

*Abstracts of Lectures on the Study of Individuality.* WILLIAM STERN. Amer. Jour. of Psychol., 1910, XXI., 276-282.

The chaotic condition of the points of view and tests employed by biographers, alienists, etc., for the study of individuality clearly indicates the need of a 'Scheme of Psychography' which should, by inclusion, be neutral to the needs of the psychologist, alienist, historian, artist, man of science, and the educationist, and which should be worked out by the coöperation of many workers of many professions. A beginning has recently been made by the Commission for Psychography (*Zeitschrift f. angewandte Psychologie*, III., Heft 3). The trend of their scheme is as follows: When an individual is to be 'psychographed,' a sharp distinction must be made between the 'attitudes' to be observed directly and the 'characteristics' to be inferred from them. Attitudes are classified as experimental and natural, the latter appearing as reactions to definite stimuli occurring in the course of life, *e. g.*, money, affairs, extraordinary circumstances. Aetiology and Symptomatology are also to be included in the scheme. Under the former head come data with reference to inheritance, diseases, character of the family, influences of nurture and education, etc., and under the latter data with reference to physical form, body mass, physiognomy, expressive movements, voice, etc.

A plea is made for the study of the individuality of the child, making especial use of complex functions, and the first six years are considered to be the most favorable period for such study. Binet's Intelligence Tests are strongly recommended for use in grading school children according to endowment, and a plea is made for the early diagnosis and special treatment of the 'supernormal' child.

H. A. RUGER.

TEACHERS COLLEGE,  
COLUMBIA UNIVERSITY.

#### FREQUENCY TABLES FOR FREE ASSOCIATION.

*Associative Massenversuche.* GERTRUD SALING. *Zeitschr. f. Psychol.*, 1908, XLIX., 238-253.

*Beiträge zur Associationslehre auf Grund von Massenversuchen.* FERDINAND REINHOLD. *Ibid.*, 1910, LIV., 183-214.

*A Study of Association in Insanity. Part I. Association in Normal Subjects.* GRACE HELEN KENT and A. J. ROSANOFF. *Amer. Journ. of Insanity*, 1910, LXVII., 37-96.

The method employed in these three investigations is essentially the same: in a free association test, the same familiar words are pre-

sented as stimuli to each of many subjects, and the frequency of the various reaction words to each stimulus is determined. The results are presented in the form of an 'association lexicon,' which shows for each stimulus word all the words given in response, with the frequency of each. The work of Saling must be regarded as preliminary in character, since the number of persons examined was too small to permit the establishment of valid frequency tables. The work of Reinhold was done with school-girls, 30 from each of ten successive grades. The work of Kent and Rosanoff is much more extensive, since 1000 individuals (mostly adults, but including 150 high-school pupils and a few younger children) were tested, and 100 carefully selected words were used as stimuli. The resulting frequency table of these last authors, covering 49 closely printed but conveniently arranged pages, is a valuable addition to the apparatus of individual psychology, since it makes possible a new use of the free association test. It is now possible, by use of these authors' list of 100 stimulus words, and by reference to their tables, to determine for each individual tested the number of times he gives a frequent or common response, and the number of times he gives an infrequent or even an individual response (an individual response being defined for the user of this table, as one not made by any of the 1000 individuals included in the table). It is further possible to determine for each individual the average frequency of his responses, and so to assign his deviation from the mean of his social group. The meaning of this measure, *i. e.*, its correlation with other tests and estimates, remains to be worked out. From the results of Reinhold it appears that children, with increasing age, tend towards the more common responses. From the results of Kent and Rosanoff it appears that persons of collegiate education, as compared with those of only common school education, tend slightly toward the less common responses. It should be noted that each person was tested separately, and that the instructions emphasized the necessity of answering with a single word, and with the *first* word suggested by the stimulus word. Under these conditions, it appears that a tendency to individual reactions is usually a symptom of eccentricity and often of mental abnormality. Whereas the average per cent. of individual responses among the 1000 normal subjects was 6.8, insane patients often give more than 50 per cent. of individual reactions. A further report on the application of this test to the insane is promised by Kent and Rosanoff. Saling and Reinhold call attention to the importance of such frequency tables in the use of the association test for the detection of emotional 'complexes' and of special or criminal knowledge:

As illustrations of the frequency of different responses, the following are cited from the table of Kent and Rosanoff.

To the stimulus word, *Table*, 267 individuals reacted with 'chair'; 76 with 'wood'; 75 with 'furniture'; 63 with 'eat'; 57 with 'cloth'; 40 with 'dishes'; 36 with 'stand'; 34 with 'eating'; 29 with 'food'; 26 with 'dinner'; 17 with 'cover'; 14 with 'board'; 13 with 'leg' and 10 with 'legs'; 11 with 'desk'; 10 with 'round'; and 222 with words having a frequency of less than 10 in the 1000.

To the stimulus word, *Dark*, 427 reacted with 'light'; 221 with 'night'; 76 with 'black'; 28 with 'color'; 22 with 'room'; 15 with 'bright'; 11 with 'gloomy'; and 200 with words having a frequency of less than 10 in the 1000.

R. S. W.

### MENTAL IMAGERY.

*The Distribution and Functions of Mental Imagery.* GEORGE HERBERT BETTS. New York: Teachers College, Columbia University, 1909. Pp. 99.

In this study of the correlations of imagery, the author has employed a more thoroughgoing questionnaire than has been customary; he has sought to secure a range of questions that shall be equally fair to all the senses, and to call for immediate judgments on the vividness of many different images, grading each on a scale of seven degrees. This method makes it possible to treat the results by statistical methods to a greater extent than has hitherto been done. The author is specially interested in correlations; he verifies the decrease of vividness of imagery with increasing age, as originally reported by Galton, and the slight but apparently negative correlation of vividness with success in college studies, as originally reported by Armstrong. His most important results are however (1) a much greater equality between images appertaining to the various senses, as regards their vividness, than has usually been asserted, and (2) a decided *positive* correlation between the vividness of imagery of the different senses. For many years, the belief of the psychological world, founded largely on a few cases of high specialization in some department of imagery, has been in favor of a *negative* correlation. An individual has been assigned to the class of the 'eye-minded' or the 'ear-minded,' etc. True, those who, like Meumann, have investigated a considerable number of individuals have become convinced that 'pure types' were rare, at least among young persons; yet the general opinion has remained that vividness of imagery of one sense is asso-