

# Proceedings of the Iowa Academy of Science

---

Volume 38 | Annual Issue

Article 3

---

1931

## Table of Contents

Copyright ©1931 Iowa Academy of Science, Inc.

Follow this and additional works at: <https://scholarworks.uni.edu/pias>

---

### Recommended Citation

(1931) "Table of Contents," *Proceedings of the Iowa Academy of Science*, 38(1), 17-20.

Available at: <https://scholarworks.uni.edu/pias/vol38/iss1/3>

This Front Matter is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact [scholarworks@uni.edu](mailto:scholarworks@uni.edu).

## TITLES OF PAPERS PRESENTED

Memorial of Bird Thomas Baldwin.....	38
Memorial of J. M. Fulton.....	40
Memorial of John Littleton Tilton.....	42
Memorial of Flora May Tuttle.....	45
Memorial of M. F. Arey.....	46
Memorial of Abram Owen Thomas.....	49
Memorial of Joseph A. Treganza.....	52
Memorial of Louis Herman Pammel.....	55
Address of the President—Some remarks on mathematical statistics. H. L. Rietz—Published in Science, Vol. 74, 82-86 (1931).	

### Botany

Effects of soil aeration on plant growth and root development. W. F. Loehwing.....	71
Micro-climate of Zea mays in Central Iowa. J. M. Aikman.....	73
Fertility variations in tetraploid tomatoes with different genetic origins. E. W. Lindstrom.....	85
Some recent contributions to our understanding of corn diseases. I. E. Melhus.....	89
Some misunderstood slime-mould species. Ella Baskerville.....	103
A comparative morphological study of certain species of the Dacryomycetaceae. Marian C. Fisher (introduced by G. W. Martin).....	115
Notes on Iowa mosses. IV. Lucy M. Cavanagh.....	129
Linear order of four genes on the first chromosome of the tomato. E. W. Lindstrom.....	133
Flowering Plants of Black Hawk County, Iowa. Myrle Burk.....	135
Photosynthesis in corn. W. E. Loomis and Kenneth Burnett. (Abstract)	150
Thermogenic capacities of some fungi from heating corn. J. C. Gilman and E. M. Summers. (Title).....	
Notes on Iowa fungi, 1929-1930. G. W. Martin. (Title).....	
The glacial relict plant communities of Hardin County, Iowa. Henry S. Conard. (Title).....	

### Chemistry, General and Physical

Water softening by base exchange. Edward Bartow.....	151
A quantitative spectrographic study of magnesium contamination in calcium oxalate precipitates. D. C. McCann, Louis Waldbauer, and Stephen Popoff.....	157
Quantitative analysis of the ash of lettuce. Louise Wendt and J. A. Wilkinson.....	159
Interfacial tensions of mineral oil against various aqueous solutions at 40° C. W. G. Eversole and D. S. Dedrick. (Abstract).....	163
The solubility of certain substituted benzoic acids in typical salt solutions at 25 degrees. J. N. Pearce and J. W. Newsome. (Abstract).....	163
Vapor pressures of aqueous solutions of lithium nitrate at 25 degrees. J. N. Pearce and A. F. Nelson. (Abstract).....	164
Some physical properties of aqueous salt solutions. J. N. Pearce and Mildred A. Hooper. (Abstract).....	164
Oxidation of nitrogenous material in contaminated river water. Ben H. Peterson and John Hann. (Abstract).....	165
The adsorption of negative ions by a colloidal suspension of aluminium hydroxide. Ben H. Peterson and Floyd H. Trimble. (Abstract).....	165
Platinum-cadmium alloys. Kenneth W. Ray.....	166

Effects of various amounts of calcium carbonate on the degree of saturation of some Iowa soils with bases. R. H. Walker and P. E. Brown. (Abstract)-----	166
Photometric measurements of blackness and tinting strength of carbon black. J. F. Goggin. (Title)-----	
Vapor pressures of and activity relations in aqueous solutions of magnesium sulphate at 25 degrees. J. N. Pearce and L. C. Rocksien. (Title)-----	
Some aids in teaching qualitative analysis. F. E. Brown and W. B. Bickford. (Title)-----	

