

names. Whether or not electricity is a chemical substance, or whether it be something *sui generis*, is a question probably needing a good many years definitely to answer.

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BALDWIN'S STORY OF THE MIND

The Story of the Mind.

By James Mark Baldwin. [The Library of Useful Stories.] D. Appleton & Co. 1898. 16 mo, pp. 236.

CSP, identification: Haskell, *Index to The Nation*. See also: Burks, *Bibliography; List of Articles*; MS 1513 (draft).

Here is a little book, easy to hold, pleasant to read, warranted to get read, without skipings, to its last word. Yet, after all, it contains some seventy thousand words—enough to outline any science, or, for that matter, all human knowledge, usefully. If the publishers will only remember that, while a narrow subject needs to be treated in some detail and at large, under pain of superficiality, a broad survey of a broad subject may have a high value, provided it be executed by a broad and deep student, they will do something for our enlightenment by this happily conceived series.

Probably among all our eminent psychologists nobody was better circumstanced than the author, by the interest and practical importance of the branch in which he has specially distinguished himself of late years, to make this outline of psychology. The two chapters about children are most charming. The characterization of the "motor child" is remarkable. Most of the chapters are skilfully and artistically constructed. The effort to maintain the extreme simplicity which is the idea of the series, and apparently to address an audience not at all in the habit of thinking, has had a questionable effect upon the chapter which, after all, was the most important, that upon general psychology. There is a certain limit beyond which it is impossible to simplify this difficult subject; the effort to do so can only result in loss of real perspicuity, especially to that public of psychologists by nature who are most likely to read the book, and who have been thinking about the mind, off and on, all their lives. We read that, "the electrician, say, cannot observe . . . the electric sparks without really using his introspection upon what is before him." If the meaning is that attentive observation of an outward object, without thought of self, involves all the introspection there is, would not the same idea have been more clearly expressed by denying that there is any such thing as introspection? But, in any case, the reader will sorely feel the lack of any account of what self-observation really consists in. We read: the "association of ideas, thinking, reasoning, etc., . . . used to be considered as separate 'faculties' of the soul, and as showing the mind doing different things. But that view is now completely given up. . . . Mind does only one thing. . . . That one thing is combining." Perhaps this very strong language might be necessary in a book addressed to German readers, but the misapprehensions of many an English reader are quite

on the side of the *tabula rasa*; and the whole English tradition is that by faculties are meant mere logical classes. The classical British psychologists, whom it would be base for us to decry, as Germans do, far from considering the association of ideas as a special faculty (although they certainly did not deny that the mind "does different things," just as gravitation may produce orbital or hyperbolic motion or impact), did maintain that the one law of association, which Prof. Baldwin would call the law of "combining ideas," exclusively governs all the actions of the mind. Were this not otherwise plainly their doctrine, a moment's consideration of the theory of vibrations would render it so, in Hartley's case. When a school of students makes a scientific discovery, though it were not, like this, of the first order, and when, having demonstrated its truth as well as their historical position permits, they invent a special term to serve as the scientific name of what they have discovered, is it good morals for subsequent writers of the same language to assent to a narrowing of the meaning of that term, the purpose of which, in the first instance, was to deprive that school of the honor justly due them and transfer it to foreign plagiarists?

But, without insisting upon this point, it seems to us that many an American and English reader will do one of two things: either he will understand that Prof. Baldwin plants himself flat-footed upon the proposition that to feel a sensation of green, to make an effort, to acquire or break away from a habit, to experience fatigue, not only one and all consist in combining ideas, but are not "doing different things," or else he will be utterly puzzled at the outset as to what is meant, and will read no further. True, he can procure Prof. Baldwin's 'Handbook' in two volumes octavo, and thus ascertain just what he does think. But we cannot withhold the opinion that a further elucidation of general psychology would improve this little book, even if it had to be relegated to an appendix. In a certain recent work by a medical man we came across an emphatic reiteration of Claude Bernard's dictum that "disease is not an entity." That sounded like the proposition that the mind has no faculties, both being cases of routine clinging to a phrase of nominalistic metaphysics after its original meaning has completely evaporated. That the mind has no faculties was at first the shibboleth of Herbartian metaphysics, which has completely gone by. Though it is gross exaggeration—as if the human race were devoid of special instincts and as if there were no in-born differences of bent—still, it served in Germany to shake people out of a certain confusion of thought.

The only other chapter in which we discover any defect of lucidity is the last, concerning genius. If the word "genius" bears any unambiguous meaning, it surely signifies a very extraordinary native departure from the ordinary proportions of the faculties in a man, such as goes far toward fitting him for very extraordinary achievements. In this sense, there is no other department of science in which there is half the opportunity for genius that there is in mathematics. Hence, it is not a bad plan, when a generalization about scientific genius is made, to test it by comparison with the great mathematicians. Now, if we understand Prof. Baldwin, which seems hardly possible, in proposing as the criterion for distinguishing between the genius and the crank, that the true genius "and society must

agree in regard to the fitness" of his ideas, and "for the most part his judgment is at once also the social judgment," he means that if the society of the day regard a man's ideas as unsound, he is no genius. But the history of mathematics simply swarms with instances in which work utterly neglected and despised in its day was found by a later generation to be fundamentally important, so that mathematicians proceeded to build upon it. The world had to grow up to it.

