

centration curves for these systems at constant temperature. In addition to a discussion of the possible qualitative forms of the partial pressure curves, there is a consideration of the quantitative values with special reference to the formulas of Duhem, van der Waals and van't Hoff. The only thing lacking in this summary is a statement of the relation between the heat of dilution and the displacement of a maximum or minimum boiling-point with change of pressure.

Next in order is a discussion of the complete freezing-point curve. Of special interest is the chapter on the methods of determining the freezing-point curves and the nature of the solid phases. We can locate a freezing-point curve either thermally by cooling- or heating-curves, or analytically by solubility determinations at constant temperature. For aqueous solutions the latter method is usually the more accurate; but the thermal method is the better for alloys and fused salts, owing to the difficulty of pipetting off the pure solution.

Roozeboom groups the methods for determining the nature of a solid phase under the headings: 'Direct Analysis,' 'Microscopic Examination,' 'Conductivity,' 'Electromotive Force,' 'Heat of Formation,' 'Other Methods.' While these methods have all been used more or less extensively, they are of very unequal value. When possible, isolation of the solid phase and direct analysis is the most accurate of all. This, however, is usually not feasible in the case of alloys and is often unsatisfactory with efflorescing salts. Microscopic examination is the only method which is of real value for alloys. The methods grouped under conductivity and electromotive force are worthless as general methods and are not to be recommended in special cases except as giving corroborative evidence. Much the same may be said of density determinations, while no one has ever got any results by determining the heat of formation of alloys.

The last portion of the book is devoted to a consideration of equilibrium under high pressures, the phenomena near the critical points forming a special case under this general heading. While interesting in itself and im-

portant from a theoretical point of view, this section will probably appeal less to the average chemist than will other portions of the book, because relatively few of us have ever had the opportunity of working with high pressures.

WILDER D. BANCROFT.

SCIENTIFIC JOURNALS AND ARTICLES.

The American Naturalist for November contains the following articles: 'Collection and Preparation of Material for Classes in Elementary Zoology,' by B. G. Smith; giving the methods in use at the University of Michigan; 'A New Ostracod from Nantucket, *Cyprinotus americanus*,' by Joseph A. Cushman; 'Further Notes on *Hyla andersonii* and *Rana virgatipes* in New Jersey,' by W. T. Davis; 'A Systematic Study of the Salicaceæ,' by D. P. Penhallow; the concluding paper containing a synopsis of the genera and species and list of literature on the subject. 'Momentum in Variation,' by F. B. Loomis, is an all too brief attempt to explain the development of parts beyond the point of apparent utility. Many of the statements need qualification, many are erroneous, and the subject is not one to be disposed of in five pages; it is safer to say we do not know.

The American Journal of Anatomy for December contains the following articles:

JOHN WARREN: 'The Development of the Paraphysis and the Pineal Region in *Necturus maculatus*.' 23 text-figures.

E. T. BELL: 'The Development of the Thymus.' 3 plates and 5 text-figures.

J. S. FERGUSON: 'The Veins of the Adrenal.' 3 text-figures.

GEORGE WALKER: 'The Blood Vessels of the Prostate Gland.' 2 colored plates.

B. M. ALLEN: 'The Embryonic Development of the Rete-Cords and Sex-Cords of *Chrysemys*.' 1 double plate and 6 text-figures.

F. T. LEWIS: 'The Development of the Lymphatic System in Rabbits.' 8 text-figures.

F. T. LEWIS: 'The Development of the Veins in the Limbs of Rabbit Embryos.' 1 text-figure.

A notice to members of the Association of American Anatomists of the approaching meeting, Christmas week.