**Chemistry, Organic and Biological**

Some rearrangement reactions of organosodium and organolithium compounds. Henry Gilman and Fritz W. Breuer. (Abstract)-----	167
Organomagnesium compounds containing solubilizing amino groups. Henry Gilman, Stanton A. Harris and Chuan Liu. (Abstract)-----	167
Nitrogen trichloride and Grignard reagents. George H. Coleman and Marion A. Buchanan-----	168
Organic matter and the life of the green plant. Normal Ashwell Clark. (Abstract)-----	168
The production of kynurenic acid from tryptophane derivatives. Clarence P. Berg. (Abstract)-----	169
The velocities of hydrolysis of mono- and poly-hydroxydiphenyl ketimines. James B. Culbertson and Amel L. Bresson. (Abstract)-----	169
The velocities of hydrolysis of mono- and poly-hydroxydiphenal ketimines. James B. Culbertson and James L. Nauman. (Abstract)-----	170
Reactions of some carbonyl and thiocarbonyl compounds with phenylhydrazine. L. Chas. Raiford and W. T. Daddow. (Abstract)-----	171
Further observations on the behavior of vanillin substitution products. (a) The Perkin reaction, and (b) the preparation of substituted vanillic acid. L. Chas. Raiford, Victor S. Webster and Dwight J. Potter. (Abstract)-----	171
The composition of the unsaturated fatty acids of animal tissues. H. G. Smith. (Abstract)-----	171
The micro determination of citric acid by the Thunberg methylene blue method. Adrian C. Kuyper. (Abstract)-----	172
The antioxidant of lettuce. H. S. Olcovich and H. A. Mattill. (Abstract)-----	172

**Geology**

Unsoundness of certain types of rocks. Mark Morris (introduced by L. W. Wood)-----	175
Ancient house people of the Brush Creek region in northeastern Utah. Albert B. Reagan, Santa Fe, N. M.-----	183
The rock shelters of Allamakee county, Iowa. A preliminary survey. Ellison Orr-----	185
Notes on some Paleozoic Echinoderms. A. O. Thomas-----	195
Nomenclature and classification of geologic formations; with special reference to the cretaceous of Iowa. A. C. Tester. (Abstract)-----	203
Contemporaneous deformation in the Cedar Valley limestone. A. C. Tester. (Abstract)-----	203
The stratigraphic relations of the Greenhorn and Niobrara formations of western Iowa and adjacent areas. N. C. Georgeson (introduced by A. C. Tester). (Abstract)-----	204
Suggested revisions of Pleistocene classification. G. F. Kay. (Abstract)-----	204
Minimum duration of the glacial and interglacial ages in the Pleistocene of Iowa. G. F. Kay. (Abstract)-----	204
Origin of the pebble band on Iowan till. G. F. Kay. (Abstract)-----	205
The Iowan gravels in northeastern Iowa. Paul T. Miller. (Abstract)-----	206
Trenton limestone in Iowa. Charles Keyes. (Abstract)-----	206
Larger prospect of our loess mantle. Charles Keyes. (Abstract)-----	207
Some glacial and interglacial cycles. Charles Keyes. (Abstract)-----	207

**Physics**

Progress in the analysis of cosmic-ray observations (II). L. D. Weld... 209  
 A study of the mathematical disabilities of students pursuing first year college physics. W. R. Lueck. (Abstract)----- 213  
 Resistivity of zinc crystals. E. P. T. Tyndall and A. G. Hoyem. (Abstract)----- 213  
 An atmospheric electricity. C. S. Dorchester and L. W. Butler. (Abstract)----- 214  
 Magnetic properties of thin nickel films. H. E. Malmstrom. (Abstract) 214  
 Secondary emission of electrons from metals. P. L. Copeland. (Abstract)----- 215  
 A concave ultrasonic diffraction grating. George E. Thompson. (Abstract)----- 215  
 Effect of air pressure on the vibration of quartz crystals. George E. Thompson. (Abstract)----- 215  
 The velocity of ultrasonic waves in ether vapor. George E. Thompson. (Abstract)----- 216  
 Effect of piezo electric oscillations on X-ray patterns of quartz. P. H. Carr and G. W. Fox. (Abstract)----- 216  
 Evidence of energy exchanges accompanying scattering of atoms by crystals. H. A. Zahl and A. Ellett. (Abstract)----- 216  
 The lens effect of pressure windows. Carl Benz and Thomas C. Poulter. (Abstract)----- 217  
 Measurement of mean life of cadmium  $^{23}P$ , by thermal motion of excited atoms during life time. H. D. Koenig. (Abstract)----- 217  
 The spectrum of mercury excited by canal-ray impact. Carl Frische. (Abstract)----- 218  
 Ultra-violet absorption spectra of carotene and vitamin A. J. W. Woodrow and J. B. Philipson. (Abstract)----- 218  
 Phosphorescence in a photoelectric cell of fused quartz. George V. Emery. (Abstract)----- 219  
 The color and intensity of the chemiluminescence of solid sodium. R. M. Bowie. (Abstract)----- 219  
 The chemiluminescence of solid sodium. R. M. Bowie. (Abstract)----- 219

