

Proceedings of the Iowa Academy of Science

Volume 37 | Annual Issue

Article 3

1930

Table of Contents

Let us know how access to this document benefits you

Copyright ©1930 Iowa Academy of Science, Inc.

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

Recommended Citation

(1930) "Table of Contents," *Proceedings of the Iowa Academy of Science*, 37(1), 17-22.

Available at: <https://scholarworks.uni.edu/pias/vol37/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.

TITLES OF PAPERS PRESENTED

Memorial of George Luther Smith	37
Memorial of Henry Albert	40
Memorial of D. S. Fairchild	45
Memorial of George Bennett	48
The Address of the President -- The ether concept in modern physics. L. B. Spinney. Published in Science	Vol. 72, 303-310 (1930)

Selected for Presentation in General Session

A statistical test of experimental technique. G. W. Snedecor	279
X-ray diffraction in water 2 degrees to 98 degrees C: the nature of molecular association. G. W. Stewart	309
A note on the Transneptunian planet. D. W. Morehouse	
Some recent modifications of the geological map of Iowa. A. O. Thomas	
Soil bacteriology as a science. P. E. Brown	59

Bacteriology

Factors influencing the production of acetic acid from corn stalks by thermophilic bacteria. C. H. Werkman and R. H. Carter	51
Dimethyl-alpha-naphthylamine for the determination of bacterial re- duction of nitrates. C. H. Werkman	53
Notes on the bacterial flora of the snake. Roger Patrick and C. H. Werkman	57
Further studies on the nitrate assimilating power of soils. Ray A. Pendleton and Frederick B. Smith	65
Effect of artificial manure on nitrification in Carrington loam. Fred- erick B. Smith	71
Studies on nitrogen fixation in some Iowa soils. R. H. Walker	75
Further observations on bacteria digesting agar. H. E. Goresline	
Some notes on the purification of packing house wastes. Max Levine	
Bacteriological studies of freshly broken and frozen eggs. D. Quentin Anderson	
Some bacteriological problems to be considered at the International Botanical Congress at Cambridge, England, 1930. R. E. Buchanan	
The effect of the Brucella group of microorganisms on chickens. S. H. McNutt and Paul Purwin	
The hemoglobin content of the blood of wild fowls. H. H. Dukes, L. H. Schwarte, and F. D. Patterson	
Coccidiosis in swine. Chas. Murray and H. E. Biester	
Observations on an unusual contamination in butter cultures. M. P. Baker	
Preliminary observations on the Escherichia-aerobacter group of bac- teria with reference to dairy products. M. W. Yale	
The effect of some commercial fertilizers on nitrate accumulation in Carrington loam. Mark H. Brown	
Effects of calcium and magnesium limestone on the bacteriological pro- perties of Grundy silt loam. Arthur W. Young	
Phosphate assimilation of Azotobacter chroococcum. L. G. Thompson, Jr.	
Studies on nitrogen fixation by Rhizobium meliloti and Rhizobium japonicum. G. Gordon Pohlman	

Spontaneous culture studies of the non-symbiotic nitrogen fixing bacteria in the Grundy silt loam. John L. Sullivan -----

