

catalog cards, each devoted to a single species, appears as a desirable method of putting such data into accessible form and keeping them in shape for frequent emendation or addition.

Third, in the interest of a complete knowledge of the distribution of fresh-water organisms, the Commission plans the keeping of careful faunal records. It is proposed to appoint one or two investigators for each group, who shall undertake to enter and collate all faunal records of this group which may be sent them and conversely to furnish workers with information concerning the distribution of such organisms. This plan will ultimately yield data for the discussion of the geographical distribution of fresh-water genera and species. It will also enable the elimination of such data as are common, leaving for publication by the student those facts which are important for one reason or another.

Fourth, the Commission is of the opinion that an occasional summary of progress in the field of limnology will serve to keep students in touch with the subject by giving them knowledge of the work of the world in general. This is that subdivision of the field which stands first in the outline given above. It has been covered sufficiently for the present by the summary and review printed in the *Transactions of the American Microscopical Society*, Vol. XX., bringing the subject up to January, 1899.

Fifth, the Commission would most strongly advise that individual work should be limited to a single body of water or to a definite problem studied with reference to a series of such water bodies. The results will be most useful for all purposes when they bear upon the thorough treatment of a single phase of the subject rather than more indefinitely upon a wider field.

There is naturally involved in the effort to carry out such plans as have been outlined some expenditure of money, even if

the services of various investigators are freely and gratuitously placed at the disposal of the Commission. Accordingly, an appeal is made herewith to the generosity of those interested in the movement and in the development of biological study in our country for contributions, large or small, for the prosecution of this work.

In conclusion, all students interested in this subject are invited to participate in the work. It is by general and generous cooperation that success will be attained. The student who is working alone cannot advance far, unless brought in touch with others in the same field. It may be noted that the opportunity is peculiarly advantageous for those teachers in smaller colleges who can make use of a corps, even of untrained assistants, in the collection of various data. We feel it a privilege to invite kindly criticism of this report and suggestions as to the best means for carrying out the aims in view and for securing the cooperation of the largest number of workers.

(Signed)

A. E. BIRGE, *Chairman*.

C. H. EIGENMANN,

C. A. KOFOID,

G. C. WHEPPLE,

H. B. WARD, *Secretary*.

NORTH CAROLINA SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE regular meeting of the North Carolina Section of the American Chemical Society was held in the State chemist's office, Agricultural Building, Raleigh, on April 27, 1901, at 11 A. M., with Professor Kilgore in the chair. Twenty-seven members and visitors were present.

The annual election of officers for the ensuing year were:

W. A. Withers, President; W. J. Martin, Jr., Vice-President; C. B. Williams, Secretary-Treasurer; Charles Baskerville, Representative in Council of the American Chem-

ical Society; Executive Committee, W. A. Withers, W. J. Martin, Jr., and C. B. Williams.

The following program was presented and discussed:

'Basis of Scientific Thought,' by CHARLES BASKERVILLE.

'The Chemical Composition of Cotton Seed Meal,' by W. A. WITHERS and G. S. FRAPS.

The authors found that the average amount of betain and cholin in seven samples of cotton-seed meal was 0.28 per cent., the ratios being (the average of two samples) betain : cholin :: 78.5 : 21.5. Gossypin if present is in minute quantity. Of the nitrogen-free extract 29.2 is pentosans, and 47.4 per cent. raffinose.

The pentosans of the meal are insoluble in diastase and are contained entirely in the nitrogen-free extract, unless an unusually large amount of hulls is present.

Cotton seed meal contains no starch and no appreciable quantities of sucrose or of reducing sugars. The average of five samples gave 0.48 per cent. of organic acids.

'The Recent Advances in Physiological Chemistry,' by A. S. WHEELER.

'Alcohol as an Antidote for Carbolic Acid,' by E. V. HOWELL.

1. In this paper attention was called to the fact that experiments by the author, beginning early in 1899, show that alcohol removes the escharotic effect of carbolic acid on the arm and in the mouth. 2. That, on account of the alarming increase in its use for suicidal purposes and the large number of accidents because of its general use as a disinfectant, carbolic acid should be scheduled as a poison in the poison laws of the various States and its sale restricted. 3. That alcohol is on record as an antidote and the results demand a thorough investigation. It must act most probably in one of three ways: (a) As a simple addition to

counteracting the escharotic effect; (b) as a chemical antidote, forming an inactive or less active compound; (c) as a physiological antagonistic, its stimulating effect combating the depressant effect of the phenol. In investigations being carried on, so far no chemical reaction between carbolic acid and alcohol, or carbolic acid and camphor (which also removes the escharotic effect) has been observed.

