DANIEL GARRISON BRINTON, Professor of American Archæology and Linguistics in the University of Pennsylvania and Professor of Ethnology and Archæology in the Philadelphia Academy of Sciences, one of the editors of this JOURNAL, died on July the thirty-first, in his sixty-third year.

SCIENCE

FRIDAY, AUGUST 4, 1899.

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

DOCTORATES CONFERRED BY AMERICAN UNIVERSITIES.

WE are able to give again this year from official sources certain statistics in regard to the degree of Doctor of Philosophy, together with the names of those who have received it in the sciences and the titles of their theses. It appears from the following table that the doctorate has been conferred by twenty-three universities on 224 candidates.

Universities.	Humanities.	History and Economics.	Sciences.	Total.	Compared with 1898.
Johns Hopkins	13	8	17	38	+ 5
Columbia	4	6	23	33	+ 9
Yale	11	4	15	30	— 4
Chicago	7	4	13	24	— 12
Harvard	13	4	7	24	— 2
Pennsylvania	7	5	8	20	— 4
New York	8	0	1	9	+ 4
Cornell	3	2	2	7	— 12
Wisconsin	0	3	4	7	+ 2
Clark	0	0	5	5	— 7
Michigan	1	0	3	4	— 3
California	0	0	3	3	+ 2
Brown	3	0	0	3	+ 2
Bryn Mawr	1	0	2	3	0
Princeton	0	0	3	3	+ 2
Minnesota	0	1	1	2	+ 1
Virginia	0	0	2	2	+ 2
Washington	0	0	2	2	+ 2
Colorado	0	0	1	1	+ 1
Kansas	0	0	1	1	+ 1
Missouri	0	0	1	1	+ 1
Nebraska	0	0	1	1	— 1
Syracuse	1	0	0	1	+ 1
Total	72	37	115	224	.....
Compared with 1898..	— 19	— 1	+ 10	.....	— 10

only determines which sort of sensation furnishes the common coin of his mental exchange. A person who is motor in this sense may or may not be more impulsive than a good visualizer; it all depends on whether his motor cues habitually bring with them contrary suggestions. Experience seems to show that some of the most hesitating of us act from motor cues, while some of the most impulsive persons are of the 'sensory' and, indeed, of the visual type. We are hardly in a position, therefore, to hold out the hope that the ordinary type-tests will decide whether a boy needs encouragement in precipitateness or in hesitancy. Whether he is too cautious or too headlong is to be settled by observations *ad hoc*, and is not decided by discovering which sense furnishes the stuff of his mental imagery.

But details of this sort to which objections might be raised are not many nor are they so important as to affect the general tone of the book. As a whole it does admirable justice to the more fruitful lines of modern work and will be acceptable to the wide circle of persons who wish some intelligent guidance in psychology, without aiming to be students of it in the stricter sense. Even classes in psychology might well supplement their reading by a fresh narrative like this. And as for the poor schoolteachers, accustomed to their juiceless 'teachers' psychologies,' they will with difficulty believe that a book which is really interesting can be the genuine thing.

G. M. Stratton.
University of California.

How to Know the Ferns. By Frances Theodora Parsons. New York, Charles Scribner's Sons. 1899. 12mo. Pp. 215. Price, $1.50.

When science has its cold matter of-fact angularities concealed by a certain amount of folk-lore, personal adventure and innocent poetical quotation the popular mind takes it in unwittingly without feeling the chilliness of the morsel, and if they are abraded by the angles, there is lubrication and mollification in the dressing that makes one forget the pain. The ordinary unscientific reader is shocked if told at once that an innocent looking fern is a *Cystopteris*, but when he is introduced to it as the 'bulblet bladder-fern' the added syllables cause him no uneasiness and it is quite a different matter. All this softening of the rough angles of a scientific treatise is heightened if attractive illustration furnishes the ready opportunity to save the often tedious work of identification through technical language.

Such a happy combination we have presented in a most attractive form in the book before us. The popular interest is attracted by the personal narratives and one forgets the personal pronouns; one forgets even the rather doubtful compliment paid to the main subject when one reads that 'the greatest charm the ferns possess is that of their surroundings,' a fact emphasized by the frontispiece where the pose of the handsome young woman surely throws 'the cheerful community of polypody' quite into the shade, yet a more attractive picture could scarcely have been chosen.

The work is well written and is really one that can scarcely do otherwise than interest many people who have neither the time nor the mental perseverance for severe study, in one of the most delightful of subjects, and it will certainly bring many into a closer touch with Nature and her productions. The text is in the main very accurate, and the illustrations really illustrate the subject, and do it so well that one must be blind who cannot with their aid identify the ferns of the Northern States. The drawings by Miss Satterlee with less of the impressionist touch appeal more strongly to the cold scientific eye, though all of them are well executed, and the full-page half tones are well chosen and excellent.

