Talismans and Charms,' being replete with curious lore. The sketch of 'Apothecaries and their Bills' throws light on early methods of pharmacy. The title of this volume would lead one to suppose that the romantic features of alchemy at the court of Rudolph II. might be included, but there is no reference to this German Hermes. It is ungracious to criticise a book by its omissions, but it is certainly singular to find no mention of the host of German alchemists who flourished under Rudolph II. and under Augustus of Saxony. Surely the careers of Sendivogius, of Richthausen, of Gustenhover and of Bötticher were sufficiently romantic! Part II. of the volume contains quotations of alchemical and pharmaceutical interest from the writings of Chaucer, Shakespeare, Spencer, Scott, Dumas and other authors. The illustrations are poorly selected, and there is no index.

H. CARRINGTON BOLTON.

SCIENTIFIC JOURNALS.

WE have received from Messrs. Lemcke & Buechner, New York, the first issue of a bibliography of German periodical literature, compiled by Dr. F. Dietrich, and published in Leipzig by Fr. Andrä's Nachfolger. The Bibliography aims to accomplish for German literature what is done by the English 'Index to Periodicals' and our own 'Literary Index,' but pays relatively more attention to scientific journals. Technical science and medicine, including, it appears, physiology, etc., are however excluded, owing to the indexes already established. The present Bibliography, for the year 1896, contains about 8,500 titles from about 275 journals. It is a subject index, the entries not being made under the names of authors, which lessens its usefulness for scientific purposes. Such a bibliography, however, will prove of much value, and we cordially endorse the wish of the compiler that it may be subscribed for by sufficient libraries to pay the costs of publication and permit of its enlargement.

THE *Psychological Index*, a bibliography of the literature of psychology and cognate sciences, has been issued for the year 1897. The compilers, Dr. Livingston Farrand, Columbia University, and Dr. Howard C. Warren, Princeton University, have this year been assisted by M. N. Vaschide, Paris, and Dr. B. Borchardt, Berlin, representing, respectively, *L'année psychologique* and the *Zeitschrift für Psychologie.* The value of the Index is greatly increased by the promptness with which it is issued. It will prove useful not only to psychologists, but also to men of science in other departments having some relation to psychology. No less than 2,465 titles are recorded for the year 1897. Their distribution may be given as an illustration of the field covered by modern psychology, general, 221 titles; genetic, comparative and individual psychology, 626; anatomy and physiology of the nervous system, 322; sensation, 142; consciousness, attention and intellection, 269; feeling, 102; movement and volition, 135; abnormal and pathological, 647.

THE *American Journal of Science* for April opens with an article by Professor Langley on the bolometer. It has been used during recent years to make a map of the lower spectrum, but the publication of results has been delayed in the Government Printing Office, and Professor Langley here gives some account of the improvements that have been made since the instrument was first described. It is now about 400 times as sensitive as then, and will indicate a change of less than one-ten-millionth of one degree Centigrade. Mr. Arthur Durward contributes from the Jefferson Physical Laboratory of Harvard University a series of measurements of the temperature coefficients of the seasoned hard steel magnets whose induction coefficients have recently been investigated by Professor B. O. Pierce. Mr. Charles T. Knipp describes a new method of electrically giving seconds, without reference, however, to other similar devices. Other articles in the current number are: 'Skull of Amphictis,' by E. S. Riggs; 'Condition of Oxidation of Manganese precipitated by the Chlorate Process,' by F. A. Gooch and M. Austin; 'San Angelo Meteorite,' by H. L. Preston; Pre-Glacial Decay of Rocks in Eastern Canada,' by R. Chalmers; 'Datolite from Guanajuato,' by O. C. Farrington; 'Clinohedrite, a new mineral from Franklin, N. J.,' by S. L. Penfield and H. W. Foote, and 'Rhodolite, a New Variety of Garnet,' by W. E. Hidden and J. H. Pratt.

THE *Popular Science Monthly* gives a portrait of Charles Semper as frontispiece and contains a sketch of his life. The most interesting article in the number is one by Professor W. K. Brooks on 'Migration,' but many will read with equal interest the article on 'Evolution and Teleology,' by Dr. J. A. Zahm, presented before the recent Catholic Scientific Congress. Among the other papers is one on 'Criminal Anthropology in Italy,' by Miss Helen Zimmern, and one on the 'Electric Transmission of Water Power,' by Mr. William Baxter, Jr. The number also contains three extended articles on economic topics.

THE *Astronomical Journal* for March 28th is greatly enlarged to make place for Dr. T. J. J. See's discoveries and measures of double multiple stars in the southern hemisphere. The first catalogue contains 500 entries, the results of work during the first year and four months at Flagstaff and Mexico.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON—290TH MEETING, SATURDAY, MARCH 26.

THE evening was devoted to a 'Symposium on the Comparative Value of Factors Influencing the Distribution of Life,' the subject being introduced by Dr. C. Hart Merriam, whose remarks were particularly directed to those factors governing the distribution of terrestrial life. The most important of these he considered to be temperature, next humidity and the elevation of the base level. The effects of the general slope of elevated regions was discussed and its influence in extending or curtailing the various life zones according as the slope was towards the north or south. The twofold effect of streams was dwelt on, particularly of rapid mountain streams, along whose sides is a narrow border of northern forms, while valleys produced by erosion permit the entrance of southern species.

Dr. L. O. Howard spoke of the distribution of insects and considered the prime factors to be: 1. Temperature as influencing all groups; 2. Distribution of food plants as influencing phytophagic species and the species dependent upon them; 3. The capacity of the species to conquer in the struggle for existence; 4. The influence of civilization. He dwelt especially upon the complicated inter-relationships among insects and showed that restriction in distribution due to an apparently obvious cause might in many cases in reality be due to a perfectly blind cause, due to these interrelations of forms.

Dr. W. H. Dall spoke of the distribution of aquatic mollusks, considering temperature to be the preponderating factor, largely so through its effects on very young mollusks. Thus adults could live and thrive where the temperature was fatal to the young. Pressure was stated to have little effect, some species ranging from a depth of three fathoms to 1,700 fathoms. Abyssal forms were said to be of wide distribution, while those found above 500 fathoms were generally derived from littoral species.

Mr. F. V. Coville, speaking of plants, said that the factors influencing their distribution were in some respects quite different from those affecting animals. For example, plants had no power of choice and could not remove from the place when their seeds fell, however unsuitable it might be. The temperature of the soil was another powerful factor affecting plants, as well as the character of the soil itself and its drainage, and, above all, the amount of moisture it received.

Dr. Theo. Gill said that temperature was an element affecting large aggregates of animals and that other causes influenced the smaller groups. The geological history of the earth had very much to do with the present distribution of terrestrial life; and while temperature was the great factor in determining the extent and character of marine faunas, temperature subject to the lay of the land governed the distribution of life on land.

Mr. B. E. Fernow said that the struggle for existence must be taken into account and that the ability of a plant to adapt itself to the environment frequently accounted for an extended or restricted range. Thus a plant of limited range in one country, when removed to a region where it was not subject to the competition of other forms, might spread with great rapidity.

Professor B. W. Evermann spoke of the influence of great drainage areas on fresh-water fishes