**REVIEWS AND NOTICES**


The Thirteen tests described in this study are as follows.

1. Knox cube imitation test. The four one-inch cubes were fastened on a thin base board and were separated four inches from each other. The "lines" for which norms were secured were the following:

<table>
<thead>
<tr>
<th>Line</th>
<th>Cubes tapped</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>2</td>
<td>1 2 3 4 2</td>
</tr>
<tr>
<td>3</td>
<td>1 2 3 4 2 3</td>
</tr>
<tr>
<td>4</td>
<td>1 3 2 4</td>
</tr>
<tr>
<td>5</td>
<td>1 3 4 2 3 1</td>
</tr>
<tr>
<td>5a</td>
<td>1 3 4 2</td>
</tr>
</tbody>
</table>
The instructions to the subject were: “Watch me while I tap these cubes, want you to tap them in the same manner.” Three trials were allowed for the first four lines, and five for the fifth, following Knox. In the first rate of tapping was one block per second. In following trials the was slower or faster, according to what the examiner thought the sub- required in order to succeed. To score a success the subject had to no trials correct. Children from several orphan asylums, and from schools were given this test, ranging in age from six to seventeen. A number of tables give the results in detail. Lines 1, 2, and 3 were for six-year-old children. Line 4 is regarded as a seven-year-old test giving one trial, and line 5 as a thirteen-year-old test, giving more than 1. The results show an unusually good discriminative capacity of children of different ages from six to about twelve or thir-

Three-number cancellation. The subject is required to cross out the page divided by the per cent. he crosses out correctly constitutes and 5’s on a page of twenty lines of numerals. The time taken to ore. The same groups of children seem to have been used in this in the first and all the others. For the public school children, of about forty were tested for each age, the average score is 4.369 for year-olds, and improves quite regularly to 2.069, for fourteen-year-olds. give the results in detail.

Recall of objects. The material consists of ten toy objects, namely, a dog, hat, cup, chair, chicken, gun, horse, and hatchet. These are the subject for 20 seconds, arranged in a row, he being told that he recall them in the same order. The number misplaced, and the number a enter into the score. A misplaced object counts for one-half error, added object for a whole error. For the public school children, ranging from seven to fourteen, the average number misplaced ranges from one, the average number omitted from four to two. As a diagnostic at it therefore seems to be of but little value.

Grouping of objects. In this the ten objects of the preceding test used for an association test. After the recall was made in the pre-test the subject was given the objects and told to arrange them in any way he wished, so long as he could “account for the grouping wards.” Each pair was then scored plus or minus according to the for the pairing that was given. Any reason at all sensible was plus. The following five types of reasons for pairing were noted. Hence. 2. No reasoning or planning indicated in the remark. 3. In- reasoning. E. g., “Because they are the same size.” 4. Imaginative. 5. “The hat blew out of the car window.” 5. Adult reasoning. E. g., wearing apparel.” The following gives the percentage of pairings that
were scored plus for each age, grouping the orphan asylum children in one group.

<table>
<thead>
<tr>
<th>Age</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School</td>
<td>7.5</td>
<td>24.7</td>
<td>16.5</td>
<td>32.5</td>
<td>28.7</td>
<td>45.4</td>
<td>80.5</td>
<td>75.5</td>
</tr>
<tr>
<td>Institution</td>
<td>7.8</td>
<td>31.4</td>
<td>37.5</td>
<td>24.8</td>
<td>40.1</td>
<td>37.7</td>
<td>46.4</td>
<td>55.5</td>
</tr>
</tbody>
</table>

The author does not discuss the possible cause of the irregularity in percentages of plus responses from younger to older children in this otherwise very good showing of the test. The personal factor in judging plus or minus and the several examiners that seem to have been employed suggests itself as an explanation.

