. of Agr., Office of Experiment Stations, Bul. 91, pp. 1-20 (1900).

5. *Experiments on Losses in Cooking Meats.* By H. S. Grindley, with the cooperation of H. McCormack and H. C. Porter. U. S. Dept. of Agr. Office of Experiment Stations, Bul. 102, pp. 1-64 (1901).

6. *The Artificial Method for Determining the Ease and the Rapidity of the Digestion of Meats.* By H. S. Grindley and Timothy Mojonnier. The University Studies, University of Illinois, Vol. I, April, 1903, pp. 185-208.

7. *The Chemistry of Flesh. I. The Nitrogenous Constituents of Flesh.* By H. S. Grindley. Journ. Amer. Chem. Soc., Vol. 26, pp. 1086-1107 (1904).

8. *A Study of the Nitrogenous Constituents of Meats.* U. S. Dept. of Agr., Bur. of Chem., Bul. 81, pp. 110-118 (1904).

9. *Experiments on Losses in Cooking Meats.* By H. S. Grindley and Timothy Mojonnier. U. S. Dept. of Agr., Office of Experiment Stations, Bul. 141, pp. 1-95 (1904).

10. *On the Presence of Cottonseed Oil in Lards from Hogs Fed upon Cottonseed Meal.* By A. D. Emmett and H. S. Grindley. Journ. Amer. Chem. Soc., Vol. 27, pp. 263-270 (1905).

11. *The Chemistry of Flesh. II. Imported Methods for the Analysis of Animal Substances.* By H. S. Grindley and A. D. Emmett. Jour. Am. Chem. Soc., Vol. 27, pp. 658-678 (1905).

12. *Studies on the Influence of Cooking upon the Nutritive Value of Meats.* By H. S. Grindley and A. D. Emmett. U. S. Dept. of Agr., Office of Experiment Stations, Bul. 162, pp. 1-230 (1905).

13. *The Chemistry of Flesh. III. A Study of the Phosphorus Content of Flesh.* By A. D. Emmett and H. S. Grindley. Jour. Amer. Chem. Soc., Vol. 28, pp. 25-63 (1906).

14. *The Chemistry of Flesh. IV. A Study of the Proteids of Beef Flesh.* By P. F. Trowbridge and H. S. Grindley. Jour. Amer. Chem. Soc., Vol. 28, pp. 469-505 (1906).

B. From 1907 to 1913, Inclusive.

15. *Comparative Test of Spiro's and Folin's Methods for the Determination of Ammonia and Urea.* By Paul E. Howe and P. B. Hawk. A paper read before the Amer. Soc. of Biol. Chemists, December 30, 1907. Abstract published in Proceedings of the Soc., Vol. 1, No. 3, pp. 104-105 (1907).

16. *Studies on the Effect of Different Methods of Cooking upon the Thoroughness and Ease of Digestion of Meat.* By H. S. Grindley, with the cooperation of Timothy Mojonnier and Horace C. Porter. U. S. Dept. of Agr., Office of Experiment Stations, Bul. 193, pp. 1-100 (1907).

17. *A Precise Method of Roasting Beef.* By Elizabeth C. Sprague and H. S. Grindley. The University Studies, University of Illinois, Vol. IV, May 15, 1907, pp. 287-321.

18. *The Chemistry of Flesh. V. Methods for the Determination of Creatinin and Creatin in Meats and their Products.* By H. S. Grindley and H. S. Woods. Journ. Biol. Chem., Vol. 2, pp. 309-315 (1907).

19. *Chemistry of Flesh. VI. Further Studies on the Application of Folin's Creatin and Creatinin Method to Meats and Meat Extracts.* By A. D. Emmett and H. S. Grindley. Journ. Biol. Chem., Vol. 3, pp. 491-516 (1907).

20. *Analyses of Meat Extracts.* By H. S. Grindley and H. H. Mitchell. U. S. Dept. of Agr., Bul. 116, pp. 45, 48, and 50 (1908).

21. *The Uric Acid Excretion of Normal Men.* By P. J. Hanzik and P. B. Hawk. Jour. Biol. Chem., Vol. 5, pp. 355-365 (1908).

22. *Necessity of Investigations as to the Effects of Cold Storage upon Food Products.* By H. S. Grindley. Ice and Refrigeration, Vol. —, pp. — (1908).

23. *Importance of Research to the Packers.* By H. S. Grindley. The Amer. Food Journ., Vol. 3, pp. 5-8 (1908).

24. *The Anaerobic Bacteria of the Human Intestine and Some Methods for their Isolation.* By W. J. MacNeal, L. L. Latzer, and J. E. Kerr. Read at the Lake Placid Conference on Home Economics, July 6-10, 1908. Abstract published

in the Proceedings of the Tenth Annual Conference of the above organization (1908).

25. *The Chemistry of Flesh.* By H. S. Grindley. A paper read before the Amer. Chem. Soc., Chicago, May 23, 1908. Abstract published in Journ. Amer. Chem. Soc., Vol. 30, p. 76 (1908).

26. *The Determination of Ammonia in Meat and Meat Products.* By F. W. Gill and H. S. Grindley. A paper presented to the Amer. Soc. of Biol. Chemists, December 30. 1907. Abstract published in Science, Vol. 27, p. 497 (1908).

27. *On the Efficiency of Thymol and Refrigeration for the Preservation of Urine, as Shown by Comparative Analyses for the various Nitrogenous Constituents at the end of 24, 48, 72, and 96 hours.* By P. B. Hawk and H. S. Grindley. A paper presented to the Amer. Soc. Biol. Chemists, December, 1907. Abstract published in the Proceedings of the Society, Vol. 1, No. 3, pp. 103-104 (1908).

28. *The Determination of Total Sulphur in Urine.* By F. W. Gill and H. S. Grindley. Jour. Amer. Chem. Soc., Vol. 31, 52-59 (1909).

29. *The Daily Excretion of Bacteria in the Feces of Healthy Men.* By W. J. MacNeal, L. L. Latzer, and J. E. Kerr. Read before the Society of Experimental Biology and Medicine, February 17, 1909. Abstracted in the Proceedings of the Soc. for Exp. Biol. and Med., Vol. 6, pp. 88-89 (1909).

30. *The Fecal Bacteria of Healthy Men. I.* By W. J. MacNeal, L. L. Latzer, and J. E. Kerr. Journ. Infectious Diseases, Vol. 6, pp. 123-169 (1909).

31. *Comparative Tests of Spiro's and Folin's Methods for the Determination of Ammonia and Urea.* By P. E. Howe and P. B. Hawk. Journ. Biol. Chem., Vol. 5, pp. 477-484 (1909).

32. *The Chemistry of Animal Feces. I. A Comparison of the Analysis of Fresh and Air-Dried Feces.* By A. D. Emmett and H. S. Grindley. Journ. Amer. Chem. Soc., Vol. 31, pp. 569-579 (1909).

33. *The Preservation of Urine by Thymol and Refrigeration.* By F. W. Gill and H. S. Grindley. Journ. Amer. Chem. Soc., Vol. 31, pp. 695-710 (1909).