Botany

Study of the weeds of alfalfa fields of Iowa. A. L. Hershey and L. H. Pammel -----	77
Iowa plant notes, IV. R. I. Cratty -----	87
Notes on Iowa grasses. Robert P. Adams -----	91
Notes on some Iowa Cladonias. Alfred R. Stanley -----	95
Additional notes on Iowa mosses — 1929-1930. Betty Blagg -----	96
Notes on Iowa mosses. — II. Lucy M. Cavanagh -----	98
Polyembryony in alfalfa and sweet clover. John R. Watt and J. N. Martin -----	100
The status of the Biological Sciences in the High Schools of Iowa. C. W. Lantz -----	101
The effect of light intensity on tissue fluids in wheat. W. F. Loehwing -----	107
Noteworthy Iowa fungi. Guy West Wilson -----	111
Abnormal flowers of <i>Populus grandidentata</i> Michx. Lucy M. Cavanagh -----	115
Simultaneous development of the seed coat and embryo in the seeds of sweet clover. John R. Watt (Introduced by John N. Martin) -----	117
Development of the vascular system of corn. A. L. Hershey and J. N. Martin -----	125
Identification of <i>Symphoricarpos occidentalis</i> . Florence D. Smith -----	127
Germination and seedling forms of some woody plants. L. H. Pammel and C. M. King -----	131
Some weeds of Iowa, Florida, Lower Rio Grande Valley, and India compared. L. H. Pammel -----	143
Single spore isolation. W. H. Davis -----	151
Heliantheae of Iowa II. M. Rae Johns -----	161
The effect of physical factors on the development of woodland and prairie associations in Iowa. J. M. Aikman -----	209
The anatomy of the crowns and roots of the annual and biennial white sweet clover compared. J. N. Martin. -----	209
European bindweed in Iowa. A. L. Bakke -----	210
Use of the quadrat method in tracing the growth development of species in planted pastures. Harold Eisele. (Introduced by J. M. Aikman) -----	
A relation between the electrical resistance of a potato and its dimensions. E. M. McCracken -----	
The floras of Iowa. B. Shimek -----	
Germination of the oospores of <i>Sclerospora graminicola</i> (Sac.) Schroet. M. M. Evans and George Harrar. (Introduced by I. E. Melhus) -----	
Virus diseases of plants. I. E. Melhus -----	
Physiologic specialization in <i>Puccinia coronata</i> . H. C. Murphy -----	
Effect of alternate hosts on physiologic specialization in <i>Puccinia coronata</i> . S. M. Dietz -----	
Agronomic studies of <i>Phalaris arundinacea</i> . H. D. Hughes and F. S. Wilkins -----	
Notes on weeds between Cuba and Iowa: The Botany of Cuba. L. H. Pammel -----	
Chaparral and savanna in Iowa. B. Shimek -----	

Chemistry, Inorganic and Physical

Purification of water by electro-osmose. Edward Bartow and R. H. Jebens -----	211
Base exchange between dyes and soils. Wilbur L. Hoff and J. A. Wilkinson -----	217
The heats of adsorption of organic vapors on charcoal at 25° and 50°. J. N. Pearce and G. H. Reed -----	223

The adsorption of certain vapors by activated charcoal. J. N. Pearce and Paul E. Peters	223
The solubility of copper iodate in aqueous salt solutions. Ben H. Peterson and Earl L. Meyers	223
The adsorption of chromate ions by colloidal aluminum hydroxide. Ben H. Peterson and Kieth H. Storcks	224
Catalytic hydrogenation of furfural. Ralph L. Van Peurseem	225
Some physical properties of concentrated aqueous salt solutions. J. N. Pearce and Mildred A. Hooper	225
Oxidation and reduction potentials in analysis III. The mercuric-mercurous electrode. Stephen Popoff, Verda Wirth and Lee W. Ough	
The anodic oxidation of metals in liquid ammonia. W. B. Zuker	
The solubility of o-nitrobenzoic acid and m-nitrobenzoic acid in aqueous salt solutions at 25 degrees. J. N. Pearce and J. W. Newsome	
The preparation and properties of some barium and strontium alloys. K. W. Ray	
Solubility and its relation to modern theories. I, Silver chloride. Stephen Popoff and E. W. Neuman	

Chemistry, Organic and Biological

Some observations on the relation of the composition of the diet to lactation. P. D. Wilkinson and V. E. Nelson	227
The baking temperature of bread. O. B. Read	231
Decomposition of optically active diazo compounds. Francis Earl Ray and Martha G. Hemphill	235
Growth, reproduction, and lactation on diets containing soy beans as the sole source of vitamins B and G. P. D. Wilkinson and V. E. Nelson	237
The selection of thermometers for general organic chemistry. Thomas H. Liggett	241
The chlorine derivatives of vanillin. L. Chas. Raiford and J. G. Lichty	247
Mechanisms of addition and substitution reactions of furfural and derivatives. Henry Gilman, G. F. Wright, J. B. Dickey, and A. P. Hewlett	247
The toxicities of some organo-lead compounds for cancer and related studies. Henry Gilman, O. M. Gruhzt, J. D. Robinson and E. B. Towne	248
The preparation of m-hydroxybenzotrile. James B. Culbertson, Erwin L. Carpenter and Ernest K. Nielsen	248
Monobromoamine with organomagnesium halides. George H. Coleman and Charles B. Yager	250
Selective action in the Zincke nitration. L. Chas. Raiford and G. R. Miller	250
The asymmetry of diazo compounds. Francis Earl Ray	
The structure of the benzene molecule. H. W. Sheel	
Derivatives of d-camphoric and l-isocamphoric acid. Martha G. Hemphill and Francis Earl Ray	
The biological value of proteins with special reference to cereal proteins. H. A. Mattill	

