THE LAW OF SIZE-WEIGHT SUGGESTION.

IN 1893 Dr. J. Allen Gilbert, working under my direction, obtained measurements on the size-weight illusion. A cylindrical block of 82 mm. diameter and of 55 g. weight was compared with a series of blocks of 35 mm. diameter but of various weights. The subject first lifted the large block, and then picked out, by lifting, that block of the series which appeared to be equal in weight to the larger one. The error in weight thus made was due to the suggestive effect of the difference in size.

These were the first measurements made on the size-weight illusion ('Studies from the Yale Psychological Laboratory,' 1894, II., 43).*

The problem was then investigated in detail by Dr. C. E. Seashore ('Studies from the Yale Psychological Laboratory,' 1895, III., 1). Two sets of cylindrical blocks were made. Set A varied in diameter, but had a uniform weight of 80 grams. Set B varied in weight, but were of a uniform size of 43 mm. The subject, lifting the block between thumb and finger, was requested to select for each block in A a block of equal weight in B. In this way the effect of size on apparent weight was determined.

In the 'Studies' for 1894 I had already pointed out the possibility of establishing the law of suggestion in such experiments. I now find it possible to do so on the basis of Dr. Seashore's work.

The curve conforms closely to the form $y = \frac{k}{x}$

which is the equation of a hyperbola referred to its asymptotes as axes with the constant k depending on the nature of the experiment. The actual measurements differ from the values required for this formula only by a small quantity $z = f(x)$, which expresses the apparent increase in the diameter of the block due to the contrast with the constant length.*

If the blocks of the B series be made of the constant diameter c and those of the A series of the constant weight d, and if we denote by s the difference in size acting as a suggestion, by i the resulting illusion and by k a constant depending on the nature of the experiment, then we have the general law

$$i = \frac{k}{s + c} - d,$$

which can be called the law of size-weight suggestion. Thus, in the first set of experiments c was 43 mm., d was 80 g., and k was determined by the facts: that the blocks were looked at while lifted; that the subjects were ignorant of the illusion, etc. In the other sets of experiments by Dr. Seashore k took other values.

E. W. SCRIPTURE.

YALE UNIVERSITY,
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* Professor Binet has called attention to the fact that he anticipated Gilbert by one month in measuring suggestion by his experiments on the length of lines. This, however, was quite a different form of suggestion. If the question is to be raised as to the first measurements of suggestion in any form, I am justified in claiming priority over Binet by the experiments briefly indicated in the *Educational Review*, 1893, V., 61.

* The exact values of z have not yet been determined experimentally. The results of a special investigation will appear in the 'Studies from the Yale Psychological Laboratory.'

SCIENTIFIC LITERATURE.

Round the Year: A Series of Short Nature-Studies. PROFESSOR L. C. MIALL, F. R. S. Pp. 290. Macmillan & Co. Price, $1.50.

The book is precisely what its title promises. Its author is a cultivated and observant scholar who loves nature and records her various phases after the manner of the old-time naturalist, though rectified by new-time science. It reminds one of White's Natural History of Selborne, and the author's familiarity with that classic has unconsciously led him into the amiable and homelike style of White, and this is to the merit of the book. He evidently has little sympathy for much that goes for modern natural history to-day. He says "natural history is being choked by unassimilated facts mechanically compiled by men who have apparently ceased to think about Nature. Hence a profuse and growing literature of the most melancholy description, dry, marrowless, useless. We record and record till our catalogues grow too voluminous for storage and too stodgy for the toughest appetite." The subjects discussed cover a wide range; we are led from Insects