34. *The Chemistry of Animal Feces. II. The Determination of Fatty Matter in Animal Feces by Ether and Carbon Tetrachloride.* By A. D. Emmett. Journ. Amer. Chem. Soc., Vol. 31, pp. 693-695 (1909).

35. *The Determination of Total Sulphur in Urine.* By F. W. Gill and H. S. Grindley. A paper presented to the Amer. Soc. of Biol. Chemists, December 28, 1908. Abstract published in the Proceedings of the Society, Vol. 1, No. 4 (1909).

36. *The Influence of Cold Storage upon Flesh.* By A. D. Emmett and H. S. Grindley. A paper presented to the Amer. Soc. of Biol. Chemists, December 28, 1908. Abstract published in the Proceedings of the Society, Vol. 1, No. 4 (1909).

37. *Some Problems in Animal Nutrition.* By H. S. Grindley. A paper read before the Illinois Section of the American Chem. Soc., March, 1909. Abstract published in the Proceedings Amer. Chem. Soc., Vol. 31, p. 55 (1909).

38. *Animal Nutrition. The Chemical Composition of the Wholesale Cuts of Beef from Three Animals.* By A. D. Emmett and H. S. Grindley. A paper read before the Amer. Chem. Soc., July 1, 1909. Abstract published in Science, Vol. 30, p. 764 (1909).

39. *A Study of the Food Requirements of a Group of Twenty-four Men.* By H. S. Grindley and H. H. Mitchell. A paper presented to the Amer. Chem. Soc., July 1, 1909. Abstract published in Science, Vol. 30, p. 241 (1909).

40. *Primary Creatinin of Men in Health.* By H. S. Grindley. A paper read before the Amer. Chem. Soc., July 1, 1909. Abstract published in Science, Vol. 30, pp. 250-251 (1909).

41. *Urinary Nitrogen of Men in Health.* By H. S. Grindley. Paper presented to the Amer. Chem. Soc., Indianapolis, March 27, 1909. Proceedings of Amer. Chem. Soc., Vol. 31, p. 66 (1909).

42. *The Determination of Phosphorus in Foods, Feces, and Urine.* By F. W. Gill J. B. Petersen, and H. S. Grindley. A paper read before the Amer. Soc. of Biol. Chemists, December 28, 1908. Abstract published in the Proceedings of the Society, Vol. 1, No. 4 (1909).

43. *The Chemistry of Flesh. VII. A Preliminary Study of the Effect of Cold Storage upon Beef and Poultry.* By A. D. Emmett and H. S. Grindley. Journ. of Indus. and Eng. Chem., Vol. 1, pp. 413-436 (1909).

44. *The Chemistry of Flesh. VIII. A Preliminary Study of the Effect of Cold Storage upon Beef and Poultry.* By A. D. Emmett and H. S. Grindley. Journ. of Indus. and Eng. Chem., Vol. 1, pp. 580-597 (1909).

45. *Chemistry in Its Relation to Animal Nutrition.* By H. S. Grindley and A. D. Emmett. Illinois Agriculturist, Vol. XIII, pp. 8-12 (1909).

46. *The Determination of Urea in Urine.* By F. W. Gill, F. G. Allison, and H. S. Grindley. Journ. Amer. Chem. Soc., Vol. 31, pp. 1078-1093 (1909).

47. *Total Nitrogen Determination by the Kober Method.* By F. W. Gill and H. S. Grindley. Journ. Amer. Chem. Soc., Vol. 31, pp. 1249-1252 (1909).

48. *The Bacteriology of Infectious Abortion.* By Ward J. MacNeal. Illinois Agriculturist, Vol. XIII, p. 21 (1909).

49. *The Fecal Bacteria of Healthy Men. II.* By W. J. MacNeal, L. L. Latzer, and J. E. Kerr. Journ. Infec. Diseases, Vol. 6, pp. 571-609 (1909).

50. *The Nutritive and Economic Values of the Cheaper Cuts of Beef as Compared with the Choice and Expensive Cuts.* By H. S. Grindley. Harper's Weekly, Vol. 54, February 26, 1910, pp. 11-12.

51. *Bacillus Abortus of Bang, the Cause of Contagious Abortion in Cattle.* By W. J. MacNeal and J. E. Kerr. Journ. Infect. Diseases, Vol. 7, No. 3 (1910).

52. *Pellagra.* By W. J. MacNeal. Illinois Medical Journal, Vol. 17, pp. 59-67 (1910).

53. *The Preservation of Meats by Cold Storage.* By H. S. Grindley. Illinois Medical Journal, Vol. 17, No. 2, pp. 152-7, February, 1910.

54. *The Determination of Inorganic and Organic Phosphorus in Meats.* By H. S. Grindley and E. L. Ross. Journ. Biol. Chem., Vol. VIII, pp. 483-493 (1910).

55. *On the Metabolism Experiment as a Statistical Problem.* By H. L. Rietz and H. H. Mitchell. Journ. Biol. Chem., Vol. 8, pp. 297-326 (1910).

56. *On the Preservation of Feces.* By P. E. Howe, T. A. Rutherford, and P. B. Hawk. Journ. Amer. Chem. Soc., Vol. 32, pp. 1683-1686 (1910).

57. *Protein as a Factor in the Nutrition of Animals. I. A Study of the Physical Constants of Fats from Swine.* By A. D. Emmett and E. C. Carroll. A paper presented to the Amer. Soc. of Biol. Chem., December 29, 1910. Abstract published in the Proceedings of the Society, Vol. II, No. 1 (1910).

58. *Report of the Bio-chemical Work Done under the Auspices of the Illinois Pellagra Commission.* By A. F. Wussow and H. S. Grindley. Report of the Pellagra Commission of the State of Illinois, pp. 197-241 (1911).

59. *The Etiology of Contagious Abortion of Cows.* By W. J. MacNeal. The Illinois Agriculturist, Vol. XV, pp. 8-14 (1911).

60. *On the Creation of the Flesh of Swine and Lambs.* By W. E. Joseph and A. D. Emmett. A paper presented to the Amer. Chem. Soc., Indianapolis, 1911. Abstract published in the Biochem. Bul. No. 1, p. 112 (1911).

61. *Effect of the Quantity of Protein Ingested on the Nutrition of Animals, III. On the Ash and Total Phosphorus of Muscle from Lambs.* By R. H. Williams and A. D. Emmett. A paper read before the Amer. Chem. Soc., Indianapolis, 1911. Abstract published in the Biochem. Bul., No. 1, p. 111 (1911).

62. *The Intestinal Bacteria of Pellagrins.* By W. J. MacNeal and Josephine (Kerr) Allison. Report of the Pellagra Commission of the State of Illinois, pp. 55-160 (1911).

63. *Studies in Nutrition. Investigation of the Influence of Salpeter on the Nutrition and Health of Man with Reference to its Occurrence in Cured Meats. Vol. III.* By H. S. Grindley and Ward J. MacNeal, with the assistance of F. W. Gill, H. H. Mitchell, and others. With the cooperation of an advisory board consisting of Russell H. Chittenden, Sheffield Scientific School of Yale University, David L. Edsall, Washington University Medical School, H. S. Grindley, University of Illinois, Albert P. Mathews, University of Chicago, and Theobald Smith, Harvard University Medical School. The University of Illinois, pp. 1-442. July, 1912.

