

and 50 per cent. of the female cases as syphilitic. One would expect a higher per cent. among the males and this would no doubt have been the result if the 300 male patients in Building J, had been tested."

A. C. Rogers.

Two Thousand Normal Children Measured by the Binet Measuring Scale of Intelligence. H. H. GODDARD. *Pedagogica/ Seminary, 1911, Pp. 232-259.*

Dr. Goddard reports here in full the results of examining 2,000 public school children with the Binet-Simon tests. The children were non-selected, none being eliminated for retardation or precocity. The tests were made by five assistants from the Vineland laboratory, who each examined from twelve to thirty children a day. Coaching of some children by others who had already had the tests was found to be of negligible influence, because "the child who had thus been told was found to be unable to retain what had been told him, if it was something that was beyond his normal mental age." In his main tables the results of 1,547 children figure, being those of the first six grades. To show the degree of general reliability of the system of tests as a whole he gives the following figures :

At

Yrs. below age	7	6	5	4	3	2	1	age	1	2	3	4	Yrs. above age
No. cases	1	6	8	37	79	156	312	554	329	49	14	2	No. cases

The designation "at age" means children whose chronological and mental ages agreed. He next gives a table showing the distribution of the number of children of each chronological age over different mental ages. (This table is given in full in this Journal, this number, P. 115). He concludes that "The results could not arrange themselves on this curve * * * if the questions were not carefully graded. Secondly if they were not right, age for age, but were too hard or too easy, the largest group would not be one at age, but would be a year below or a year above according to whether they were too hard or too easy." To find whether the individual tests in the different age groups are all correctly placed he gives a table for the 554 children who tested at age, showing the number for each chronological age from five to thirteen that passed and the number that failed in each individual test from age group III to age group XIII, inclusive. For a test to be considered correctly placed seventy-five per cent. or more of the children of the corresponding chronological age had to pass it. On this basis, he regards the following tests as too difficult: VI 2, VIII 1, 5, IX 3, XII 3; and the following as too easy: VIII 3, IX 2, XI 2, XII 2. He notes further that "on the whole the results agree very closely" with those given when all the children are taken into account instead of only those who tested at age, but gives no further figures on this point. High School pupils and some adults were tested with the tests of age group XIII, the results indicating that these are too difficult, especially the first. A revision of the scale of tests

is offered, comparing it with the 1908 scale and also with Binet and Simon's 1911 revision. There are some important differences between the two revisions. On the whole he concludes that "The tests up to and including twelve years are certainly eminently satisfactory. Our proposed list for XV and Binet's 'Adult' must be further tested to see if they are of any value * * * We need above all things a test for boys and girls beyond twelve years." The article includes also many other tables and deductions of important educational bearing which are not concerned with the tests as a means of diagnosing mental development.

The article is a most valuable contribution to our knowledge of the Binet-Simon tests. It supplies the data that we have wanted, especially for American children, and represents an undertaking that few have opportunities for carrying out. This fact should not be lost sight of in considering a number of minor criticisms which, at this later date, appear valid. (1) Some of the testing seems to have been done rather hurriedly. No examiner can test thirty children a day without a considerable risk of errors in the results because of haste. (2) The children tested should have been selected on the basis of some adequate standard of normality, so as to eliminate the precocious and the sub-normal. We cannot eliminate such cases on the basis of the results obtained with the tests themselves when the degree of accuracy of the tests in determining this very question is aimed at. (3) Fractions of a year in the chronological ages of the children tested seem not to have been taken into account. This procedure would also not be fair to the tests, as it would show much greater and more frequent variations in the mental ages of normal children than the tests really give. (4) The author's general conclusions are not entirely verified by his statistical data on which they seem to be based, but are more favorable to the tests than the figures alone justify. According to these figures the tests are not in general just right, age for age, but for six out of the nine chronological ages, from five to thirteen inclusive, they fit another age as well as they do the age for which they are given. This is not to be taken in the sense of a contradiction, but simply indicates that the author considers the tests as satisfactory and correct if they give an error of no more than a year in the mental ages. The reviewer cannot subscribe to this attitude as to what is satisfactory. We usually regard a thing as satisfactory only when it fulfills a purpose at least as well or better than anything else, and when we see no possible way of getting anything better. If for the lower part of the scale the tests made frequent errors of a year it would be a serious lack of accuracy, and we could undoubtedly devise tests now that would do better. An error of only a year in the upper part of the scale, however, would be much more accurate than anything else we have or can hope to get immediately. (5) In making his revisions of the scale the author follows neither his statistics nor his previous conclusions as to which tests are misplaced in the scale entirely. This discrepancy results in part from the fact that he changes the nature of the test or the procedure in using it so as to make it right for the place

in which he puts it in a few cases, and probably in part because other observations are taken into account. These other observations are not always given.