Geology

A <i>Spirifer disjunctus</i> fauna in Iowa. Lowell Robert Laudon	251
The fauna of the Chemung formation of southwestern New York. H. Donald Curry	257
Maximum precipitation in short periods of time. Charles D. Reed	263
Road materials from the Des Moines series of the Pennsylvanian system of south-central Iowa. L. W. Wood.	267
The Chemung formation of Iowa and western New York. A. C. Tester	273
Naming of Burlington limestone. Charles Keyes	273

The Clarinda oil prospect. James H. Lees	274
A large fragment of a Proboscidian tusk found near Glenwood, Iowa, and notes of similar finds. Paul Rowe	274
Ice Caves. John E. Smith	275
Recessional moraines of the Wisconsin in Iowa. John E. Smith	275
A note on the stratigraphy of the Cretaceous in northwestern Iowa. A. C. Tester	275
Easternmost foldings of ancestral Rockies. Charles Keyes	275
Ancient Iowa orogenics and their present-day impress. Charles Keyes..	276
The faunal facies of the Ft. Riley limestone in northern Oklahoma. Donald B. Gould. (Introduced by A. O. Thomas)	
Note on the petrography of a phase of the Gower formation of eastern Iowa. E. W. Rowser. (Introduced by A. C. Tester)	
Some myths of the Hob and Quileute Indians of the Olympic Penin- sula, Washington. Albert B. Reagan	

Mathematics

On the summation Σx^n . John F. Reilly	289
Statistical control of a grading system. George W. Snedecor.....	290
An algorithm for writing the coefficients of a polynomial with given zeros. C. W. Wester.....	293
The distribution of the zeros for functions defined by a Heine series. E. R. Smith.....	
Stencils in geometrical construction. F. M. McGaw.....	
Conformal and isohedral mapping of the earth on a plane. Orlando C. Kreider.....	
A lemniscate potential boundary value problem. Archie Higdon.....	
On certain appropriate scales in the graphic representation of frequency. H. L. Rietz	
Progressive totals and summation as a substitute for accumulative multiplication. A. E. Brandt.....	
A note on the extraction of the square root on a calculating machine. A. E. Brandt.....	
Some theorems concerning parabolas having a common focus. B. D. Roberts	
Some curves associated with two given curves. C. H. Fischer.....	
The decomposition of $(x^p - 1) / (x - 1)$ for $p = 41$, and $p = 43$. Cor- nelius Gouwens.....	
A representation of the law of mortality. Arthur Ollivier.....	
<	
The factors of $a^n - 1$, $n = 50$, $a = 3, 5, 6, 7, 10, 11, 12$. J. S. Turner ----	
Annuities certain for fractional periods. J. F. Reilly	
The limaçon boundary value problem. Daniel Hutton	
An elementary proof of Descartes' rule of signs. C. W. Wester	

Physics

Progress in the analysis of cosmic-ray observations. LeRoy D. Weld	294
The change of phase on reflection of light from the silvered interfaces of an etalon. E. Hobart Collins	297
Some recent developments in high pressure windows. Robert Wilson and Thos. C. Poulter	299
Skyshine and sunshine at Ames. William Kunerth and Russel D. Miller	303
Minimum light intensities required for reading. William Kunerth.....	307
Absorption spectrum of vitamin A concentrates. Jay W. Woodrow and J. B. Philipson	310
The color of meats and of the Munsell color charts compared. A. A. Benedict	310
A study of phosphorescent zinc sulphide screens and radioactivity under extremely high pressure. Thomas C. Poulter and Harold McComb..	311