'The Presence and Detection of Arsenic in Beer,' by W. GRIMES HAYWOOD.

This paper was a review of the recent cases of poisoning in England, due to the presence of arsenic in beer, and a comparison of the methods for the determination of that element.

'A New Meteoric Iron from Davidson county, North Carolina,' by JOSEPH HYDE PRATT.

This iron was found on a hillside rising just east of Lexington—Troy road, about a half-mile south of Cid P. O., Davidson County. The iron originally weighed 13 lbs. 14 oz., and was somewhat oblong in shape and its surface more or less pitted. Testing the polished surface failed to reveal either the Widemannstättian figures or the Neumann lines; but the etched surface presents a granular or stippled appearance overlain with a network of fine lines, and the fractured surface shows traces of what is apparently an octohedral cleavage. This etched surface, while being different from the other meteorites, is also different from any of the manufactured irons that have been tested. An analysis by Dr. Baskerville gave: iron, 93.89; manganese, .92; nickel, .30; cobalt, .34; silicon, .62; carbon, 3.88; but sulphur, phosphorus, titanium, aluminum and copper were absent. Dr. Pratt claims that the presence of nickel and cobalt and the absence of sulphur, phosphorus, etc., together with its structure and the more or less isolated country in which it was found, lead to the belief that this iron is of me-

teoric origin. The name proposed for it is the Cid Iron.

'Ulsch-Street Method modified to include Organic Nitrogen in Samples containing Nitrates and Chlorides,' by W. M. ALLEN.

The author recommends the following: Place 0.7 gram sample in 250 cc. Kjeldahl digesting flask. Add about 1 gram of reduced iron, 30 cc. water and 10 cc. dilute sulphuric acid (1 to 1). Shake well and let stand 15 or 20 minutes. Heat slowly, so that solution will boil gently for 10 or 15 minutes, then briskly, until two-thirds of water has boiled off. Cool slightly, add 25 cc. sulphuric acid and 0.7 gram mercuric oxide. Digest and distill, as in Kjeldahl method. In samples of pure nitrate, add 0.5 gram of ferric chloride to the water to dissolve first nitric oxide set free, and digest only for the nitric nitrogen. The presence of large amounts of iron salts must be guarded against or else violent bumping will give trouble in distillation.

'The Nature of Pentosoids and their Determination,' by G. S. FRAPS.

The author divides pentosoids into water-soluble, acid-soluble, soluble in cold caustic soda solution ('wood gum') and difficultly soluble. Members of the first three classes have been hydrolized to pentose, and are called pentosans. The last class includes lignocelluloses, oxycelluloses, etc., and have not been hydrolized to pentoses. The crude furfural from vegetable materials obtained in the pentosan determination was found to contain a body which is precipitated by phloroglucol and destroyed by distillation with hydrochloric acid. Its occurrence, distribution and digestibility were discussed and the effect of its presence on the pentosan determination.

'An Automatic Filter-Washer,' by J. M. PICKEL.

This apparatus consists of (1) a reservoir for water with which to wash; (2) a rubber tube, provided with thumb-screw

clamps, leading from the reservoir to the (3) delivery vessel, which, by means of a small siphon, delivers the water intermittently on to the filter; (4) a funnel containing the filter and, set in this funnel, a smaller inverted funnel; (5) means for disposing of the washings. When once set going the apparatus needs no further attention, and is especially applicable in determining water-soluble nitrogen in fertilizers and also water-soluble phosphoric acid (although not yet in use for this latter purpose).

'Notes on the Latent Heat of Vaporization of Liquids,' by J. E. MILLS.

'Notes on the Determination of Insoluble Phosphoric Acid,' by C. D. HARRIS.

Mr. Harris exhibited an arrangement which had proved, in his hands, very satisfactory in filtering and washing citrate-insoluble phosphoric acid. He substitutes a carbon filter in the bottom of which is a porcelain disc covered with asbestos, for the slow and hazardous method of using a funnel and hardened filter paper.

'Contribution to the Chemistry of Thorium; Evidence pointing to the Existence of a New Element, Carolinium,' by CHAS. BASKERVILLE.