5. Peg design. A modified form of the "fox and geese" game is used. The subject is told to watch the examiner place the pegs in a certain arrangement and in jumping them off after they are arranged, after which he tries to repeat this process himself. If he fails, he is shown three trials, and is then allowed to repeat the process until he knows after thirty minutes he is asked to do it again, when he receives help. The test is scored in two parts, the first or learning part, and the memory part. In each part, he scores a success if he finally arranges the pegs correctly unaided. The time and the number of attempts to arrange the pegs are also recorded. Tables give the average time, the number of attempts to arrange the pegs, and the average percentages succeeding for each age. The decrease in average time for the first part gives the best showing, ranging from 452 seconds, for seven-year-olds, to 142 seconds for thirteen-year-olds, without irregularity, in the case of public school children. The other scores show more or less irregularity; possible that some formula for combining those several scores in the right way might make a very good test.

6. Story reproduction. The fable, "The Hares and the Frogs," was read to the subject, who was told to listen carefully, and recall as much as he could. The score consisted of the number of details recalled correctly, and nine were required to score a plus. The percentages succeeding are uniformly much lower for the orphan asylum children than for the public school children, and it is therefore regarded as of high diagnostic value. Following gives the percentages passing for each age.

<table>
<thead>
<tr>
<th>Age</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School</td>
<td>2.5</td>
<td>17</td>
<td>40</td>
<td>53.8</td>
<td>72.9</td>
<td>92.1</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institution</td>
<td>...</td>
<td>2.2</td>
<td>8</td>
<td>53</td>
<td>10.4</td>
<td>27</td>
<td>26.4</td>
<td>19.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Syllogisms. The following five syllogisms were used, the subject to give the conclusion in each case.

1. "All new brooms sweep clean.
   This is a new broom."

2. "You must obey your superiors.
   Mr. B. (supplying name of a superior) is your superior."

3. "A building where you come to learn is called a school."
You come to this building to learn."

"The largest city in any state is called a metropolis. New York City is the largest city in New York State."

This test is also regarded as of high diagnostic value. The percentages correct conclusions are given for each syllogism separately, and on the whole shows an unusually good and regular increase from younger to older children.

The following are the average percentages for the five syllogisms, computed from the tables given:

<table>
<thead>
<tr>
<th>Age</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public School</td>
<td>0</td>
<td>1.4</td>
<td>15.6</td>
<td>33.0</td>
<td>49.2</td>
<td>62.1</td>
<td>76.2</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institution</td>
<td>.8</td>
<td>2.3</td>
<td>12.2</td>
<td>21.1</td>
<td>19.6</td>
<td>42.9</td>
<td>41.9</td>
<td>35.4</td>
<td>58.4</td>
<td>39.9</td>
</tr>
</tbody>
</table>

Four-detail drawing. A selection from Book I of the Mother Tongue by Arnold and Kittredge, entitled "Kindness to Animals," was read to a class, and told that they were to illustrate it by drawing. After one reading a passage of the selection was written on the board. In scoring, exactness of drawing was not considered, but only the ideas expressed. A certain number of details were required in a drawing to score a plus. The percentages passing the test for seven to seventeen-year-olds, respectively, follow:

<table>
<thead>
<tr>
<th>Age</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>20</td>
<td>31</td>
<td>35</td>
<td>46</td>
<td>56</td>
<td>69</td>
<td>58</td>
<td>77</td>
<td>81</td>
<td>50</td>
<td>33</td>
</tr>
</tbody>
</table>

A number of the children had been examined with the Binet-Simon Tests. For these the percentages passing for the different mental ages were:

<table>
<thead>
<tr>
<th>Mental Age</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
<th>X</th>
<th>XI</th>
<th>XII</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>30</td>
<td>20</td>
<td>57</td>
<td>79</td>
<td>95</td>
<td></td>
</tr>
</tbody>
</table>

Three-detail drawing. This test was similar to the preceding, but with a different selection, and designed for younger children. The percentages passing were:

<table>
<thead>
<tr>
<th>Age</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>61</td>
<td>74</td>
<td>84</td>
<td>86</td>
<td>87</td>
<td>91</td>
<td>92</td>
<td>84</td>
<td>73</td>
<td>71</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Balance nickel. The test consists of balancing a moderately used nickel on the table, the examiner first illustrating to the subject. Two successes scored a plus. The great irregularity of the time taken to balance and also in the percentages passing from younger to older children shows that the test is of little or no value as a diagnostic age test.