The Annual Report of the Public Museum of Milwaukee, for the year ending August 31,

1905. The Milwaukee Museum is to be congratulated on the promptness with which its report has been issued and on the progress made during the year. The special stress laid upon educational exhibits, and its relations with and assistance to the public schools is of interest, as one of many reminders of the great changes that have taken place in museums. The Milwaukee Museum is fortunate in having a small lecture room for the use of schools, although the lectures given are by a special teacher of the public school system, and not by a member of the museum staff. In this connection it is somewhat amusing to note the claims made by different institutions regarding the value of their educational work, and it may be suggested that besides Pittsburgh and Milwaukee, the American Museum of Natural History, with its loan collection studied, or at least seen, by 365,000 children and its lectures to thousands of pupils, should not be overlooked. There is also the New York Botanical Garden with its museum and lectures, and the Children's Museum of the Brooklyn Institute with its 100,000 visitors, 25,000 readers and lectures attended by all who can crowd in. However, Scripture says that we should not hide our (educational) lights under bushel baskets, and it is well for the public to know that much earnest effort is being expended to make museums interesting and of value to school children.

SOCIETIES AND ACADEMIES.

THE CONVOCATION WEEK MEETINGS OF SCIENTIFIC SOCIETIES.

There will meet at New Orleans:

The American Association for the Advancement of Science.—The week beginning on December 28. Retiring president, Professor W. G. Farlow, Harvard University; president-elect, Professor C. M. Woodward, Washington University, St. Louis, Mo.; permanent secretary, Dr. L. O. Howard, Cosmos Club, Washington, D. C.; general secretary, Professor C. A. Waldo, Purdue University, Lafayette, Ind.; secretary of the council, Dr. John F. Hayford, U. S. Coast and Geodetic Survey, Washington, D. C.

Local Executive Committee.—Honorary president, President E. B. Craighead, Tulane University; executive president, Professor George E.

Beyer, Tulane University; secretary, Henry M. Mayo, The New Orleans Progressive League; treasurer, Mr. Clarence F. Low, of the Liverpool, London and Globe Insurance Company.

Section A, Mathematics and Astronomy.—Vice-president, Dr. W. S. Eichelberger, U. S. Naval Observatory, Washington, D. C.; secretary, Professor L. G. Weld, University of Iowa, Iowa City, Iowa.

Section B, Physics.—Vice-president, Professor Henry Crew, Northwestern University, Evanston, Ill.; secretary, Professor Dayton C. Miller, Case School of Applied Science, Cleveland, Ohio.

Section C, Chemistry.—Vice-president, Professor Charles F. Mabery, Case School of Applied Science, Cleveland, Ohio; secretary, Professor Charles L. Parsons, New Hampshire College of Agriculture, Durham, N. H.

Section D, Mechanical Science and Engineering.—Vice-president, Professor F. W. McNair, Houghton, Mich.; secretary, Professor Wm. T. Magruder, Ohio State University, Columbus, Ohio.

Section E, Geology and Geography.—Vice-president, Professor Wm. North Rice, Wesleyan University, Middletown, Conn.; secretary, Dr. Edmund O. Hovey, American Museum of Natural History, New York, N. Y.

Section F, Zoology.—Vice-president, Professor Henry B. Ward, University of Nebraska, Lincoln, Nebr.; secretary, Professor C. Judson Herrick, Denison University, Granville, Ohio.

Section G, Botany.—Vice-president, Dr. Erwin F. Smith, U. S. Department of Agriculture, Washington, D. C.; secretary, Professor F. E. Lloyd, Teachers College, Columbia University, New York, N. Y.

Section H, Anthropology.—Vice-president, Dr. George Grant MacCurdy, Yale University, New Haven, Conn.; secretary, George H. Pepper, American Museum of Natural History.

Section I, Social and Economic Science.—Professor Irving Fisher, Yale University, New Haven, Conn.; secretary, Dr. J. F. Crowell, Bureau of Statistics, Washington, D. C.

Section K, Physiology and Experimental Medicine.—Vice-president, Professor Wm. T. Sedgwick, Massachusetts Institute of Technology, Boston, Mass.; secretary, Dr. Wm. J. Gies, College of Physicians and Surgeons, Columbia University, New York City.

At New Orleans in conjunction with the American Association for the Advancement of Science there will meet:

The American Chemical Society.—President,