and vigorously espouses monogenism. The first chapters are devoted to this generalized man and to the beginning of the historic period. But the bulk of the work treats of the four varieties in detail, and traces with much particularity how each became specialized in its own environment, giving three chapters to *Ethiopicus*, four to *Mongolicus*, two to *Americanus* and three to *Caucasicus*.

I. *Homo Ethiopicus*, developed in two areas, Papuasia and Africa south of the equator. The two sets of peoples, however, are fundamentally one, and the likeness extends to the details of sub-varieties. *Ethiopicus* was the first to branch off from the Pleistocene precursor and develop three sub-varieties. No difficulty is encountered. in these early migrations across an Indo-African continent now submerged.

II. *Homo Mongolicus* developed on Central Asian plains and plateaux into three sub-varieties, Mongolo-Tartar, Tibeto-Indo-Chinese and Oceanic Mongols.

III. *Homo Americanus* developed in the New World in Pleistocene times from Indo-Malaysia, whence he came in the primitive state, prior to all cultural developments, by two separate routes, giving rise to two zoological varieties, the Eskimo-Botocudo long-head, who migrated by way of now submerged lands across the North Atlantic; and the Mexican-Andean round-heads, who found their way in the new stone age from eastern Asia by the Bering waters.

IV. *Homo Caucasicus*, whose original home as variety of the Pleistocene precursor was Africa, north of the Soudan, where the Caucasic type was constituted in all its features. He arrived by way of trails across the now submerged Indo-African continent. Thence he occupied the Nile Valley, western Asia, western and central Europe, and worked backward to become Toda in India, Ainu in northeastern Asia, Indonesian in Farther India and Polynesian in the archipelagoes of the Pacific.

Each one of these primitive zoological groups is traced downward, mainly on biological lines to the present ethnic groups. The author has spared no pains in preserving his references in foot notes, thus setting the work away above such general treatises as that of Ratzel. He finds in *Homo Caucasius* the most debatable field, because, he thinks, of the more complex character of the subject. Is it not just possible, however, that our profounder knowledge of this variety makes it more difficult to play the game of synthesis with its parts?

There are three points at which the work could be improved. The publisher has maltreated the author's well selected photographs shamefully. In these days of cheap and excellent graphic processes there is no excuse for this. Some faces are worse than others, but the Toda and the Yezo Ainu, in Plate XII, must have been nearest the cannon cracker when it exploded.

A second weakness also must not be ascribed to the author, for it lies at the door of those who gave him information. For instance, if the members of the National Academy of Sciences agree that Bowers's 'crust,' which was 'busted, falling down a shaft in Calaveras county,' is the cranium of a Pleiocene precursor, Mr. Keane is not to blame for repeating it. Or, if the writer who calls attention to a pair of snow goggles found in a gravel bank at Point Barrow, twenty-six feet beneath the surface, should omit to say that they had been made of driftwood, with a steel knife, and that the same pattern was worn there last winter, who blames Mr. Keane for finding the palæolithic man from the Arctic to Fuegia? Though, we must say that this is the first information of his using snow blinkers.

But, thirdly, the author has marred his book by prejudicial selection of authors. It will certainly grieve some of Mr. Keane's admirers on this side of the Atlantic to find writers quoted seriously who have no standing, while he omits all reference to such distinguished authorities as Daniel G. Brinton, Wm. H. Holmes, Garrick Mallery, Washington Matthews, Charles Rau, Everard M. Thurn and Jeffries Wyman.

O. T. Mason.

The Story of the Mind. By James Mark Baldwin. New York, D. Appleton & Co. Pp. x + 236.

Skill is needed to present psychology in popular form. There is imminent danger of either unreadable technicality or of superficial

chat. Professor Baldwin has escaped both of these and has produced a remarkably good book, which will certainly hold the interest of the lay reader and not forfeit the respect of specialists. The serious-minded who glance superciliously into a book with such a title will probably read far before they lay it down.

The more important departments of the subject are given separate chapters—the mental life of children and of animals, physiological and pathological psychology, social influences, the character of laboratory experiments, and other topics, with a brief introductory view of the general nature of mind and of psychology. The author has not attempted to give the detailed results in these fields, but has chosen some sample problems under the various headings, and stated the case according to our present knowledge. In selecting these he has clearly been guided by his personal interest, taking preferably those topics to which he himself has been an important contributor; and undoubtedly the impression of movement and vitality which the book makes is largely due to the fact that the author is, in a double sense, telling of his own offspring, and can hardly conceal, under his cold and studied phrases, the glow of parental pride. For this reason the various chapters which treat of mental development and the ramifications of the imitative and social instinct are the best parts of the 'story,' and have a swing and security which is scarcely felt in some other portions of the book.

For instance, in the account of the general character of our mental processes, the manner in which the distinction between sensations and their 'apperceptive' connection is treated—the sensations supposedly coming first and from without, while the activity of arranging them springs up later and from within—will help to postpone the good day when all shall acknowledge that sensations are as much an 'inner' affair as is their arrangement or interconnection, and that the 'formal' and 'material' sides of consciousness are but abstractions, both of which are really present in even the simplest mental fact. Consequently they cannot come from different sources nor arrive on the scene at different times. If for popular and pedagogical purposes it seems best to present it otherwise, at least some hint might be dropped so that the wayfaring man who is wise and discriminating need not go astray.

And in the physiological material of the book the reader who is keen for such things might note an objection here and there in the margin. If right-handedness is, as the author admits, but a phase of the wider fact of left-brainedness it seems as infelicitous for him to refer to a 'center for right-handedness' as it would be to speak of a center for right-sideness; it is, as the author says, a matter of the relation of the two sides, and the 'center' consequently would have to include both halves. And if the 'center for right-handedness' becomes later the 'center for speech' the wicked might ask how it is that we do not cease to be right-handed when once we have learned to talk.

In another passage the author refers to very definite anatomical evidence that children have no 'will in any sense' until well along in the first year, for 'the fibers of the brain necessary to voluntary action,' he goes on to say, 'are not yet formed.' In the present state of our knowledge as to just what fibers are necessary for voluntary action this sounds somewhat over-sure; but even though the anatomical connections necessary for the voluntary control of *muscular movements* be wanting, this by no means makes it certain that 'will in any sense' is lacking, seeing that even the laziest interest or listless preference contains the essential of volition, and that the anatomical conditions for such a mental state are not necessarily the same as those for conscious muscular control.

In the chapter on the training of the mind the familiar classification of persons into those of visual, auditory, muscular and other 'types' is given a wider interpretation than the facts will probably allow. Mr. Baldwin seems to assume that a person who is put into the 'motor' class because his mental imagery is predominantly in terms of muscular sensations must also be 'motor' in the sense of preferring to act rather than to reflect, or of being impulsive rather than deliberate. On the contrary, the ordinary imagery-type to which a man belongs does not seem to give us any certain warrant for saying whether he is generally reflective or not, but

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.

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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.