Peg board. A peg board six inches square with a hundred holes, in rows of ten, one-half inch apart, was used. The subject is given the one peg, and is told to stick the peg into each hole one after the other as he can, the examiner illustrating first by going half way in first row. The average time for the public school children of different ages was as follows:
For the different mental ages for the institution children the average time was:

VI VII VII IX X XI XII
34 84 67 71 65 63 63

12. Tower. The material consisted of a nest of seven or eight boxes the largest three and a half inches square, and the smallest two and a half inches tall and slightly less than an inch square. The test consisted of building the tallest tower possible, raising it from the floor to the table, and setting the boxes together into the smallest possible space. The score of the time taken and success or failure for each of the three parts of the test shows a fairly good decrease in the time taken from younger children, but with considerable irregularity.

13. Boat. The problem of getting three men, weighing 300, 150, and 150 pounds, across a river in a boat carrying only 300 pounds is presented to the subject. Four pieces of cardboard representing the boat, and the men are used. It was given to the orphan asylum children only. The average time taken to solve the problem by children of different mental ages was

VII VIII IX X XI XII
174 203 169 126 105 99

F. KUHLMAN.


This study and survey was begun in the fall of 1915 and completed in 1916. The Census Bureau estimated the population of New Castle County to be 131,670 for July, 1916. Delaware made no provision for the training of its feeble-minded outside of maintaining fourteen cases at the Pennsylvania Training School for the Feeble-Minded at Elwyn. Mental examinations were made especially for this study, but the U. S. Public Health Service had made a mental examination of all school children of the county outside of Wilmington, and a selected list in the latter results were available. "A list of supposed mental defectives in New Castle County was secured through the co-operation of all institutions having inmates who came from this county, social agencies of all kinds, public and parochial schools, county and State officials, workers with problematic children, and private individuals in all parts of the State having special knowledge of conditions." The list of possibly feeble-minded thus secured was divided into three classes of cases. (1) Positive cases of mental defect. (2) Questionable cases. (3) Cases probably not mentally defective.

F. KUHLMAN.
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The first comprised cases “diagnosed as mentally defective by
competent authority, and those of so low a grade of mentality as not to
require examination.” The second class comprised cases of doubtful men-
tality who were not given mental examinations. The positive cases were
further, including an inquiry into “economic status and character of
mined. The first comprised cases “diagnosed as mentally defective by

The positive cases were further, including an inquiry into “economic status and character of
physical conditions and developmental history, personal charac-
tional history, and economic
social reactions, including delinquencies and other anti-social tend-
ability of the family to care for and safeguard the defective in-

Two hundred and twelve positive cases were found in the county, 159
whites and 53 colored; 126 males and 86 females. 132 of these were at large
community, 80 in different institutions, 12 of the latter being in a
a feeble-minded. Of the 132 at large, 99 were with their parents,
their relatives or in foster homes, 3 in homes of their own, and 11
permanent place of abode. Of the 99 living with their parents, 56
to families either dependent or on the verge of dependency; 4 or 5
to well-to-do families. Of these 56 families, 39 were white and 17
25 of the 39 white families had unfavorable home surroundings.
white, and 9 of 23 colored cases over 14 years and living at large
owed some gainful occupation, but in nearly every case irregularly,
otherwise unsatisfactory results. 46 of the above 132 cases were
delinquent, degenerate or uncontrollable. 12 of the 212 cases were
institution for the feeble-minded, 32 in a hospital for the insane, 26
al schools, and 10 in institutions for dependents.

questionable cases included 361, 302 white, and 59 colored; 198 males
females. 346 were at large in the community, and 15 in institutions.
56 cases 301 lived with their parents (the report for this class came
the author's conclusions and recommendations are the following:
stitutional provision must be the central feature of any program
quate provision for mental defectives. “The institution should serve
focus for the various activities necessary for the proper care of the
minded.”

