ignored; while among Americans we look in vain for C. H. F. Peters and Watson, Benjamin Peirce and G. P. Bond, Olmsted and H. A. Newton, Rutherfurd and the Drapers, the Clarks and Gould, and Langley's epoch-making research on the infra-red rays of the solar spectrum.

When Mr. Berry reaches the 19th century, staggered by the accumulation of material, he deliberately abandons his task by attempting a summary in a single chapter. Here he scores a signal failure, in a sketchy agglomeration of fragments, with omissions quite as prominent as inclusions. As a running précis, or evanescent periodical paper, the chapter is excellent, though proportionately out of balance with the preceding twelve chapters. Parts of Mr. Berry's book are so well done that a subsequent edition would be quite worth an expansion or sub-division of this chapter, for the sake of appropriate exposition of the 'New Astronomy,' and the instrumental means that alone have made its marvelous revelations possible. Had the whole of Mr. Berry's short history been compressed proportionately to this chapter, the book would have been but one-third its present size. Solar research, in particular, is dismissed very cavalierly.

Every one using Mr. Berry's compend for reference would appreciate a new index. A double index is a mistake. But a greater one is the baffling system of reference, wholly ignoring the pages of the book, and increasing at least fourfold the time and labor of finding any indexed allusion to a name or subject. What is printed is simply an index to the MS., not to the printed volume itself; whereby the author has saved his own time and that of his helpers, but has wasted that of everybody who attempts to use his book as a reference work. The same remark applies to frequent cross-references throughout the volume, which would otherwise have been most helpful.

Misprints are, fortunately, few, but we find preserved and dignified that widespread error of the common kind that the navigator gets his longitude from solar sights at apparent noon: were all navigators to follow this method, and no other, we wonder how many ships would escape being put ashore. Nine excellent portraits of astronomers adorn the book, from Copernicus to Sir William Herschel.

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De la methode dans la psychologie des sentiments. Par F. RAUH. Paris, Felix Alcan. 1899.

This book is not what the title would suggest, a monograph on Method in the Psychology of Emotion, but a general summary and discussion of theories of emotion, particularly of recent theories, and of methods so far as involved. After some introductory definition M. Rauh takes up the physiological, intellectual, the biological or voluntarist, and the specialist theories, if we may summarize the theories by abridging his terms. His critique of the physiological, or organic, theory of the James-Lange school is quite full. He concludes: "On peut dire qu'une des caractéristiques de la physiologie physiologique a été la superstition du mouvement, en particulier du mouvement musculaire. Si au lieu de considérer les relations des faits de conscience et des mouvements périphériques, on considère celle des faits de conscience et du cerveau, nous avons vu combien cette correspondance est complexe et encore obscure. Ce qui fait croire que l'on peut expliquer scientifiquement les sentiments et en général les faits de conscience par les mouvements organiques, c'est que ces mouvements marquent en effet la limite d'action des faits psychiques." (P. 148.)

As to the intellectual interpretations of emotion, whether from the side of sensations or ideas, he regards this as of much more importance than the psycho-physiologists allow. It may be called a universal interpretation, though not an explanation. In this he follows a rather disputable distinction of theories. "Nous désignerons les théories, qui *traduisent* les faits sans permettre de les prévoir, du nom de théories *interprétatives;* nous appellerons théories *explicatives* celles qui permettent de les prévoir" (P. 27). But a mere formal or descriptive interpretation scarcely deserves the term theory. The biological principle of the struggle of existence is discussed at some length and granted some place, but not regarded as universal. He emphasizes such exceptions as

the neurasthenic and sea-sick, with whom emotion is a desire of death rather than life. But we do not think that these and other instances (*e. g.*, play, p. 281) interfere with the general theory that the origin and development of normal emotion is by its life significance. He identifies the voluntarist with the intellectualist theory. "Un organe tend à être, c'était en réalité dire: il y a une pensée dans cet organe qui le veut tel ou tel: l'être qui tend à être est toujours une pensée. Les sentiments indécomposables, irreductibles à toute explication physiologique ou intellectualiste—qui en un sens existent, comme nous l'avons pu conclure de ce qui précède, comme nous le verrons mieux dans le chapitre suivant—impliquent eux-mêmes une traduction intellectualiste." In the next chapter here alluded to he treats of emotion as special, *sui generis*, indecomposable facts of consciousness. He regards 'sentiments proprement dits' as those which are either unanalyzable or whose quality cannot be determined from their component parts. Such emotions are love, friendship, etc., but which are to be studied both from the organic and intellectual points of view. M. Rauh's general conclusion is that analysis is the indispensable preliminary in the study of emotion. This should be followed by tracing them to their organic and intellectual causes and learning the mode of causal action, or, when emotions are unanalyzable, their causal action should be traced. But in all this we must remember that psycho-physiology can only show the body as limit, but not as real cause or even always as measure of emotion. Psychology, here as elsewhere, seeks not unity, but actual practical previson.

While M. Rauh's work appears to us too cursory and discursive, covering too wide a field and reaching too vague and eclectic conclusions, yet it shows considerable thought, and ought to be suggestive to the student of Emotion.

Hiram M. Stanley.

BOOKS RECEIVED.

Talks to Teachers on Psychology; and to the Students on some of Life's Ideals. William James. New York, Henry Holt & Co. 1899. Pp. xi + 3-1.

Defective Eyesight. D. B. St. John Roosa, M.D. New York and London, The Macmillan Company. 1899. Pp. ix + 186.

Le Climat de la Belgique en 1897. A. Lancaster. Brussels, Hayez. 1898. Pp. 202.

La Specificité Cellulaire. L. Bard. Paris, G. Carré and C. Naud. 1899. Pp. 100.

La Sexualité. F. Le Dantec. Paris, G. Carré and C. Naud. 1899. Pp. ix + 98.

La Théorie de Maxwell et les oscillations Hertziennes. H. Poincaré. Paris, G. Carré and C Naud. Pp. iv + 80.

SOCIETIES AND ACADEMIES.

AMERICAN MATHEMATICAL SOCIETY.

In the month of April the American Mathematical Society held two meetings. On Saturday, April 1st, the Chicago Section of the Society held its spring meeting at Northwestern University, Evanston, Ill., and on Saturday, April 29th, the regular April meeting of the Society was held at Columbia University, New York City. At the latter meeting, guarantees of support having been received from a large number of universities, the final steps were taken for the publication of the *Transactions* of the Society. The Board of Editors appointed by the Council consists of Professors E. H. Moore, E. W. Brown and Thomas S. Fiske. The first number of the *Transactions* will appear in January, 1900. The *Bulletin* of the Society will hereafter be devoted more exclusively to the publication of critical and historical material and to very short original articles, especially such as present in concise form results of general interest or importance.

At the meeting of the Chicago Section the following papers were read:

(1) Dr. Harris Hancock: 'Primary functions.'

(2) Professor E. W. Davis: 'The group of the trigonometric functions.'

(3) Professor H. Maschke: 'On the continuation of a power series.'

(4) Dr. Kurt Laves: 'Lagrange's differential equations for a solid of variable form derived from Hamilton's principle.'

(5) Professor E. H. Moore: 'The decomposition of modular systems connected with the doubly generalized Fermat theorem (second communication).'

(6) Professor James B. Shaw: 'Some generalizations in multiple algebra and matrices.'

(7) Professor J. W. A. Young: 'On the first presentations of the fundamental principles of the calculus.'