

lation. To progressive movement habituation has taken place in daily experiences, but not so for rotations. Hence the prominence of after-sensations in the latter as compared with the other. Habituations to rotation movements are possible and are found in experienced dancers and skilled skaters. The after-sensation from rotation comes only with long stimulation, — this he bases upon his own experiments with rotating human subjects and doves, — and cannot be due to the sudden or momentary shifting of the cupula as Breuer supposes or to the waving of the auditory hairs or ossicles with Brown. In this study of rotations he finds two sensation elements, the swinging sensations that give speed and mediate position of rotation axis, etc., and the sensation corresponding to angle acceleration which registers meaning, direction and change of rate. The latter is always of short duration. These sensations are usually combined in daily life, which furnishes only short turning movements, but under experimental conditions they may be separated entirely from one another. Lasting rotations are entirely abnormal and dissociate these elements by calling them out in different measures so that to the higher centers a complex of sensation elements are mediated that stand in unaccustomed and often opposing relations. After-dizziness never attains to the clearness of a real sensation as it should on Breuer's hypothesis. These two sensation elements have after-sensations, and it is to the unusual combinations of these in the higher centers that dizziness is due. The author rests his argument upon a very closely critical examination of the work of others and makes only a subordinate use of his own experimental studies. He scarcely satisfies the hope that he raises at the beginning by mentioning seasickness. The reader is led to expect some light upon the question of the disturbance of the vomiting center by the arousal of dizziness sensations. However, the work has been carefully done and one cannot help but be impressed with the strength of the argument, especially with the negative conclusion towards the hypotheses of Mach and Breuer.

T. L. BOLTON.

UNIVERSITY OF NEBRASKA.

### BODY AND MIND.

*Leib und Seele : Darstellung und Kritik der neueren Theorien des Verhältnisses zwischen psychischem und physischem Dasein.*

R. EISLER. Leipzig, Barth, 1906. Pp. 215.

The author takes up Dualism, Materialism, the Identity theory, Interactionism and Parallelism, giving an exposition and criticism of

each in turn, and concluding with a brief discussion of the problem of immortality upon which he thinks his own spiritualistic phenomenalism throws new light.

Like most discussions of the mind-matter problem the validity of the argument turns on certain underlying assumptions:

1. The assumption of the priority of self-consciousness (cf. p. 93 f.). This leads the author to a spiritualistic monism or panpsychist parallelism. Reality is ultimately psychical in its nature. Physical objects are phenomenal manifestations of psychical subjects as they appear to one another.

The same presupposition crops up in the insistence on the more real and more immediate character of consciousness (cf. p. 47 f.). This results from confusing the first and the third person's points of view.

2. Closely connected with this is the assumption of the existence of unconscious mental states which parallelism finds so helpful in eluding its difficulties and so useful in covering up its obscurities (cf. p. 100 f.). Not all the psychical is in consciousness, he says. The psychical correlates of certain physiological processes are unknown to us. He admits that there is no mental process (not even the so-called higher intellectual activities) which has not its physical basis or counterpart, and he sees that this conception does not necessarily imply materialism, but he does not see that by this admission he would have to reconsider his metaphysical idealism.

3. The assumption of the disparateness and incomparability of mind and matter (cf. p. 45 and Cap. IV. *passim*). The psychical differs from the physical in that it consists of qualitative whereas the physical consists of quantitative relations. The dictum recurs here (which so few writers have had the courage to challenge) that the psychical and the physical are characterized by different properties or qualities. Physical properties like extent, solidity, color, heat, movement cannot be predicated of the psychical.

The sensation 'red' is not itself red, the sensations of spatial extent are not themselves extended. In short, "The determinations and changes of the contents of consciousness or experience are not identical with the determinations and changes of experiences as states or acts of the subject" (pp. 15-16).

But a dualism of content and process is not much improvement on an ontological dualism, if it is taken statically.

4. The assumption of the parallelism of the psychical and the physical. The author seeks to reconcile interactionism and parallelism

on epistemological grounds. The physical world is phenomenal only — a manifestation of what in reality is psychical in character. The causal interaction between soul and body is therefore an interaction between different levels of the psychical, while the parallelism of the psychical and the physical is simply the duality of the reality and its phenomenal appearance. The parallelism of consciousness and brain states is the result of an interpsychical causal relation (cf. p. 147 f.).

H. HEATH BAWDEN.

UNIVERSITY OF CINCINNATI.

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## BOOKS RECEIVED FROM SEPTEMBER 5 TO OCTOBER 5.

*National Educational Association. — Fiftieth Anniversary Volume, 1857-1906.* Winona (Minn.), Publ. by the Association, 1907. Pp. viii + 949.

*Index by Authors, Titles, and Subjects to the Publications of the National Educational Association for its First Fifty Years, 1857 to 1906.* Winona (Minn.), Publ. by the Secretary, 1907. Pp. 211.

*The Ego and Empirical Psychology.* W. B. PILLSBURY. Reprint from Philosophical Review, Vol. XVI, No. 4; July, 1907. Pp. 24.

*Contemporary Criticism of Friedrich Nietzsche.* F. S. BAKER. Reprint from Journal of Philos., Psychol. and Sci. Methods, Vol. IV, No. 15; July, 1907. Pp. 16.

*Rudolf Eucken's Philosophy of Life.* W. R. BOYCE GIBSON. New York, Macmillan Co., 1907. Pp. 182. \$1.40.

*Outlines of Psychology.* WILHELM WUNDT. Translated by C. H. JUDD. Leipzig, Engelmann, 1907; New York, G. E. Stechert & Co. Pp. xvi + 392. Mk. 8.

*Twenty-fifth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution.* Washington, Government Printing Office, 1907. Pp. xxix + 296, pl. cxxix.

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## NOTES AND NEWS.

The Second Annual Conference of Teachers of Psychology in Normal Schools and Colleges was held May 10-11 in Milwaukee. Milwaukee-Downer College and the Milwaukee Normal School were the hosts, the sessions of the conference being divided between the two.