There should be facilities for mental examinations in all parts of
State. This might be provided by a system of clinics at regular inter-
by the institution psychiatrist, in co-operation with the schools and
existing agencies.

Special classes for defectives should be organized in all school sys-
time enough to make them practical, which should provide training
stitution adapted to cases that may safely remain in the community.
4. Parole and out-patient departments might be maintained for cases who have received special training.

F. KUHLM.


XI. Bureau of Analysis and Investigation. Gertrude E. Hall,


This bulletin reports on the examination of the following groups:


All the children, in number, of twenty-three orphan asylums, were given the Binet-Simon mental examinations. Of these a little over 6 per cent were found feeble-minded. Calling a mentally at age whose mental age is within half a year of the chronological age, 479 at age 131 advanced, and 1,102 retarded, 253 are three or more years retarded. The ages of the children ranged from two to twenty-one years. The method of determining the mentalities of the younger children whose ages the Binet-Simon scale does not cover, and the basis on which a child was classified as normal or feeble-minded, are not given. Considering the seven-year-old child pedagogically normal in the first grade, and so on, gives for the grammar grades, 242 pedagogically advanced, 318 in grades corresponding to their ages, and 902 pedagogically retarded.

Six hundred and seven inmates of the New York Training School for Girls were examined, using four different “versions” of the Binet-Simon tests. These examinations were made during the course of five years at the request of the institution which chose those first who created the greatest problem for the institution from the disciplining standpoint. Comparing the poorly behaved group with the well behaved, however, it was found the latter ranked lower in intelligence. The chronological ages ranged from twelve to twenty years, the mental ages as low as five years. The classification of the 607 cases is as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>59</td>
</tr>
<tr>
<td>Nearly normal</td>
<td>35</td>
</tr>
<tr>
<td>Not normal</td>
<td>1</td>
</tr>
<tr>
<td>Not feeble-minded</td>
<td>79</td>
</tr>
<tr>
<td>Psychopathic</td>
<td>4</td>
</tr>
<tr>
<td>Subnormal</td>
<td>68</td>
</tr>
<tr>
<td>Retarded</td>
<td>111</td>
</tr>
<tr>
<td>Borderline</td>
<td>48</td>
</tr>
<tr>
<td>Feeble-minded</td>
<td>202</td>
</tr>
</tbody>
</table>

Some of the borderline cases from fifteen to eighteen years examined after an interval of six months or a year, but no marked improvement was found. The distribution by mental ages of all the cases...
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No fixed rule as to the number of years retardation that should constitute feeble-mindedness was followed, because it was held that "mentality is only one factor in getting along in the world. *** One's disposition, one reacts to joys and sorrows, the jolts and disappointments of life," is noted as the second factor.

One hundred and ninety-four women of the Western Home of Refuge from the age of sixteen to thirty were examined with the Stanford of the Binet-Simon tests, by Jessie S. Herrick, M. D., who also reported the results. 60, 32 per cent, of these cases gave positive Wasserman test results. The following is the classification made:

- Normal mentality .......... 17 per cent.
- Subnormal .................. 48.4 per cent.
- Feeble-minded .............. 34.5 per cent.

The basis for this classification is not given, but a table given shows the number of cases for each mental age under each chronological age, from sixteen to forty years.

The Bureau was called on to make a number of examinations in various public schools. No results are reported, but a number of recommendations are made as to the kinds of special classes the public schools might establish for subnormal children.

A few of the best and poorest pupils of the St. Thomas Indian School, New York, were examined with the Binet-Simon tests. The author gives no statistical results, but limits the observation to remarks on mental and physical traits between white and Indian children.

Thirty children of an orphan asylum were examined twice with the Binet-Simon tests at an interval of ten months. The second examination was made to select subnormal children for a special class. The ages and mental ages for each case are given for each examination.

F. KUHLMANN,