

text-book than one for class-room use, such as Unwin's. It includes less mathematical discussion than samples of good designing, graphically presented. It is full of excellent "dimensioned" illustrations of a great variety of machinery, and especially of machine-tools and steam-engines. It gives a large number of rules and tables of proportions of parts of machinery taken from the standard treatises and from the note-books of skilled designers. In many cases the methods of computing sizes and proportions are given. The drawings have all been prepared from working drawings, and especially with a view to their use for this purpose. Standard and successful practice is thus laid before the young student, or practitioner; and the art of proportioning is thus not only acquired, but the novice is, at the same time, made familiar with the best designs of his seniors. A combination of this work with that of Professor Unwin would seem likely to make an ideal course; the one being used in the drawing-room, the other in the class-room in conjunction with lectures. For the ambitious apprentice, no better plan could be recommended than a similar course of private reading and practice.

The Philosophy of Individuality, or the One and the Many. By ANTOINETTE BROWN BLACKWELL. New York, G. P. Putnam's Sons. \$3.

THIS work is a new attempt to solve the problem of the universe. It is by no means easy reading, the style being at once verbose and obscure, and the same thought is often repeated again and again, without ever being made clear. The fundamental doctrine of the book is a new theory of matter, namely, that matter is not a substance at all, but merely a complex of motions; or, in the author's own words, that "matter is literally composed of aggregated and coöperative modes of motion." Even an atom is regarded as nothing but a combination of balanced and correlated motions: "Our atom of matter, then, is a unit of motions with innate energy enough to achieve vastly more than has yet

been required of it by physical evolution." This view is expounded and illustrated through several chapters, and the endeavor is made to show how the theory applies to what we commonly call substances, and to distinguish between these "complexes of motion" and the "free motions" of heat, light, electricity, and gravitation. The theory is admitted to be nothing but a hypothesis, and we fear that it will always remain so.

Passing now from the realm of matter to that of mind, the author presents a theory of mind and consciousness similar to that of Herbert Spencer, that mind and matter are merely two aspects of one underlying reality. It differs, however, quite radically from Spencer's view in regarding life and consciousness as attributes not of an organized body only, but of each individual atom: "The rhythmic atom is *alive* with the high possibilities of ever-growing sensibility and actual knowledge." The objection that there is no evidence of life or feeling in inorganic matter, Mrs. Blackwell endeavors to meet by the theory of "potential mind" and "nascent feeling," phrases which are made to do duty instead of arguments and proofs. The grand difficulty with such a theory is to account for personality; for, if every atom is sentient by itself, it would seem that I must have as many minds as there are atoms in my body, and Mrs. Blackwell is by no means successful in removing the difficulty. "We assume," she says, "that the one commanding ego in each higher organism is exclusively but one individual unity!" but, notwithstanding her exclamation point, there is no warrant in her theory for such an assumption.

Such are the fundamental doctrines on which the author seeks to found a rational theology and a belief in the immortality of the soul, but we find little in her arguments that is convincing or satisfactory. The whole theory is hypothetical; and, while we recognize the earnest purpose of her book, we cannot think that she has added anything important to our knowledge of nature or of man.

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For sale or exchange.—A Telescope (36 diameters, copper barrel)—for \$20 cash or scientific books of that value. A. N. Somers, La Porte, Ind.

For sale.—A complete set of the Reports of the Second Geological Survey of Pa., 1874-1893, including the Grand Atlas. Publisher's price over \$115. Will sell for \$50. Address F. D. Chester, Newark, Del.

The undersigned has skins of Pennsylvania and New Jersey birds, as well as other natural history specimens: which he wishes to exchange for marine, fresh water, and earthworms of the South and West. Correspondence with collectors desired. J. Percy Moore, School of Biology, University of Pennsylvania, Philadelphia.

For sale or exchange.—I have a Caligraph typewriter (No. 2) in perfect order and nearly new. It is in a heavy leather, plush lined office case, the whole costing me about \$100. I desire to hear for it, either by sale or exchange, a new No. 5 Kodak camera, with six double feather-weight plate-holders and the latest pattern of their tripod. The lens and pneumatic time-shutter must also be the same as those now sold with the last No. 5 Kodak. The price of what I desire in exchange is \$78. Address, for particulars, P. O. Box 314, Takoma, District of Columbia.

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