64. *Effect of the Quantity of Protein Ingested on the Nutrition of Animals. VI. On the Chemical Composition of the Entire Body of Swine.* By A. D. Emmett and R .H. Williams. A paper presented to the Amer. Soc. of Biol. Chem., December 28, 1911. Abstract published in the Proceedings of the Society, Vol. II, No. 2, p. 69 (1911).

65. *Report on Organic and Inorganic Phosphorus in Foods (Summary).* By H. S. Grindley and E. L. Ross. U. S. Dept. of Agr., Bureau of Chemistry, Bul. 137, pp. 142-144 (1911).

66. *On the Chemical Composition of the Skeleton of Swine.* By A. D. Emmett and Carl Christopher. A paper presented to the Amer. Chem. Soc., Washington, 1911. Abstract published in Science, Vol. 35, p. 392 (1912).

67. *The Relative Nutritive Value of the Cuts of Beef.* A paper read before the Amer. Chem. Soc., Washington, 1911. Abstract published in Science, Vol. 35, p. 392 (1912).

68. *Relative Economy, Composition, and Nutritive Value of the Various Cuts of Beef.* By L. D. Hall and A. D. Emmett. Univ. of Ill. Agric. Exp. Sta. Bull. 158, pp. 135-233 (1912).

69. *Pellagra in Illinois.* Condensed Report of the Illinois Pellagra Commission. Drs. Frank Billings, J. L. Greene, O. S. Ormsby, C. W. Webster, H. S. Grindley, H. T. Ricketts, H. D. Singer and W. J. MacNeal. The Archives of Internal Medicine, Vol. 10, pp. 123-168; 219-249 (1912).

70. *Studies in Nutrition. An Investigation of the Influence of Salpeter on the Nutrition and Health of Man with Reference to its Occurrence in Cured Meats. Vol. IV.* By H. S. Grindley and Ward J. MacNeal, with the assistance of H. H. Mitchell, F. W. Gill and others. With the cooperation of an advisory board consisting of Russell H. Chittenden, Sheffield Scientific School of Yale University, David L. Edsall, Washington University Medical School, H. S. Grindley, University of Illinois, Albert P. Mathews, University of Chicago, and Theobald Smith, Harvard University Medical School. The University of Illinois, pp. 1-494. January, 1912.

71. *Studies in Nutrition. An Investigation of the Influence of Salpeter on the Nutrition and Health of Man with Reference to its Occurrence in Cured Meats. Vol. V.* By H. S. Grindley and Ward J. MacNeal, with the assistance of Josephine Kerr, William S. Shapin, Lenore L. Latzer and Thomas A. Rutherford. With the cooperation of an advisory board consisting of Russell H. Chittenden, Sheffield Scientific School of Yale University, David L. Edsall, Washington University Medical School, H. S. Grindley, University of Illinois, Albert P. Mathews, University of Chicago, and Theobald Smith, Harvard University Medical School. The University of Illinois, pp. 1-547, November, 1912.

72. *Food Values and the Cheaper Cuts of Beef.* By A. D. Emmett. The Illinois Agriculturist, Vol. 17, pp. 115-119 (1913).

73. *Report of the Biochemical Work Done under the Auspices of the Illinois Pellagra Commission.* By A. F. Wussow and H. S. Grindley. Report of the Pellagra Commission of the State of Illinois, 1911, pp. 197-241.

74. *The Intestinal Bacteria of Pellagrins.* By W. J. MacNeal and Josephine (Kerr) Allison. Report of the Pellagra Commission of the State of Illinois, 1911, pp. 55-160.

75. *The Protein and Energy Requirements of Fattening Lambs as Determined by a Study of American Feeding Experiments.* By Sleeter Bull and A. D. Emmett. A paper presented to the Amer. Chem. Soc., Milwaukee, 1913. Abstract published in Science, Vol. 37, p. 676 (1913).

EXHIBIT D.

MANUSCRIPTS READY OR ALMOST READY FOR PUBLICATION.

A. Manuscripts Accepted for Publication.

1. *A Review of American Investigations on Fattening Lambs with Special Reference to the Protein and Energy Requirements.* By Sleeter Bull and A. D. Emmett. Accepted for publication as a Bulletin from the Illinois Agricultural Experiment Station. Estimated printed pages, 40.

2. *The Element of Uncertainty in Feeding Experiments.* By H. H. Mitchell and H. S. Grindley. Accepted for publication as a Bulletin from the Illinois Agricultural Experiment Station. Estimated printed pages, 65.

3. *Studies in Nutrition. An Investigation of the Influence of Salpeter on the Nutrition and Health of Man with Reference to its Occurrence in Cured Meats. Vol. I.* By H. S. Grindley, Ward J. MacNeal and H. H. Mitchell. With the cooperation of an advisory board consisting of Russell H. Chittenden, Sheffield Scientific School of Yale University, David L. Edsall, Washington University Medical School, H. S. Grindley, University of Illinois, Albert P. Mathews, University of Chicago, and Theobald Smith, Harvard University Medical School.

B. Manuscripts Almost Complete.

1. *Influence of the Quantity of Protein Ingested by Growing Pigs on the Development of the Body.* By A. D. Emmett and H. S. Grindley. To be issued as a Bulletin from the Illinois Agricultural Experiment Station. Estimated printed pages, 45.

2. *The Relative and Actual Efficiency of Heavy, Medium and Light Rations for Feeding Steers as Determined from Digestion Experiments.* By H. W. Mumford, H. S. Grindley, L. D. Hall, and A. D. Emmett, with the cooperation of W. E. Joseph and H. O. Allison. To be published as a bulletin from the Illinois Agricultural Experiment Station. Estimated printed pages, 50.

2. *Coefficients of Digestibility of Feeds for Swine.* By Wm. Dietrich and H. S. Grindley. To be issued as a bulletin from the Illinois Agricultural Experiment Station. Estimated printed pages, 40.

4. *Correlation Studies in Metabolism. I. Method.* By H. H. Mitchell and H. L. Rietz. To be printed in the scientific journals. Estimated printed pages, 30.

5. *Correlation Studies in Metabolism. II. The Constituents of the Feces.* By H. H. Mitchell and H. S. Grindley. To be printed in the scientific journals. Estimated printed pages, 45.

EXHIBIT E.

THE VALUE OF THE WORK OF THE RESEARCH LABORATORY.

The work of the Research Laboratory in Animal Nutrition has received much notice from investigators the world over, and the results obtained have been widely and frequently quoted. That this is true may be seen from the following partial list of quotations.

Professor Lafayette B. Mendel, of Yale University in Science of April 9, 1909, says: "The evidence now seems conclusive that creatinine is not present performed in the muscular tissues (Grindley and Woods; Mellandy, 1909; Mendel and Leavenworth). This same author also refers to two publications from our Research Laboratory as follows: Emmett and Grindley, Jour. Biol. Chem., 1907, Vol. 3, p. 491; Grindley and Woods, Jour. Biol. Chem., 1907, Vol. 2, p. 309.