Faribault, Minnesota.

F. Kuhlmann.

Ueber Intelligenzpruefungen (nach der Methode von Binet und Simon). O. BOBERTAG. *Zeitschrift fuer angewandte Psychologie*, 1911, Pp. 105-197.

Over four hundred children were examined with the 1908 series of Binet-Simon tests, adapting them for German children. Their ages ranged from six to fourteen years, and were so chosen that their birthdays were always within two months of the time of the examination. Children with more than two grades behind in their school work were eliminated. About forty children were tested for each age. The author does not regard his statistical results as of great value because of the small number tested, and does not give them for many tests. The article is a valuable contribution because of the psychological analysis given in many instances and of the observations in connection with individual tests. In his general remarks he notes that in all mental tests a compromise must be made between exactness and applicability, and both must be determined through long empirical testing-out, not through *a priori* discussion. There are two tilings which can never be entirely eliminated. These are accidental, wrong results with individual tests, and a certain degree of arbitrariness in the procedure on the part of the examiner. It is the problem of experimental technique to reduce these to a minimum. Some of the Binet-Simon tests are of little value because of the degree in which both these factors enter. The statistical results are too incompletely given to show much in regard to the system of tests as a whole. But the comments on individual tests are of special interest because of the thorough and impartial manner in which the whole study seems to have been carried out. The following tests are regarded as poor because of the variable factor of the influence of training either in school or at home: V 4, counting four pennies; VI 6, giving age; VII 2, telling number of fingers; VII 3, copying written phrase; VII 7, counting thirteen pennies; VIII 2, counting value of stamps; VIII 5, writing from dictation; IX 1, giving date; IX 2, naming days of week; X 1, naming months of year; and X 2, naming nine pieces of money. The following are considered poor for other reasons: VI 5, execution of three simultaneous commands. Intelligence plays but a small part in this. VI 4, definition of known objects. The basic idea of this test is good, but accidental variations in results and necessary arbitrary procedure of examiner largely destroys its value. VI 7, distinction of morning and afternoon. The element of chance makes this worthless as a test. VIII 1, reading for two memories. Memory depends too much on the nature of the text and varies with individuals. XI 3, sixty words in three minutes, and XII 2, rhyming words. There is too much individual variation for these and are independent of intelligence. XIII 1, 2, 3, these

are too difficult and independent of intelligence. The following are pointed out as good tests: VI 1, showing right hand and left ear. More tests of this sort might be included. VI 3, aesthetic comparison. Similar tests for higher mental ages might be used. VII 1, incomplete pictures. This suggests Ebbinghaus' "completion test." More similar tests might be used. VII 4, copying a diamond. More complex figures for further tests might be used, unless individual variation in ability to draw entered too much. VII 8, naming four common pieces of money. A good test because the knowledge involved is a spontaneous acquisition, which is an important indication of intelligence. VIII 3, naming four colors. Good test for same reason as VII 8. VIII 4, counting backwards from twenty to one. IX 6, arrangement of weights. Naming nine pieces of money (X 2) is not regarded as a good test, while naming four pieces is (VII 8) because children do not handle the larger coins and have thus no opportunity to spontaneously learn their names.

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Da; Farbenennungsvermogen als Intelligenzpruefung bei Kinder. W. WARBURG. *Muenchener medicinische IVochenschrift*, 1909.

The author tested the ability of 1,800 children to name the following colors: Black, white, gray, red, yellow, green, blue, violet, and brown. For 1,104 he gives results in tables. Of these one group is from the "Volkschule" and another group from the "Hilfschule," thus comparing the normal with the duller children. Colored woollens pasted on cards were used, the child being asked to name the color. The following table, taken from his more detailed figures, gives the gross results.