et al.: Table of Contents
 PAPERS PRESENTED

	21
Apparatus for determination of resistivity at low temperatures. A. G. Hoyem -----	312
Magnetization of electrolytic nickel films. E. P. T. Tyndall and H. E. Malmstrom -----	312
The distribution of potentials within a raw potato under constant applied voltage. E. C. McCracken -----	313
Factors influencing the electrical resistance of the potato. E. C. McCracken -----	313
The effect of gas-pressure on Tesla-luminescence. G. M. Wissink ----	314
Velocity of ultra-sonic waves in vapor. George E. Thompson -----	314
Mean free path of gases by a direct method. John A. Eldridge -----	315
The earth as a source of heat for out-buildings. L. V. Crum -----	315
Problems suggested by an uncertainty principle in acoustics. G. W. Stewart -----	316
On the conductivity of cod liver oil. L. W. Butler -----	316
Voltage intensity relations of the Cd spectra. DeVer Colson -----	
Relative intensity relations of series spectral lines excited by positive ions. C. A. Frische -----	
Molecular structure and X-ray diffraction intensities in liquids. Ross D. Spangler -----	
The effect of pressure upon the index of refraction of paraffin oil and glass. Carl Benz and Thos. C. Poulter -----	
A modified McCleod gauge using an oil of low density. C. E. Harvey	
Intensifying optically excited mercury radiation with an elliptical reflector. Robert Wolfe -----	
A fool proof lamp board for use in the elementary laboratory. Paul S. Helmick -----	
Secondary electrons from a clean tungsten wire. Paul L. Copeland--	
The determination of the thermal conductivity of certain heat insulating materials. Harold Stiles -----	
On the conductivity of cod liver oil. L. W. Butler -----	
Studies in optically excited cadmium spectrum. Paul Bender -----	
Reflection of zinc atoms from NaCl crystals. Harold A. Zahl -----	
Psychology	
The influence of position on the apparent position, size and form of angles. William B. Collins -----	319
The influence of intelligence and other factors on the type of punishment administered to children. E. G. Lockhart -----	325
The Iowa piano camera: some preliminary findings. Laila Skinner--	329
A study of a class of twenty failing students at Iowa State College. J. E. Evans -----	333
A statistical study of industrial science students of the class of 1926. Gertrude M. Cox -----	337
The food selections of nursery school children. Thomas F. Vance ---	343
A sound-wave analysis of Tlingit speech. Ray E. Miller -----	351
Judging children's literature. Ivy C. Husband -----	352
The psychology of division. H. A. Jeep -----	354
Application of the strobophotograph to phonophotography. Scott N. Reger -----	355
The nature of error in arithmetic. R. H. Beall -----	
The perception of angles. William B. Collins -----	
Problems and techniques in the study of the behavior of new-born infants. Orvis C. Irwin -----	
Stubborn difficulties in geometry. F. B. Knight -----	
The relationship between recent impressions and factors occurring in dreams induced by them. William Malamud -----	
Training of international attitudes. James C. Manry -----	
The present status of opinion and research in vocational guidance. C. L. Morgan -----	
Action currents in the cerebral cortex of the rat during reflex activity. Lee Edward Travis and R. Yorkes Herren -----	

A study of the religious attitudes of college students. W. E. Slaght...

Zoology

Bird records of two winters, 1920-1922, in the upper Missouri Valley, T. C. Stephens	357
Some needed bird observations in Iowa. Walter W. Bennett	367
Twelve hundred miles of winter birds. Chas. J. Spiker	371
Freak color inheritance in Graham's watersnake. J. E. Guthrie	375
Two cases of abnormal incisors in white rats. J. E. Guthrie	379
Some peculiarities of the plagiostome ear. H. W. Norris	381
A study of the Membracidae known to occur in Iowa. Don W. Hookum	385
The 1929 distribution of white grubs in Iowa. H. E. Jaques	387
Springtails as economic insects. Harlow B. Mills	389
A study of variation in the markings of <i>Chauliognathus pennsylvanicus</i> De G. and <i>Chauliognathus marginatus</i> Fab. - Etelka Rockenbach ..	393
The buffalo in Iowa. L. H. Pammel	397
The development of the ovary and oviduct of the gold fish. Frank A. Stromsten	397
Notes on vertebrates of Iowa prairies. George O. Hendrickson	398
Biology in high schools of Iowa. George O. Hendrickson	399
Comparative growths of infusoria-free and normal lambs. E. R. Becker and R. E. Everett	400
Some home-made teaching models. J. E. Guthrie	400
Studies on rates of regeneration (wound closure) in <i>Daphnia magna</i> . R. G. Anderson	
Late fall and winter bird records, 1926-1930, in the upper Missouri Valley. William Youngsworth	
A report on the Histeridae known to occur in Iowa. H. E. Jaques.....	
The action of some insecticides on <i>Psychoda</i> larvae. William W. Frye	