Dr. F. C. Cook, of the Laboratory of Animal Physiology, Bureau of Chemistry, U. S. Dept. of Agriculture, Washington, D. C., in the Journal of Biol. Chem., Vol. 6, p. XXIV, refers to the method of Grindley and Woods used for the determination of creatine and creatinine in meat extracts.

W. D. Richardson and Erwin Scherubel in the Jour. Chem. Soc., Vol. 30, p. 1526, say: "In general the methods of Konig, of Grindley, of Winton, of Bigelow and Cook were freely used and in some instances modified in the interest of simplicity, speed, and accuracy. In particular the cold water extract of Grindley," etc., etc. These authors quote six papers published from this Research Laboratory of Animal Nutrition.

Drs. W. D. Bigelow and F. C. Cook in Bulletin 114, p. 40, Bureau of Chemistry, U. S. Department of Agriculture, quote as follows: "Grindley and Woods have determined separately the kreatin and kreatinine content of several extracts of meat and found both present in varying amounts. It is necessary, therefore, to determine these two bodies separately when a careful study of the nitrogenous bodies of meat extract is made.

John Phillip Street, Report of the Conn. Agric. Ex. Station, Food Products, 1908, quotes the work of the Research Laboratory as follows: "The characteristic salts of true meat extracts are potassium dihydrogen phosphate, and potassium monohydrogen phosphate, the former predominating, Trowbridge and Grindley Journ. Amer. Chem. Soc., 1906, 28, p. 471. "As already stated, the chief acid phosphates of meat are potassium dihdrogen and potassium monohydrogen phosphate. The former is acid to phenolphthalein, while the latter is neutral to this indicator, Trowbridge and Grindley, Jour. Amer. Chem. Soc., 1906, 28, p. 471." "Trowbridge and Grindley have shown that all the proteins thus far obtained from flesh react acid to phenolphthalein. The determination of the true acidity of a meat extract is therefore a matter of much difficulty." "Emmett and Grindley, in their extended study of the phosphorus content of flesh, found that phosphorus

acid made up the following percentage of the total ash————————?" "The same authors have also shown that the water-soluble phosphorus of aqueous extracts of flesh is not in combination with the coagulated protein, with the proteoses, or with the peptones, but is due to non-protein bodies. (Jour. Amer. Chem. Soc., 1906, 28, p. 56.)" "In only four brands of extracts are Emmett and Grindley's figures satisfied." "Topelius and Pommerehue, Worner, and Grindley and Woods have shown that fresh meat gave no traces of creatinin." "Grindley and Woods also showed that by the evaporation of an equous extract from the flesh upon the water-bath, in the presence of its natural acidity, creatin was changed to creatinin. It may be, therefore, that the relative amounts of these bases present may give some evidence as to the freshness of the extracts, as well as to the kind of meat employed in their manufacture, Jour. Biol. Chem., 1907, Vol. 2, p. 309." "Emmett and Grindley have studied the alleged defects in Folin's method and find, while on the whole Hebner's Criticisms are not fully sustained by the facts, that in the determination of creatin, at least, certain modifications are advisable; namely, an increase in the quantities of picric acid and alkali used, Jour. Biol. Chem., 1907, Vol. 3, p. 491." "We have also made a few tests of the modification suggested by Emmett and Grindley and find the slightly higher results are in general obtained thereby." "A comparison of the results secured by our modification and that of Emmett and Grindley is shown in the following tabulation————————."

Professor Harry Snyder, of the University of Minnesota and the Minn. Exp. Station, in his book on Human Nutrition, pp. 108-111, quotes from five of the publications of this Research Laboratory. The same author in his book "Chemistry of Plant and Animal Life," pp. 388-389, quotes from the research work of this laboratory.

Professor E. H. Bailey in his book Sanitary and Applied Chemistry refers to a number of the publications of this laboratory.

Dr. F. C. Benedict, of the Carnegie Nutrition Investigation Laboratory, refers to the fact that Grindley and Woods (Jour. of Biol. Chem., 1907, 11, p. 309) found that there were present in the beef extract twice as much creatin as creatinin. They also refer to the work of this Research Laboratory as follows: "Grindley and Woods have found that when meat juice, containing practically no creatinin, is allowed to stand in the presence of picric acid and sodium hydroxide, a red color develops indicating a conversion of creatin to creatinin."

Director L. H. Bailey, of the New York Agricultural Experiment Station, in the third volume of The Cyclopedia of American Agriculture, Chapter 9, pp. 263-270, in the article on meat, "Its Nutritive Value, Selection, and Preparation," quotes extensively from the researches of this laboratory. Of the 7¾ pages, 1/6 is given to abstracts or direct quotations from the publications of this Research Laboratory, and of the list of literature at the end of the article, one-third are publications from this laboratory.

Dr. Otto Foline, of Harvard University Medical School, in his article in the Journal of American Chemical Society, entitled "The Determination of Total Sulphur in Urine," refers repeatedly to the research work of this laboratory.

Dr. H. P. Armsby, Director, Institute of Animal Nutrition, Pennsylvania State College, Expert in Animal Nutrition, Bureau of Animal Industry, in Bull. 108, Bureau of Animal Industry, U. S. Dept. of Agric., quotes as follows: "Lean cuts of meats, however, may contain much less fat than is indicated by the above statement. Thus Grindley and Emmett (U. S. Dept. of Agr., Office of Experiment Stations, Bull. 162) analyzed seven samples of beef round from which the visible fat had been removed, the average of the seven analyses being as follows————."

Dr. W. H. Jordan, Director of the New York Experiment Station, in an article upon the Effects of Phosphorus Compounds with Milch Cows in American Jour. of Physiology, Vol. 16, p. 309 (1906), quotes as follows: "Emmett and Grindley (Jour. Amer. Chem. Soc., 1906, Vol. 28, p. 5), in their researches on the chemistry of the flesh of steers, have made a study of its phosphorus content in various forms. Their results show that the total phosphorus for such flesh soluble in cold water ranged from 0.146 per cent to 0.257 per cent, averaging approximately 0.2 per cent. Of this 0.12 per cent consists of soluble inorganic phosphorus bodies, chiefly potassium phosphates, only about 0.08 per cent being in the form of organic phosphorus compounds."

Annual Reports of the Progress of Chemistry issued by the London Chemical Society have the following to say regarding the work of the Research Laboratory: "Food chemists will also read with considerable interest a paper by Grindley (Jour. Amer. Chem. Soc., 26, 1086, 1904) which contains a very considerable number of analyses made with the object of elucidating the chemistry of the proteids and other nitrogenous constituents existing in meats." Chem. Soc. (Lon.), Annual Report, Vol. 1, p. 165, 1905.

"Emmett and Grindley (Jour. Amer. Chem. Soc., 27, p. 263, 1905) have shown that the lard obtained from hogs fed on cottonseed meal responds to a number of general tests for vegetable oils, and gives the more important special reactions of cottonseed oil. They also isolated from such lards crystals resembling those of phylosterol." Chem. Soc. (Lon.), Annual Report, Vol. 2, p. 205, (1906).