VOLKSCHULE

No.	Age Limits	Av. Age	White	Black	Red	Yellow	Green	Blue	Brown	Gray	Violet	
334	6-13	9.46	100	99.7	96	90	79	78	53	36	30	Boys
33 ⁶	6-13	9.54	100	99.7	97	93	86	85	58	48	42	Girls

HILFSCHULE

No.	Age Limits	Av. Age	White	Black	Red	Yellow	Green	Blue	Brown	Gray	Violet	
230	8-14	10.46	98	96	89	73	51	47	22	9	7	Boys
204	6-13	10.30	98	98	94	84	61	61	34	25	13	Girls

The figures are the percentages of the number of times each color was named correctly. It is seen that the older but backward children of the Hilfschule always do more poorly than those of the Volkschule, when averages are considered. This rule also holds on the whole in comparing children of any age with those of a year younger or older. Thus for the children of the Volkschule the percentage that name the colors correctly increases fairly regularly from one year to the next, when averages from about

fifty children for each year are compared, it is further noted that in any school the children who are regarded as the brightest by the teachers do best with the colors. In one instance in which the teachers divided a class into three grades according to their estimated intelligence, and the author divided the same class into three grades according to their ability to name colors the two classifications were found to be identical throughout with the exception of only one child. The author concludes that "if one eliminates colorblindness, considers sex, the environment and previous training of a child, one will not easily make mistakes in judging the intelligence of a child from his ability to name colors."

The article is of special interest for several reasons. The study seems to have been very carefully made, and the large number of cases should make the averages reliable. These averages show a rather remarkably close correlation between ability to name colors and age, or intelligence. On the other hand, this is a test that has been specially criticized as a poor test of intelligence because of the variable degree of training from one child to another. What seems to be true is that this would be a good test for diagnosing several mental ages, possibly from about five to ten, if the factor of training remained constant, or could be accurately allowed for in individual cases. But the difficulty lies in the fact that training in naming colors is not a constant factor, nor can we in any way allow for its effect in individual cases, because we have *no* means of determining how much of a child's ability to name colors is due to unusual training.

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F. Kuhlmann.

Ueber {Correlation. Methoden der Korrelationsberechnung und kritischer Bericht ueber Korrelationsuntersuchungen aus dem Gebiete der Intelligenz, der Anlagen und ihrer Beeinhuessung dureh aussere Umstande. W. BETZ. Beihefte zur Zeitschrift fuer angewandte Psychologie und psychologische Sammelforschung. II. 3. 1911.

This is a critical and exhaustive study of the methods of determining correlations in the investigations on intelligence. It includes a bibliography of 102 references.

Die Prinzipien und Methoden der Intelligenzpruefung. Til. ZIEHEN. Dritte vermehrte Auflage. Berlin: S. Karger, 1911. 1-94 S.

This outlines and discusses some tests largely along the line of mental functions as usually recognized, such as "retention," "reproduction," etc. The tests are intended to determine the characteristics of these functions in different mental disturbances, including feeble-mindedness.

General Ability, its Existence and Nature. B. HART AND C. SPEARMAX. *British Journal of Psychology*, March, 1912.

The authors discuss different views as to the nature of general intelligence, and mathematical methods of treating results on correlation.

Vorlesungen zur Einfuehrung in die experimentelle Padagogik und ihre psychologischen Grundlagen. E. MEUMANN. Zweite Auflage. Leipzig: Englemann, 1911. Erster Band, XIX+725 S.

This edition is thoroughly revised and much enlarged. It will be completed in three volumes. The first volume is on the child, discussing the experimental investigation of its sensation, perception, memory, language, imagination, suggestibility, feeling, interest, attention, and other topics. **It gives** also a statement of the laws of mental development, and describes the methods of educational experiments.

Die Differentielle Psychologie in ihren methodischen Grundlagen. W. STERN. Leipzig: Barth, 1911. XI 503 S.

This latest edition of the author's well known earlier work under this title is entirely re-written. Features of special interest in the present edition are the third section on the "investigation of individualities," and classification of temperaments, and mental tests.

Handbuch der Erforschung des jugendlichen Schwachsinn. H. VOGT UND W. WEYGANDT. Jena: Gustav Fischer, 1911.

Anomale Kinder. L. SCHOLZ. Berlin: S. Karger, 1912. VI u. 448 S.

NEWS AND NOTES

The legislature of North Carolina, at its last session, appropriated \$60,000.00 for the establishment of a school for the feeble-minded. No provision was made for maintenance but a Board of Trustees was appointed. They have in turn elected an executive committee of which Dr. L. B. McBrayer, of Ashville, is Chairman and Dr. Ira M. Hardy, of Washington, is Secretary. The city of Kinston in the eastern part of the state gave 1,000 acres of land one mile from the city limits for its location and this was accepted by the board. The property fronts on the Neuse River and slopes back for two miles. From the building site to the river is a fall of some 40 or 50 feet. There is a good flowing well on the property. The Norfolk and Southern Railway and the Interstate Highway cross the grounds between the building site and the river. There is also a branch railroad connection by way of "Norfolk and Southern to Snow Hill. Kinston is to furnish lights and water free for five years, on the condition that the state lay a water line to their pumping station. The Board has planned