While the authoress appears to us under a new name, we recognize in Mrs. Parsons the same writer that a few years ago as Mrs. Dana gave us the equally valuable book, 'How to Know the Wild Flowers.' Armed with these two, many who heretofore have had only guides that were too severe for their summer's outing can be easily and delightfully introduced to the ferns as well as the flowers of the woods and fields.

L. M. Underwood.

BOOKS RECEIVED.

Principes d' hygiène coloniale. Georges Treille. Paris, Carré and C. Naud. 1899. Pp. 272.

Laboratory Manual Experiments to illustrate the Elementary Principles of Chemistry. W. W. HILLYER. New York and London, The Macmillan Company. 1899. Pp. 198.

A Short History of the Progress of Scientific Chemistry in Our Own Times. WILLIAM A. TILDEN. Longmans, Green & Co. 1899. Pp. x + 276.

SCIENTIFIC JOURNALS AND ARTICLES.

American Chemical Journal, July, 1899: 'Camphoric Acid,' by W. A. Noyes; 'Contributions to our Knowledge of Aqueous Solutions of Double Salts,' by H. C. Jones and K. Ota. This is a continuation of the investigation of the double sulphates. The evidence, in the case of the double chlorides, seems even stronger in favor of the hypothesis which has been so strongly emphasized by Remsen, that double salts are true compounds,as this work shows that molecules of double salts exist as such in concentrated solution. 'On Undecylamine and Pentadecylamine and the Preparation of the Higher Amines of the Aliphatic Series,' by Elizabeth Jeffreys; 'An Electric Drying Oven,' by T. W. Richards. The general devices that can be used to secure the desired results in a drying oven are shown when the source of heat is due to electrical resistance. 'On Certain Derivations of Symmetrical Trichlorbenzol,' by C. L. Jackson and F. H. Gazzolo; 'Narcotine and Narceine,' by G. B. Frankforter and F. H. Keller; 'The Reaction between Aliphatic Sulphocyanates and Metallic Derivatives of Acetoaceticester and Analogous Substances,' by E. P. Kohler; 'A Method for Carrying out Chemical Reactions under High Pressures,' by B. H. Hite. The author gives full details for the apparatus necessary for such work.

J. ELLIOTT GILPIN.

THE *Mois Scientifique et Industrielle* is the title of a new monthly journal which has begun publication in Paris. Each number contains an original article and a digest of physical and chemical literature. The subjects covered are physics, including electricity and applications; chemistry and the chemical industries, including metallurgy, dyeing, distilling, sugar making, etc.; the mineral industries; mechanics and the mechanical industries, and agriculture.

SOCIETIES AND ACADEMIES.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

THE following titles of papers submitted for the Columbus meeting have been received by the secretaries of the respective sections. Additions will doubtless be made to the programs at the time of the meetings.

SECTION B—PHYSICS.

On a new spectrophotometer and spectroscope; On achromatic polarization in combinations of crystalline media: D. B. Brace, University of Nebraska, Lincoln, Nebr.

An apparatus for the demonstration of the varying currents in the different conductors of a rotary converter: F. C. Caldwell, Ohio State University, Columbus, O.

On optical calibration of the slit of a spectrophotometer; Absorption spectra of solutions: E. V. Capps, University of Nebraska, Lincoln, Nebr.

An absolute determination of the E. M. F. of the Clark cell: Henry S. Carhart and Karl E. Guthe, University of Michigan, Ann Arbor, Mich.

The time of perception as a measure of the intensity of light; Relation between space and time in vision: J. McK. Cattell, Columbia University, N. Y.

On the fluting in Kundt's tubes with gases at different pressure; On the escape of gases from planets according to the kinetic theory: S. R. Cook, University of Nebraska, Lincoln, Nebr.

Note on hysteresis curves determined by a yoke with broken magnetic circuit; On the demagnetizing effect of currents in iron when electro-magnetically compensated: Z. E. Crook, University of Nebraska, Lincoln, Nebr.

A new graphical method of constructing the entropy-temperature diagram from the indicator card of a gas or oil engine: H. T. Eddy, University of Minnesota, Minneapolis, Minn.

Some types of March weather in the United States: Oliver L. Fassig, Johns Hopkins University, Baltimore, Md.

Magnetic measuring instruments and the laws of magnetism; some new electric apparatus; wave forms in the aluminum condenser