"A. D. Emmett and H. S. Grindley (Jour. Amer. Chem. Soc., Vol. 28, p. 25, 1906) have similarly examined the phosphorus-containing substances in flesh, and find that in beef 75 per cent of the total phosphorus is soluble in cold water, and that one-fourth of this consists of organic compounds." Chem. Soc. (Lon.), Annual Report, Vol. 3, p. 274 (1906).

"The results obtained by other investigators of colorimetric study of meat extracts for creatin and creatinin were subsequently extended by Grindley and Woods. (Jour. of Biol. Chem., 2, p. 309, 1907)." Chem. Soc. (Lon.), Annual Report, Vol. 4, p. 218 (1907).

"Grindley, Woods, and Emmett (Jour. Biol. Chem., Vol. 3, p. 491, 1907), using Folin's method, have made accurate estimations of creatin and creatinin in meat

and meat extracts of various kinds. Among other points they have finally disposed of the statement, made some years ago by G. S. Johnson, that creatinin is the more abundant base of the two." Chem. Soc. (Lon.), Annual Report, Vol. 4, p. 238 (1907).

The Revue de la Societe Scientifigue d'Hygiene Alimentaire et de l'Alimentation Rationelle de l'Homme, Paris, 1904, published in full a translation of Bulletin No. 141 from the Research Laboratory.

Dr. A. C. True, Director of the Office of Experiment Stations, in his different reports has the following to say regarding the researches of this laboratory:

"In Illinois, Prof. H. S. Grindley, of the University of Illinois, Urbana, has continued the investigations of the preceding year in regard to losses in cooking meat by frying and boiling. In the former method the loss of material has been found to be appreciable. In the latter, if the broth is used, all the nutritive value has been found to be retained, since nothing was lost in the vapors arising during the process of boiling. The investigations at the University of Illinois have now become well established and have thoroughly commended themselves to the authorities of that institution. It is therefore proposed to extend this work during the coming year, making this institution a center of investigations relating especially to meats. This is a subject on which comparatively little accurate work has been done aside from studies on the chemical composition of the different kinds of meat."

"Nutrition investigations have been carried on in cooperation with the Hull House, and the Lewis Institute of Chicago, and the University of Illinois. The lines of work undertaken have been dietary studies, investigations of food and milk supply of Chicago, losses in cooking meat, digestion experiments in which meat formed a considerable part of the diet, and analyses of food materials."

"Besides the cooking experiments, Professor Grindley has made up to the present time thirty-seven digestion experiments in which meat forms an important part of the diet. In some of these experiments, indeed, only sufficeint other food materials were used to make the diet palatable. The meat used has been cooked in different ways and has been of different degrees of fatness. The results have not yet been published. All of these thirty-seven experiments are also nitrogen metabolism experiments, since the nitrogen of income and outgo was determined.

"These experiments were carried on with men, and may be called natural-digestion experiments. In addition to these natural digestion experiments, a large number of artificial experiments have been made, in which the digestibility of different kinds of meat, of different degrees of fatness, and cooked in different ways, has been studied by means of digestion in pepsin solution, and the time required for complete digestion noted. The results of these experiments, like those of the natural-digestion experiments, still await publication.

"The number of analyses of food materials, excretory products, and residues from artificial-digestion experiments has been very large. The results of the investigations can hardly fail to be of far-reaching value."

"Professor Grindley has continued his valuable work with meats at the University of Illinois the past year. This included the carrying out of twenty digestion and nitrogen metabolism experiments with men, in which meat (beef) formed the chief part of the diet; sixty-five artificial digestion experiments with different kinds of meat to determine the influence of cooking upon the digestibility; forty-seven cooking experiments with meats to determine the losses in cooking and its influence upon flavor, palatability, digestibility, etc. In connection with these experiments, Professor Grindley made the analyses of 174 samples of food materials and excretory products and the determination of 130 heats of combustion.

"In addition to his experimental work, Professor Grindley has prepared a bulletin on the cooking of meats, which gives the results of his investigations in this direction.

"Professor Grindley's investigations on the losses occurring in the cooking of meats appear to show that boiling causes a greater loss of water than other methods of cooking. Some nitrogen and mineral matters were found in the resulting broth. The amount of fat in the broth depended somewhat upon the amount of fat in the meat, but more especially upon the nature of the meat used for the experiment. Different cuts of meat produced a noticeable difference in the amount of fat in the broth, the amount varying according to the character of the cut. The amount of loss depended upon the time of cooking, and was inversely proportional to the size of the piece of meat. In pan boiling, the losses appeared to be unimportant. There was a considerable loss of weight, mostly caused by the loss of water. A gain of fat was noted, owing to absorption of the fat used in the process."

"The investigations with meat, carried out at the University of Illinois by Professor H. S. Grindley and his associates, have been continued the past year under most favorable conditions. In addition to the use of a new and well equipped laboratory, the University has contributed $2,000 toward the nutrition investigations. Furthermore the Experiment Station furnished, without charge, the meat used in this investigation. The animals from which the portions of meat were taken were bred, grown and fed under known conditions, this being carried out under Professor Grindley's direction. The Department of Household Science also rendered valuable assistance."

"The investigations carried out the past year consisted of fifty-eight experiments to study the losses and chemical changes resulting from the cooking of meat and the influence of different methods of cooking upon the nutritive value of the meat (beef). These investigations included the complete analysis of eighty samples of uncooked and cooked meats, and of thirty-six samples of broths. In addition, determinations have been made of proteids of different kinds of broths from cooked meats and in water extracts from uncooked meats."

"A valuable feature of Professor Grindley's work the past year has been the very satisfactory improvement of the methods used for the nitrogen determinations."

"The investigations with meat at the University of Illinois, in charge of Professor H. S. Grindley, have been conducted under very favorable conditions. The University has furnished the use of an especially well equipped laboratory, and, in addition, contributed a considerable sum toward the nutrition investigations. The meat used in the investigations was contributed free of cost by the Illinois Experiment Station, and the animals from which the material was taken were bred, grown and fattened under known conditions. The Department of Household Science of the University also rendered valuable assistance in the investigation. Beef, veal, mutton and pork were the meats studied.

"Professor Grindley and his associates conducted forty-five cooking experiments during the past year. In these experiments the inner temperature, flavors, losses and other changes resulting in the boiling, roasting, frying, broiling, sauteing, also the influence of covered and closed pans upon the above processes, were determined, as well as the effects of these factors upon the digestibility and nutritive value of the meat. Some of the experiments also included the influence of salt in varying quantities upon the losses, changes and modification of flavors which meats undergo during the process of boiling, in addition to the toughness and tenderness of raw and uncooked meats by means of a special machine which Professor Grindley has recently perfected."

"Professor H. S. Grindley and his associates have carried on thirty-five experiments on the changes in the nutritive value and the flavor, color and texture when meat is cooked, and the possibilities of regulating conditions so that roast meat of uniform character may be obtained. This work has necessitated a study of the character of the extractives and other constituents of the cooked and raw meat and of the bodies which produce the characteristic flavor of cooked meat.

"The investigations have shown the way in which thoroughness of cooking and in large degree the quality of the cooked product depend upon the initial temperature of the oven and the length of the cooking period, factors which may be readily controlled.