The author has obtained thorium salts from five different sources and purified them. By the action of sulphur dioxide on the neutral chlorides and by fractioning the citrates, oxides are eventually obtained which indicate the complexity of thorium. The pure oxide has a specific gravity of 9.8, according to some authorities, and 10.2, according to others. The purified oxide mentioned had a specific gravity of 10.1; after fractioning, one had a specific gravity of 9.4 and the other 10.37; intermediate fractions gave 9.6 and 10.4. Although atomic weight determinations have not been made, there is much evidence in favor of the existence of a new element, which the author would name 'Carolinium.' To avoid criticism the author stated his ex-

cuse for presenting the paper before the work was completed. Having made these observations quite four years ago, in the interim he has been engaged in securing direct from monazite sufficient quantity of pure thorium salts. Five thousand liters of solution have been worked up. The author's supply of the element has been much augmented through the kindness of Dr. Waldron Shopleigh, of the Welsbach Light Company, who presented him with two kilograms of his purest thorium oxalate. Last fall the author wrote Professor Bohnslar Brauner, of Prague, who had made the most recent atomic weight determinations of thorium, about his experiments. Not hearing from Dr. Brauner, the author was surprised to see in the *Proceedings of the London Chemical Society*, April 10, 1901, an article on 'Contributions to the Chemistry of Thorium' by Dr. Brauner, in which he states that he had fractioned thorium by hydrolysis of the oxalate into two bodies which he terms $\text{Th}\alpha$ and $\text{Th}\beta$. Brauner's work as reported was by no means complete. While the author insists that he holds the very highest opinion of Professor Brauner, and while neither his work nor the motives prompting Professor Brauner in making this preliminary publication are called into question, in justice of the author's work along these lines, it was not deemed unscientific to present the results of incomplete observations.

'The Systematic Investigation of Soils,' by B. W. KILGORE.

After the transaction of some miscellaneous business the Section adjourned to meet in the summer.

C. B. WILLIAMS,
Secretary.

THE AMERICAN ASSOCIATION FOR THE
ADVANCEMENT OF SCIENCE.

WE publish below a list of those who have been elected members in the Associa-

tion and have completed their membership during the month of May.

Albree, Chester B., Mechanical Engineer, 14-30 Market Street, Allegheny, Pa.

Allan, Chas. F., Newburgh, N. Y.

Baldwin, Hon. Simeon E., Associate Judge of Supreme Court of Errors, New Haven, Conn.

Beach, Harry W., Manufacturer, Montrose, Pa.

Bethel, Ellsworth, Director, Department of Botany, Academy of Science, 271 Grant Ave., Denver, Colo.

Booth, Edward, Instructor of Chemistry, 1214 Harrison St., Oakland, Cal.

Brasefield, Prof. Stanley E., Professor of Mathematics, 327 Centre St., Easton, Pa.

Braunnagel, Dr. Jules L. A., Physician and Surgeon, P. O. Box 925, San Antonio, Texas.

Brown, Elisha R., President Stafford Savings and National Banks, 50 Silver St., Dover, N. H.

Bush-Brown, Henry K., Sculptor, Newburgh, N. Y.

Capp, John A., Mechanical Engineer, Schenectady, N. Y.

Carnegie, Thomas Morrison, Trustee of Carnegie Institute, Dungeness, Fernandina, Fla.

Chauvenet, Wm. M., Mining Engineer, 620 Chestnut St., St. Louis, Mo.

Clapp, D. C., Steel Manufacturer, 718 Amberson Ave., Pittsburg, Pa.

Clark, John J., Dean of Faculty, International Correspondence Schools, P. O. Box 534, Scranton, Pa.

Cleaver, Albert N., Manufacturer, South Bethlehem, Pa.

Clerc, Frank L., Professor of Metallurgy and Assaying, Colo. State School of Mines, Hotel Metropole, Denver, Colo.

Coit, Joseph H., St. Paul's School, Concord, N. H.

Cooper, James C., Tax Commissioner C. K. I. & S. P. R. R. Co., Room 5, Veale Block, Topeka, Kansas.

Cox, Prof. Ulysses O., Professor of Biology, State Normal School, Mankato, Minn.

Cummins, G. Wyckoff, Practicing Physician, Belvidere, N. J.

Currier, Mrs. Moody, Myrtle & Ash Sts., Manchester, N. H.

Dempster, Alexander, Engineering, Stanton & Euclid Aves., Pittsburg, Pa.

DuBois, Howard W., 4526 Regent St., Philadelphia, Pa.

Engler, Dr. Edmund A., President-elect Worcester Polytechnic Institute, Washington University, St. Louis.