There was one Girard Desargues, who in 1639 printed a volume entitled 'Brouillon Project d'une atteinte aux évènements des rencontres d'un cône avec un plan.' Although Descartes praised Desargues in a private letter, as did the young Pascal in a work never yet printed, and Fermat somewhere (very likely on the margin of a book he was reading), yet he was so generally regarded as a crank by his contemporaries that early in this century he would hardly have been remembered at all, except for some sparse contemporary allusions to his "faiblesse pitoyable," etc. In fact, Montucla's great history of mathematics, enlarged by Lalande and extended by Delambre—five bulky quartos, which certainly did not intend to overlook any French name of the least account—does not recognize the existence of Desargues. As far as we are aware, no printed copy of the original book has ever yet turned up. But it happened one day in 1845 that M. Michel Chasles, the great geometer, started so early for the Monday meeting of the Institute that he lingered on the quay and began turning over the books exposed for sale on the parapet. He came across an old MS. copy of the book mentioned, which he purchased for a trifle. He took it home, and, having done so, he violated all book-buyers' manners by sitting down and reading it. He found it to be what, had it been written the day before, would have to be considered a very able treatise on that projective geometry which was rightly reckoned as the great glory of the nineteenth century in pure mathematics (though of course with important lacunæ), and he further found that Desargues had made an immense stride in advance of modern geometers in recognizing the fundamental importance of a relation which he called involution, and which, under the same name, is still regarded as a cornerstone of geometry! There are certain *minutiae* of the history into which we cannot enter. The above account is as correct as its brevity permits.

Space does not permit us to set forth other like cases, not even a poor half-dozen selected from those of our own century—say the cases of Gauouis, Listing, Lobatchewski, Plücker, Green, and Hesse. Of these great names we find but two in the body of Phillips's Index; and one of these has no reference, so that it was doubtless inserted by the searching editor of the second edition. The man in vogue cannot escape the influence of the psychological law which causes him to desire to deny such facts; but they have their own sullen way of mutely but stubbornly continuing to exist. Happening to open the works of Beaumarchais at that piece in which his genius first found its strength, one would be surprised to read as its title, 'Le Barbier de Séville, comédie en quatre actes et en prose, représentée et tonbée sur le théâtre de la Comédie-Française, le 23 février, 1775.' A public may need a little education even to appreciate a farce. On the other hand, nothing is more amusing that to compare those whom the society of their day looked upon as immense with some contemporaries who passed unknown,

beginning with Alexander of Ales and Albertus Magnus against Petrus Peregrinus and Roger Bacon. Prof. Baldwin speaks of the "supreme sanity" of Newton—a decidedly unfortunate instance from various points of view. But here we only note that since Newton considered his commentary on Daniel to be his greatest work, it follows that, according to the criterion seemingly proposed, he would have to be reckoned as no genius.

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Logic, Deductive and Inductive.

By Carveth Read. London: Grant Richards. 1898. 8 vo, pp. 323.

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It was so many years since we had had the pleasure of reviewing a logical work by Mr. Carveth Read that we hoped, in opening this volume, to find that the long silence had ripened a rich fruit; and in point of fact experience has made of the author a wary defender of his doctrine. It is refreshing to meet with a logician of to-day who does not think he does a fine thing in putting logic upon a philosophical basis. The special sciences only occasionally have any need of considering the theory of reasoning, but philosophy can be successfully erected on no other foundation. Now if philosophy be founded upon logic, and logic in its turn upon philosophy, neither has any foundation at all. Besides, putting logic upon a philosophical basis always involves confusing the logical question of whether certain premises can be true, and can have presented themselves as they have done without the invariable (or almost invariable) truth of a certain conclusion, with the psychological question of whether the passage from premises to conclusion is gratifying to the logical sense. Mr. Read does not fall into this common confusion. The questions he discusses are genuine logical questions and are considered in their proper logical aspect.

The first sentence of his book reads, "Logic is the science that explains what conditions must be fulfilled in order that a proposition may be proved, if it admits of proof." This is a little narrow. There is no reason why the logician should be restricted to looking back from a foregone conclusion to possible premises, and never be permitted to look forward from premises in his possession to their necessary result. Besides, all logicians, including Mr. Read himself, make their science embrace the doctrines of definition and division, which cannot by any means be included under his definition. But Mr. Read at once proceeds to narrow this definition still further by excluding from the consideration of the logician all mathematical reasonings. He seems to think that these are coextensive with reasonings about quantity; as to which any modern mathematician could have set him right. Mathematical reasonings differ from other deductive reasonings only in their greater intricacy. The reason Mr. Read gives for this exclusion is that mathematics takes care of its own reasonings. It is very true that in mathematical reasoning there is no occasion to appeal to the theory of reasoning; but that is no evidence that the student of the theory of reasoning will not find any