"The investigations have also shown that after meat is removed from the oven the temperature of the interior of the roast continues to rise for a time, owing to the passage of heat from the outer layer to the interior of the uncut roast. In other words, cooking continues after meat is removed from the oven.

"Following the deductions from the experiments, it is possible to cook meat to any desired degree from very rare to very well done and have the results the same from time to time, and the methods outlined can readily be used in the household.

"When meat is roasted some loss in weight is sustained, owing principally to the evaporation of water and the removal of fat, which melts and runs out into the pan.

"The flavor of roast meat is largely due to the browning of the meat extractives."

"At the University of Illinois Professor H. S. Grindley and his associates have carried on forty-five artificial digestion experiments with different kinds and cuts of meat to study the effects of different methods of cooking on ease and rapidity of digestion, and have also made cooking experiments which were undertaken to secure additional information regarding the changes and losses sustained by meat when cooked in different ways. As a whole, the work at the University of Illinois has shown that it is possible to control cooking processes so that uniform results may be obtained. Meats of all kinds and cuts are to be ranked among the very digestible foods. No great differences were observed in the ease or thoroughness of digestion of different kinds and cuts of meat."

Extracts of letters of Dr. A. C. True, Director of Experiment Stations, United States Department of Agriculture, Washington, D.C., which show the intention of making the University of Illinois a center for nutrition investigation along the line of the chemistry of meat, and which also show the interest and the value which these experiments are considered by the United States Department of Agriculture to have:

"We want to make our work at the University of Illinois as strong as possible along the line of meat investigations."

"As regards your own work, we, of course, expect to continue investigations on meats for years before we have exhausted the subject, but you have made some definite progress each year and the particular lines of your work are changing as definite results are obtained. It is because you have obtained such useful results that we desire to continue and extend your work."

"As you know it is our desire to develop nutrition investigation at the University of Illinois."

Quotations from letters of Professor W. O. Atwarer, special agent in charge of nutrition investigations for the United States Department of Agriculture, which show the intention of the department to make the University of Illinois a center for nutrition investigations along the lines of the study of meats:

"The subject is important and you have the field in this country." "I think you are doing and can do an excellent thing."

"I know very well that you will do all you can as you have done in the past. I consider the work you are doing very important and am anxious to see it extended."

"I have not had time to read your manuscript through with any degree of care, but a hurried examination implies that the work is even more extended and valuable than I had anticipated."

"Dr. True and I are both anxious to do all that can be done to encourage your work."

"We are now going over your last manuscript and hope to write you about it soon. I am more and more impressed with the importance of the line of inquiry you are engaged in and wish you the best of success."

"There is no doubt, however, in my mind as to the desirability of increasing your appropriation. The amount and quality of your work justify almost any request, but the great question is where is the money to come from. Congress has just refused to increase our appropriation for next year. The demands on all sides are becoming more and more imperative. It was only by cutting down other work that the small increase was made in your appropriation for last year. I say this simply to show the difficulties in the way of the increase which you desire and which I very much wish you might have."

"Both Dr. True and I appreciate your work and we both hope for increased appropriations in the future which will make it possible for us to do more to aid you."

"I have been looking over your manuscript this morning, and I am convinced that the bulletin will be both interesting and valuable, and I hope we shall be able to get it out very soon."

"It was somewhat of a strain last year to increase your appropriation to $1,500. This was done because we thought you so thoroughly deserved it and because your work is so useful, and we wanted to do everything possible to encourage your work, yourself in its prosecution, and the University in its support."

"Nothing but an unusual high estimate of your work would have led to the increase in your appropriation last year. To keep it even at the present level would involve sacrifice elsewhere."

"I have been so much occupied preparing for an European trip that I have had but a moment to glance over your manuscript, although I have been hoping to find the opportunity to look it over in more detail. Dr. Langworthy and Mr. Milner have been over it, however, and we are all agreed in thinking that it is an extremely good bulletin. It shows evidence of having been put together with much care and thought, and Dr. Langworthy says of it, "It is a piece of work of which any man might be proud."

"I am glad that you have been able to complete your work so satisfactorily and promptly this year and am fully convinced that the bulletin I am publishing will be a valuable addition to the series describing your investigations."

"We are very much interested in the work you are doing and appreciate its value, as well as the interest you take in it and the disadvantage you have had this year. You have done a large amount of most excellent work in proportion to the funds allotted to you."

"I am glad that you are ready to conduct the investigation with such painstaking detail and to conduct it year after year, by doing this making each year's work better than the last. I believe the investigation will become one of high scientific, as well as intensely practical, value. Your University is allying itself with abstract truth. It is in advance of most others in allying itself likewise with the interest of the home and the home maker, through its Department of Domestic Science. Others are with you, many others I believe will follow, and the outcome will be education, inspiration and uplift."

Quotations from letters relating to bulletin 158, "Relative Economy, Composition and Nutritive Value of the Various Cuts of Beef":

Dr. A. L. Winton, of the United States Department of Agriculture, Bureau of Chemistry, wrote: "I thank you for the copy of bulletin 158, which I value because of its scientific as well as practical importance."

Professor M. W. Howard, Simmons College, Department of Household Science: "I am extremely interested in it. * * * The illustrations are exactly what I have been looking for, and I feel that this bulletin will be invaluable."

Professor M. E. Jaffa, University of California, College of Agriculture, Department of Agricultural Chemistry: "This is to acknowledge with many thanks, copy of bulletin 158. * * * I am more than pleased to have this little pamphlet. * * * The bulletin represents a large amount of good work, and certainly it is a valuable contribution to our knowledge on the subject. The practical data that it contains can well be utilized in the home. Complimenting you on the bulletin, I am, * * *"

Dr. J. B. Lindsey, Vice Director and Chemist of the Department of Plant and Animal Chemistry of the Massachusetts Agricultural Experiment Station: "I acknowledge with many thanks the copy of your bulletin on the chemistry of the different cuts of beef, etc. It is exceedingly interesting, and furnishes a large amount of data, which cannot help being useful both in a practical and scientific way."

Professor J. E. Morton, Head of the Department of Animal Husbandry, State Agricultural College, Colorado, wrote: "I thank you for the copy of Bulletin 158. You have done mighty valuable work in getting it out. There should be a great deal more of the same class of work done at the different stations. * * * The University of Illinois is to be congratulated on the bulletins they have put out during the last two years. I believe they contain more valuable material than any coming from other institutions."

Dr. M. Dorset, Chief of the Biochemic Division of the Bureau of Animal Industry of the United States Department of Agriculture, wrote: "I have seen a copy of the recent Bulletin No. 158. I have not, however, received one myself. Inasmuch as the work contained therein is of great interest and importance to us, I would be under many obligations if you would have a copy sent to me."

Elizabeth C. Pierce, New York: "I want to thank you ever so much for the bulletin on meats. It is perfectly splendid and exactly what I wanted. Thanking you again for your kindness."

In an editorial reproduced from the Journal of the American Medication Association, in the Scientific American Supplement, dated December 28, 1912, the following was stated: "The facts cited indicate how the retail prices of beef cuts are determined chiefly by considerations other than their food value. * * * It is high time that those purchasers to whom matters of justifiable economy make

an appeal should be educated to appreciate the irrational standards that characterize the demands for beef. * * * This advice applied in equal measure to public institutions, including hospitals, where a misapplied sense of duty often leads to well-meant but ill-judged dietary extravagance."

