

Chapters five, six and seven show the nature and need of spontaneous and acquired reactions. This discussion is new, forceful and illuminating. Not all of these things can be said of the succeeding chapter on the laws of habit. This is taken almost bodily from the author's 'Psychology.' That it is brilliant and sound will be attested by many. Yet what shall we say of the man who *can* produce new books, but who simply copies his old ones verbatim in the most important parts? Professor Patten, in his 'Development of English Thought,' declares that geniuses are always lazy. Professor James can bear this double imputation, yet one can hardly excuse him when he says he needs to offer no apology for copying his own books. The apology is needless only because it is useless. An author should treat himself as well as he treats other authors. He would not incorporate their matter without transforming it by the force of his own thinking; no more should he repeat himself without subjecting his older thought to the transforming influence of a new point of view. Who wants to buy the same book twice?

The chapters on Interest and Attention are among the best and most typical in the book. The treatment is eminently popular and general, yet none the less helpful on that account. If it is much less rigid than that of Dr. Dewey, it is perhaps as useful to the ordinary teacher. The difference is that which exists between a diagram and a demonstration; the one is æsthetic, the other intellectual.

Apperception is described at some length in chapter fourteen, the discussion making no pretension to scientific exactness. Indeed, Professor James has always given the topic a step-motherly treatment, viewing the word *apperception* as a blanket term in psychology, and following the older traditional division into sensation, perception, memory, etc. Yet even from the standpoint of psychology itself, the researches of Wundt and others have shown that there are distinct advantages in treating apperception as an elemental process in psychic life; when we come to education the advantages of this procedure are great and unquestionable. It is to be hoped that Professor James will some day give his mind to a thoroughgoing scientific

exposition of the subject. If one may be permitted to cut out work for his neighbor, one may perhaps suggest to Professor James that a monograph upon apperception in its educative bearings would be gratefully received by American teachers.

Of the significance and value of this volume as a contribution to the cause of education there can be no question. Like everything that Professor James writes, it is at once lucid and interesting. If the treatment is popular and general, it is, at all events, founded on scientific insight, and, so far as it goes, may be confidently trusted as sound. If it ridicules 'brass instrument' study of children, it yet tends to awaken sympathy with childhood. If it disappoints the seeker after 'scientific' study of education, it, at least, satisfies the heart of the earnest teacher.

Finally, this book is to be welcomed because it shows that in educational theory, as in treatises upon subject-matter, the writing of books is passing from the hands of professional book-makers into those of the real leaders of thought. In this fact we find the brightest hope of our educational progress.

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Wetterprognosen und Wetterberichte des XV. und XVI. Jahrhunderts. No. 12, Neudrucke von Schriften und Karten über Meteorologie und Erdmagnetismus herausgegeben von PROFESSOR DR. G. HELLMANN. Berlin, A. Asher & Co. 1899.

In this volume, which is the latest and largest of the series, Dr. Hellmann explains the origin and growth of weather predictions in almanacs, etc., and the practice in the different countries of describing remarkable meteorological phenomena, illustrating both subjects by *facsimile* reproductions of printed documents of the fifteenth and sixteenth centuries. As Dr. Hellmann remarks, the art of foretelling the weather has always been the object of meteorological research, but it has been practiced in various ways according to the theoretical knowledge that existed of the occurrences in the atmosphere. Among the Greeks, at the time of Meton, public placards announced the past and expected weather. Later, astrology controlled

the predictions in the almanacs, which were first printed in Latin and afterwards in the language of the country where they appeared. Such an almanac, the *Bauern-Kalender*, or peasants' calendar, having symbols to represent the predicted weather, is still published in the Austrian Tyrol. The custom of writing accounts of extraordinary meteorological events is very old, and, after the invention of printing, these reports, in pamphlet form or on single sheets, were widely distributed throughout Europe. As they were intended for the people, few have been preserved in libraries, but some of these are here reproduced.

The volume contains 33 pages of historical and critical introduction and 26 *facsimiles* of German, French, English, Italian, Spanish, Danish and Dutch tracts, most of them curiously illustrated. Probably to no other person than Dr. Hellmann would so many rare works in all parts of Europe be accessible, and his scholarly preface greatly aids the comprehension of these interesting specimens of ancient weather lore. One or two copies of the volume may be obtained for the publisher's price, viz., 20 Marks, or \$5, from the undersigned, at Hyde Park, Mass.

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BOOKS RECEIVED.

Proceedings of the Fourth International Congress of Zoology, Cambridge, 22-27 August, 1898. London, C. J. Clay & Sons. 1899. Pp. xiv + 422 and 15 plates. 15s. net.

Cinématique et mécanismes potentiel et mécanique des fluides. H. POINCARÉ. Paris, Carré et C. Naud. 1896. Pp. 385.

Alaska and the Klondike. ANGELO HEILPRIN. New York, D. Appleton & Co. 1899. Pp. x + 312.

Leitfaden der Kartenentwurfslehre. KARL ZÖPPRITZ. Leipzig, Teubner. 1899. Pp. x + 178. Mark 4.80.

Der Gang des Menschen. II part. OTTO FISCHER. Leipzig, Teubner. Pp. 130 and 12 plates. Mark 8.

Elektrische Untersuchungen. W. G. HANKEL. Abhandlung der mathematisch-physischen Classe der königlichen sächsischen Gesellschaft der Wissenschaften. Leipzig, Teubner. 1899. Vol. 24. Pp. 471-97 and 2 plates. Mark 2.

Practical Physiology. DR. BURGH BIRCH. Philadelphia, Blakiston's Son & Co. 1899. Pp. x + 273. \$1.75.

The Steam Engine and Gas and Oil Engines. JOHN PERRY. New York and London, The Macmillan Company. 1899. Pp. viii + 646.

Geological Results, based on Material from New Britain, New Guinea, Loyalty Islands and elsewhere, collected during the years 1895-7. Cambridge, The University Press. 1899. Pp. 356 and 5 plates.

SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of Geology, April-May, 1899.—H. F. Reid, 'The Variations of Glaciers,' pp. 217-225. Professor Reid presents the fourth of his summaries of observations on the advance and retreat of glaciers in different parts of the world. While recession is the rule, there are some instances of advance, and some evidence has been gathered of recurrent cycles of maxima and minima. In the case of two Swiss glaciers the periods proved, respectively, 44 and 51 years.

G. C. Curtis and J. B. Woodworth, Nantucket, 'A Morainal Island,' pp. 226-236. The former author describes a recently constructed model of Nantucket, and the latter its geology.

Mark S. W. Jefferson, 'Beach Cusps,' pp. 237-246. The small cusps along beaches are explained by the action of retreating high waves, whose waters breach the strip of seaweed that is usually present just above the line of ordinary waves, and that binds the shingle together. Between the breaches the cusps gather at intervals of ten to forty feet.

Walter D. Wilcox, 'A Certain Type of Lake Formation in the Canadian Rockies,' pp. 247-260. Interesting data are given regarding the glacial phenomena of the Canadian Rockies, and particularly regarding Lake Louise. A means of estimating the time since the retreat of the great ice sheet is suggested, but for lack of the necessary apparatus it has not been carried out.

J. P. Goode, 'The Piracy of the Yellowstone,' pp. 261-271. Recent changes in the drainage of Yellowstone Lake are described and explained. The Yellowstone River, as at present known, appears to be of development in late geological time.

C. E. Monroe and E. E. Teller, 'The Fauna of the Devonian at Milwaukee, Wis.,' pp. 272-