**Psychology**

The effect of immediate knowledge of results on motivation. B. F. Zuehl 221  
 Influences on learning of tests composed of true and false statements and direct questions. E. O. Finkenbinder----- 223  
 Sex, intelligence, and grades. Margaret Bell----- 225  
 The use of individual parts of the aptitude test for predicting success of students. Gertrude M. Cox----- 225  
 The correlation of implicit and explicit behavior and the presence of sex differences in learned responses. Alvah R. Lauer. (Abstract)---- 227  
 Competition for marks. J. W. Charles. (Abstract)----- 228  
 Influence of reducing credit for absence on regularity of class attendance in college. E. O. Finkenbinder. (Abstract)----- 228  
 Some recent improvements in the galvanic technique. Christian A. Ruckmick. (Abstract)----- 229  
 Can the Ayres spelling scale be depended on to measure class achievement? E. C. Denny. (Abstract)----- 229  
 An investigation of the basic factors of aesthetic value in costume design. Wilhelmina E. Jacobson. (Abstract)----- 230  
 Analysis of intensity in piano playing. D. A. Rothschild. (Abstract) 231  
 Remedial measures in pitch intonation. Lawrence E. Eberly. (Abstract) 231  
 Remedial measures in reading at the college level. Francis P. Robinson. (Abstract)----- 232  
 The hearing of the vocal vibrato. Harold Seashore. (Abstract)----- 233  
 Relationship of chance, or consistency, to rate and extent of the vibrato. Melvin S. Hattwick. (Abstract)----- 233  
 Published by the International Council of Scientific Instruments. Scott N. Reger. (Abstract)----- 234

Transient aphasia as a common element in speech and reading defects. Geo. A. Kelly. (Abstract)----- 235  
 A criticism of the law of effect. Clellen L. Morgan. (Abstract)----- 235  
 Basic differences in pitch, intensity, and time between good and poor voices during speech. Elwood Murray. (Abstract)----- 236  
 A new scientific musical staff. Carl E. Seashore. (Abstract)----- 236  
 An artistic "pianogram." Laila Skinner. (Abstract)----- 237  
 An appraisal of psycho-physical capacities and abilities significant for success in art. Hildegarde Dreps. (Abstract)----- 237  
 A study of fifty home libraries with special reference to their function in child development. Gertrude Hill Nystrom. (Abstract)----- 238  
 Personal attitudes of delinquent boys in Iowa. J. L. Reusser. (Abstract) 238  
 An analysis of fifty delinquent boys' feelings of inferiority and superiority. Edwin C. Johnson. (Abstract)----- 238  
 A critical appraisal of a new technique for the study of oral language activities. Harry A. Greene. (Title)-----  
 Active versus passive attitudes during learning. Ross Beall. (Title)---  
 The periodicity of work curves of young children. F. B. Knight. (Title)-----  
 Learning, presented from the Gestalt point of view. Clellen Morgan. (Title)-----  
 The induction of opinion through social suggestion by means of "planted content." Albert D. Annis. (Title)-----

**Zoology**

Two new infusoria (Protozoa) from Iowa. Robert L. King----- 241  
 Bilateral ovaries in raptorial birds, with notes on kidney structure. F. L. Fitzpatrick----- 245  
 Studies in the selection for susceptibility and resistance to anaphylactic shock in guinea pigs. E. W. Shrigley (introduced by W. V. Lambert)----- 249  
 Instinct or intelligence in the golden digger. Roy L. Abbott----- 255  
 A study of the Tenebrionidae of southeastern Iowa. Owen Smith----- 259  
 Collecting contests as a means of increasing student interest in biological subjects. H. E. Jaques----- 267  
 A few records of birds infrequently seen in southeastern Iowa. H. E. Jaques and Pete Parks----- 273  
 Late fall and winter bird records, 1926 to 1930, in the Upper Missouri Valley. William Youngworth----- 277  
 Exchange of oestrous and corpus luteum hormones in parabiotic female rats. Robert T. Hill (introduced by E. Witschi). (Abstract)----- 287  
 Retrogressive changes in the ovaries of Rana Clamitans tadpoles following X-ray treatment. William T. Levine (introduced by E. Witschi). (Abstract)----- 287

**Bacteriology**

Nitrate assimilation by soil bacteria. F. B. Smith and Dorothy Schlots 289  
 Anaerobic nitrogen fixation in some Iowa soils. W. Hillman Willis and R. H. Walker----- 293  
 The effect of phosphorus on nitrogen fixation by azotobacter. L. G. Thompson, Jr., and F. B. Smith----- 299  
 Aspergillus niger as an indicator of available phosphorus in the soil. Fred E. Schlots, F. B. Smith and P. E. Brown----- 303  
 Some effects of nitrogenous fertilizers on the nitrifying power of Car-rington loam. Mark H. Brown----- 309  
 Experiments with the Winogradsky Spontaneous Culture Test on Iowa soils. Arthur W. Young and R. H. Walker----- 313  
 Residual effects of some germicides used in sterilizing legume seeds. Dean A. Anderson and R. H. Walker----- 321  
 Some nitrification studies on an alkali soil in Iowa. Sanford M. Smith and F. B. Smith----- 327  
 Experiments with dry dust cultures for the inoculation of legume seeds. R. H. Walker and G. B. Killinger. (Abstract)----- 333  
 Comparative studies of different strains of Rhizobium meliloti. R. H. Walker and Dean A. Anderson. (Abstract)----- 333