In the September, 1912, number of the Illinois State Board of Health Monthly Bulletin, in which Bulletin 158 was published in full, the editor, the late J. A. Egan, Secretary of the Illinois State Board of Health, said in his comment: "As meats form so important a part of man's dietary, its relative economy, composition, and last but by no means least, the nutritive value of the different portions, must become of material consequence to all who consume it, and especially to the housewife upon whose shoulders falls the responsibility of providing food which is appetizing as well as nutritious. To her, especially, this bulletin will be of inestimable value."

The National Provisioner, in an editorial under the date of November 23, 1912, stated: "The University of Illinois has been the leader in this sort of research work for many years. Its experts have recently completed an exhaustive investigation into the economy, composition, and nutritive value of various cuts of beef. * * * The meat trade is vitally interested in this matter, and it will pay every meat man, in satisfaction of mind if not in pocket, to study this report and spread the gospel contained therein to his customers and friends."

Under date of October 23, 1912, the National Provisioner, which reproduced the Bulletin 158 in full, said in an introductory number: "The University of Illinois has been a pioneer among the educational institutions of the country to take up such problems * * * as research and experimental work along live-stock and meat lines. * * * Their work in recent years has been of enormous value to the entire country, not only to producers and to packers, but to consumers as well." "The investigators have realized that it would take something more than mere talk to achieve the desired results. Reasons must b given to support such advice, and facts and figures must be presented in a striking way. This has just been done in a way that deserves the notice of every man in the meat trade."

REQUEST FOR SCHOLARSHIPS FOR BULGARIAN STUDENTS.

(12) A letter from Hon. P. P. Claxton, United States Commissioner of Education, enclosing a letter from Madame Panzy Hadji Mischief, wife of the Bulgarian Minister at Athens, asking the University to establish certain scholarships for the benefit of Bulgarian students.

No action was taken with reference to this matter.

PAVEMENT IN FRONT OF NEW ARMORY.

(13) A recommendation from Professor J. M. White, Supervising Architect, that an appropriation of six hundred dollars ($600) be made for the construction of a pavement at the south end of Fifth Street in Champaign, as an approach to the main entrance of the new Armory.

On motion of Mr. Trevett, this recommendation was approved. The vote was as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson; noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

RESIGNATION OF ASSISTANT PROFESSOR DU FOUR.

(14) The resignation of Mr. F. O. Dufour, Assistant Professor of Structural Engineering, to take effect August 31, 1913.

On motion of Mr. Trevett, it was voted to accept Mr. Dufour's resignation.

DEED OF LAND FOR AN EXPERIMENT FIELD.

(15) A letter from Dr. C. G. Hopkins, Professor of Agronomy, addressed to Dean Davenport under date of May 29, 1913, transmitting a deed transferring from Alexander Moir and Phoebe Moir, his wife; James Moir and Edna Moir, his wife, and Leon Lemaire and R. May Lemaire, his wife, to the Board of Trustees, for use as experimental field, twenty acres of land near Oquawka, the county seat of Henderson County.

This deed was referred to the Committee on Agriculture, with a request for a report at the next meeting on this deed and on the other deeds and leases which have been referred to the same committee.

TITLE "CHIEF CLERK" CHANGED TO "BURSAR."

(16) A recommendation from Professor George E. Frazer, Comptroller, that the title of the position in the business office held at present by Mr. Oren E. Staples be changed from "Chief Clerk" to "Bursar."

On motion of Mr. Trevett, this recommendation was approved.

VALUATION OF MEDICAL PROPERTY BY THE CHICAGO REAL ESTATE BOARD.

(17) A bill from the Chicago Real Estate Board for two hundred sixty-eight dollars and seventy-five cents ($268.75) for making a valuation of the property of the College of Medicine in the city of Chicago, in accordance with a request made by the President of the Board of Trustees.

On motion of Mrs. Henrotin, it was voted that this bill be approved, and that the certificate of valuation received from the Chicago Real Estate Board be printed in the minutes. The vote was as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson; noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

[CERTIFICATE OF VALUATION.]

CHICAGO, June 2, 1913.

William L. Abbott, President, Board of Trustees of University of Illinois:

We, the undersigned, members of the Valuation Committee of Chicago Real Estate Board, have carefully considered the application made by you for a valuation on the following described property:

Lots 1 to 7, both inclusive, in block 23; sub-lots 1 to 7, both inclusive, of lots 19 to 25, both inclusive, in block 23, and the vacated alley running north and south through said block 23; also lots 15, 16, 17, 18, and east 7 feet of lot 14, all in block 23 of Ashland's Second Addition to Chicago, in the west half of the northeast quarter of section 18-39-14; being situated in the blocks bounded by Lincoln Street, Ogden Avenue, Congress, Honore and Harrison Streets. Size of lots, 263.9x267x176.4x133.5x83.5x107.

We hereby certify that we have personally examined said premises, and that we have no personal interest in the property valued herein, and in our opinion said land is worth, exclusive of improvements...	$ 60,000 00
Value of improvements	185,000 00
Total valuation	$245,000 00

VALUATION COMMITTEE OF THE CHICAGO REAL ESTATE BOARD.

EDWARD M. WILLOUGHBY, *President.*
FRANCIS E. MANIERRE. *Secretary.*
By MARVIN A. FARR,
FRED D. P. SNELLING,
HARRY GOLDSTINE,
[SEAL] HARRY GOLDSTINE,
WILLIAM D. KERFOOT,
JULIUS A. WENDELL,
Members.

No. 1542.

OPINION OF LEGAL COUNSEL ON REQUIREMENT THAT ALL COLLECTIONS BE PAID INTO THE STATE TREASURY.

(18) An opinion from Dean O. A. Harker, Legal Counsel, on the question whether the University is required to pay all collections of money made by it into the State treasury.

This opinion was received to be printed in the minutes:

June 3, 1913.

President Edmund J. James, University of Illinois.

MY DEAR PRESIDENT JAMES: Complying with your request I submit to you the following:

Opinion as to whether the University of Illinois is required to pay all collections of money made by it into the State treasury.

If any such requirement is cast upon the University, it must be by some provision of the constitution or by some act of the Legislature.

1. There is no provision in the constitution specifically requiring the University to pay any money into the State treasury. Under a strained construction given to section 18 of article 4, by the Supreme Court of the State in the case of The People ex rel., etc. v. Needles, 96 Ill., 575, it may be compelled to return to the State treasury such portion of a legislative appropriation as shall not be used before the end of the first fiscal quarter after the adjournment of the next regular session of the General Assembly following the one at which the appropriation was made; but it should be observed that such a return is of money voted out of the State treasury and not of money received for tuition and otherwise, by the University, in a way entirely disconnected from the State treasury. By no possible construction of section 18, article 4, or any other section of the constitution, can it be said that the receipts of the University coming from any other source than the State should be paid into the State treasury.

