SCIENCE

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MSS. intended for publication and books, etc., intended for review should be sent to the Editor of SCIENCE, Garrison-on-Hudson, N. Y.

MENTAL SCIENCE.*

WE have great reason to congratulate ourselves on the progress of psychology, not only in this country but in the world during the last quarter of a century. Not only have students, teachers, text-books, journals, societies, laboratories and monographs increased, and new fields have opened and old ones widened, but our department has been enriched by original contributions that have profoundly modified our views of mind and even of life itself. For the first time in this field American investigators have borne an important and recognized part in advancing man's knowledge of the soul. Among these we take pride even in the presence of our distinguished foreign guests in naming first of all James, who, more than any other American, has occupied and influenced the psychological thought of both experts and students here for a decade, and whose charming personality and style have done most to infect cultivated laymen in all adjacent fields with interest in psychology and to make American thought known and respected abroad; Ladd, to whom we owe the first text on physiological psychology in English and who, more than any other American, illustrates the old tradition of a system of philosophic thought large enough to embrace most of the topics from the laboratory to religion; Münsterberg, who has not only done more than any of his distinguished Teutonic predecessors from Agassiz and Lieber down to make Germany and America know and respect each other, but has been the first to lay the foundations of a new efferent system of thought which harmonized the best in Fichte and Schopenhauer with the choicest results of the laboratory; Titchener with his thorough Eng-

* Address before the Division of Mental Science, International Congress of Arts and Science, Universal Exposition, St. Louis.

point can scarcely be discussed here, but examinations of large suites of material have convinced the reviewer that the criteria used by Mr. Gardiner for their differentiation are not valid. That is, he says, '*Cœloria* has a true columella, whereas *Mœandrina* has merely trabeculæ extended out from the septa to fill up the axial fossa.' The generic name *Hydnophora* was originally proposed by Fischer v. Waldheim, 1807, for a genus of Paleozoic corals and can not be used for the recent corals to which the name was applied by Milne Edwards and Haime.* *Monticularia* Lamarck, 1816, is available for the *Hydnophora* of Milne Edwards and Haime.

Mr. Gardiner spells such names as *Goniastræa* with the diphthong 'æ.' The original spelling of these names by Milne Edwards and Haime† is with an 'e,' but in their 'Histoire Naturelle des Coralliaires' they change the 'e's' to diphthongs, 'æ's.' The reviewer is of the opinion that the original spelling should be followed instead of the innovation of 1857. The genus *Prionastræa* M. E. and H., should be changed to *Favites* Link.‡

The two criticisms made on Mr. Gardiner's memoir are: (1) He should not have suppressed any data that he possessed regarding the influence of environment on variation. (2) It is regrettable that he has not utilized, and incorporated in his work, recent studies on the classification of the genera treated in his paper, and that his nomenclature is often faulty. However, Mr. Gardiner has given us some of the data regarding environmental influence on variation and his work is thoroughly comprehensible even if he has not utilized modern investigation on the reclassification of these corals. His memoir is decidedly the best contribution that has been made to the so-called 'Astræid' corals of any one area in the Indian Ocean, and its value is very much enhanced by six excellently executed half-tone plates which illustrate 32 out of the 69 species discussed. The criticisms made above may be regarded merely as suggestions for consideration in future work.

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* Trautschold, 'Die Kalkbrüche von Mjatschkowa,' *Nouv. Mém. Soc. Imp. Natur. de Moscou*, t. xiv., p. 38, 1879.

† *Comptes Rend.*, Vol. XXVII., 1848.

‡ Vaughan, 'Fossil Corals from the Elevated Reefs, Curacao, etc.,' p. 21, 1901. Verrill, *Trans. Conn. Acad. Sci.*, Vol. XI., p. 89, 1902.

SCIENTIFIC JOURNALS AND ARTICLES.

THE contents of the October number of the *American Chemical Journal* are as follows:

Contributions from the Chemical Laboratory of Harvard College: 'On Certain Derivatives of the 1,3,5-Triiod-2,4-dinitrobenzol,' by C. Loring Jackson and J. F. Langmaid; 'The Existence of Hydrates in Solutions of Certain Non-Electrolytes and the Non-Existence of Hydrates in Solutions of Organic Acids,' by Harry C. Jones and Frederick H. Getman; 'The Existence of Alcoholates in Solutions of Certain Electrolytes in Alcohol,' by Harry C. Jones and Frederick H. Getman. Contributions from the Sheffield Laboratory of Yale University: CXIX., 'Researches on Pyrimidines: 2-Oxy-4,6-diaminopyrimidine,' by Henry L. Wheeler and George S. Jamieson,' CXX., 'On the Action of Phenylhydrazine on Benzoylpseudoureas: 1,5-Diphenyl-3-aminopyrro-α,β'-diazole Derivatives,' by Treat B. Johnson and George A. Menge'; 'On the Fate of Potassium Myronate in the Animal Organism and Its Hydrolysis by the Ferments of the Liver,' by J. H. Kastle and Eloise Chesley McCaw; 'On the Oxidation of Sulphocyanic Acid and Its Salts by Hydrogen Peroxide,' by J. H. Kastle and Claude Robert Smith. Contributions from the Chemical Laboratory of the Nebraska Wesleyan University: VII., 'The Preparation of Aromatic Nitroso Compounds,' by Frederick J. Alway; VIII., 'The Nitrosocinnamic Acids and Esters,' by Frederick J. Alway and Walter D. Bonner; IX., 'On Certain Nitrogen Compounds,' by Frederick J. Alway and Reuben M. Pinckney; X., 'The Molecular Weights of the Yellow Nitroso Compounds,' by Frederick J. Alway and Ross A. Gortner. Reviews.

The Popular Science Monthly for October may be termed a British Association number, being devoted to the addresses delivered at the last meeting by the presidents of various sections. It opens with 'A Traveler's View of the British Association Meeting,' very pleasantly presented by Henry S. Pritchett and illustrated with views of many of the more noteworthy buildings in Cambridge. Fol-

lowing this are 'Reflections suggested by the New Theory of Matter,' by Arthur James Balfour; a discussion of 'The Mathematical Physics of the Nineteenth Century,' by Horace Lamb; 'Heredity and Evolution,' by William Bateson; 'The Perception of the Force of Gravity by Plants,' by Francis Darwin; 'The Ethnological Work of Lane Fox,' by Henry Balfour; 'On Mountains and Mankind,' by Douglas W. Freshfield; 'Correlation of Reflexes and the Principle of the Common Path,' by C. S. Sherrington; and 'Invention and Discovery,' by Charles A. Parsons. The number contains the index to Vol. LXV.

Bird Lore, for September-October, contains articles on 'President Roosevelt and Bird Protection'; 'A Woodcock at Home,' by E. G. Tabor; 'October Bird Music,' by Earle Stafford; 'King Cole, a Biography,' by Susan M. Morse; the sixth paper on 'The Migration of Warblers,' by W. W. Cooke, and the 'Climatic Variation in Color and Size of Song Sparrows,' by Frank M. Chapman. There are also book reviews and notes, the Audubon Department and an educational leaflet on the 'Screech Owl,' by William Dutcher.

Beginning in January next, a new educational journal, entitled 'The Nature Study Review,' will be published bi-monthly with Dr. M. A. Bigelow, adjunct professor of biology at Teachers College, Columbia University, as managing editor.

DISCUSSION AND CORRESPONDENCE.

THE METRIC SYSTEM.

To the Editor of Science: I wish to object to a statement recently made with regard to the use of old names in countries that have accepted the metric system. It has been said that the common people in continental Europe are not yet fully accustomed to the metric system, and have partly retained the old names in preference to the new ones.

This is absolutely untrue, as far as it refers to Germany. After the official introduction of the metric system in that country, it took a very short time—if not a fortnight, certainly only a few months—to make the 'masses' familiar with it, and about a year after its introduction there was nobody but a few old and decrepit people that had been unable to master it. In fact, there was general rejoicing on account of the riddance from the old and cumbersome system. Indeed, a few of the old words are occasionally used in Germany, but only such that come very close to a metric unit ('Pfund,' 'Maass'), and these are always used in the metric sense, and nobody wants to imply by this that he is opposed to the metric system, or that he is unable to grasp it: it is merely a variety of speech, and distinctly individual or local.

The whole discussion of the metric system carried on recently in Science has been very amusing to the writer, and has furnished stuff for merriment to others. Is it actually the case that the opponents of the metric system believe that the American people are incapable of accomplishing the identical thing that has been done in Germany thirty years ago in a surprisingly short time? Is it actually impossible to obtain correct information about the way it was done there, and about the consequences and incidents connected with this change?

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SPECIAL ARTICLES.

IS MATTER TO BE ABOLISHED?

Of late we have been hearing many intimations that matter has had its day. Formerly matter and its properties engaged the attention of the physicist. Later the ether was discovered, and now we are told that the ether and electrons are all that will be left, when the new discoveries have been fully digested. In connection with these statements I wish to lay down a few propositions which may have been overlooked.

It does not appear that electricity has ever been separated from something that has mass.

The propositions that matter has mass, and that a mass of matter has inertia, seem to me to be fundamentally different from each other.

If the inertia of matter can be accounted for as an electromagnetic phenomenon, it may be measured in new units. Instead of being merely a mass phenomenon, it may be referred