2. The only act of the Legislature under which it has been claimed that an obligation rests with the University to turn its receipts of money into the State treasury is one passed by the General Assembly of 1911, entitled "An Act in relation to the payment of the public money of the State into the State treasury," approved June 9, 1911.

A careful reading of the first section clearly shows that the University was not in mind when the bill was drafted or the act passed, otherwise it would have been specifically mentioned, as were some thirty departments, boards, and officials directly connected with the State Government. It reads:

"That the Secretary of State, the Auditor of Public Accounts, the Superintendent of Public Instruction, the Adjutant General, the Insurance Department of the State of Illinois, the Board of Administration, the Charities Commission, the Board of Commissioners for the Management of the State Library, the Illinois Stallion Registration Board, the Board of Live Stock Commissioners, the Board of Veterinary Examiners, the Railroad and Warehouse Commissioners, the Chief Inspector of Grain, all Deputy Inspectors of Grain, Warehouse Registrars and their assistants, all State Weighmasters, the State Commissioners of Labor, the Chief Inspector of Private Employment Agencies, the State Board of Examiners of Architects, the Board of Examiners of Barbers, the Board of Fish Commissioners, the State Game Commissioner, the State Board of Health, the State Board of Pharmacy, the Illinois State Board of Dental Examiners, the Miners' Examining Board of the respective counties, the State Board of Examiners of Registered Nurses, the State Entomologist, the State Fire Marshall, the State Food Commissioner, and all like executive and administrative boards, commissions, commissioners, departments and institutions of the State Government herein named, are hereby declared to be officers, arms, agencies and departments of the State Government, and all moneys received by each of such officers, boards, commissions, commissioners, departments or institutions, for or on behalf of the State from fees, fines, penalties, forfeitures, rentals, the sales of property or from other like sources, shall be paid into the State treasury, and no such officr, board, commission, commissioner, department or institutions shall expend any money so received for salaries, expenses or for any other purpose, except upon the warrant of the Auditor of Public Accounts based upon appropriations from the State treasury made biennially by the General Assembly."

In construing legislative acts courts have universally declared that "the intent of the framers should be the guiding star." Another familiar canon of construction is that when an act specifically names certain persons or things affected thereby it will be presumed that all not named are to be excluded from its operation.

Furthermore, in its relation toward the State Government the University of Illinois occupies a position entirely different from the departments named. Its Board of Trustees is a corporation, invested with the power to acquire, hold, and convey title to lands, to acquire, hold, and transfer in its own name personal property, to contract and be contracted with, to sue and be sued, and to perform various other functions entirely independent of State regulation. It resembles more a municipal corporation, such as a county, city, township, or school district, than any of the departments named. Not only is the title to the lands and equipment located at Urbana vested in the Board of Trustees, but it is owner of all the other property and funds not directly received from the State. In this connection I desire to call your attention to the language employed in the title of the act. It is an act "in relation to the payment of the public money of the State into the State treasury." I deny that funds received from the federal government, student fees, and donations are moneys of the State. Indeed, I should have very serious doubts of the constitutionality of an act specifically requiring the University to turn such funds into the State treasury.

Differing, as I do, from the view taken by the Attorney General in his opinion of April 1, 1913, to Hon. Paul Matthews, Department and Institution Auditor, I beg to suggest that he was doubtless led to his conclusion in so far as the University is involved by the holding of the Supreme Court in the case of the Chicago Board of Trade v. Cowen, 252 Ill., 554. That was a suit in equity to enjoin the payment into the State treasury of $64,560, which had been collected by the Grain Inspection Department as fees for inspection. The chief question involved was the constitutionality of the Act of 1911. The Court sustained the lower court in dismissing the bill, and in addition to holding the Act constitutional stated that grain inspection fees were moneys of the State and that they should be turned into the State treasury irrespective of the Act. The fallacy of the Attorney General's argument lies in his assuming that student fees, etc., are moneys of the State.

I am firmly of the opinion that the Act of 1911 does not apply to the University.

Very respectfully,

O. A. HARKER, *Legal Counsel.*

BILL FROM THE FORMER STATE ARCHITECT APPROVED.

(19) A bill from Mr. W. Carbys Zimmerman, formerly State Architect, for a balance due for work on the new Armory, of two hundred ninety-seven dollars and fifty cents ($297.50).

On motion of Mr. Trevett, it was voted that this bill be paid when it shall be approved by the supervising architect. The vote was as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson; noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

AUTHORITY FOR PURCHASE OF CLASSICAL AND PEDAGOGICAL LIBRARIES.

(20) A request for authority to purchase, from the book firm of Gustave Fock, of Leipzig, the classical philogical library of the late Johannes Vahlen, Professor of Classical Philology in the University of Berlin, and also to purchase of the same firm the pedagogical library of the late R. Aron, of Berlin, at a price not to exceed the sum of twenty thousand five hundred dollars ($20,500) for both collections.

On motion of Mrs. Henrotin, it was voted that such authority be given to the President of the University. The vote was as follows: Ayes, Mr. Abbott, Mrs. Busey, Mrs. Evans, Mrs. Henrotin, Mr. Hoit, Mr. Moore, Mr. Trevett, Miss Watson; noes, none; absent, Mr. Blair, Mr. Dunne, Mr. Meeker, Mr. Montgomery.

ATTENTION CALLED TO PROPOSED SITE FOR NEW LIBRARY.

President James called the attention of the board to the recommendations made by the supervising architect, approved by the State Architect, concerning the location of the proposed new Library Building, as printed in the minutes of January 7, 1913, pages ———, and asked that each member of the board inspect the proposed location, as further recommendations will be made on this matter at a later meeting of the board.

*At this point President James withdrew, having an engagement to address a meeting of alumni then in progress.

RESOLUTIONS CONCERNING THE APPROPRIATION BILL BEFORE THE GENERAL ASSEMBLY.

On motion of Mrs. Busey, the following resolution was adopted:

WHEREAS, The Board of Trustees of the University is informed that the University appropriation bill before the General Assembly contains a clause providing as follows:

"The Auditor of Public Accounts is hereby authorized and directed to draw his warrants from time to time upon the State Treasurer, for amounts expended or bills then due, from the sums herein appropriated, payable severally to the persons named, upon the presentation of itemized vouchers therefor, certified to by the President and Secretary of the Board of Trustees of the University of Illinois, with the corporate seal of the University attached thereto."

Therefore, Be it Resolved, That the Board of Trustees respectfully protests to the Appropriations Committee against the clause above quoted and requests the substitution of the following clause:

The Auditor of Public Accounts is hereby authorized and directed to draw his warrant on the State Treasurer for the sums hereby appropriated upon the order of the Board of Trustees of said University, attested by its secretary and the corporate seal of the University; provided that no part of said sum shall be due and payable to said Board of Trustees until itemized vouchers shall be filed with the Auditor for all previous expenditures incurred by the University on account of the appropriations hitherto made; and provided further that vouchers shall be taken in duplicate and that the original duplicate vouchers be forwarded to the Auditor of Public Accounts for the expenditures of the sums appropriated in this Act.

The board adjourned.

W. L. ABBOTT, *President.*

C. M. MCCONN, *Secretary.*

* *See* insert, meeting of June 25, 1913, page 263.