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MENTAL TESTS AND THE IMMIGRANT

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SUMMARY

1. This is a study not of immigrants in general but of six small highly selected groups, four of "average normals" and two of apparent "defectives," all of them steerage passengers arriving at Ellis Island.

2. The study makes no determination of the actual percentage, even of these groups, who are feeble-minded.

3. It seems evident that mental tests can be successfully used on immigrants, although much study is still necessary before a completely satisfactory scale can be developed.

4. One can hardly escape the conviction that the intelligence of the average "third class" immigrant is low, perhaps of moron grade.

5. Assuming that they are morons, we have two practical questions: first, is it hereditary defect or; second, apparent defect due to deprivation? If the latter, as seems likely, little fear may be felt for the children. Even if the former, we may still question whether we cannot use moron laborers if we are wise enough to train them properly.

In 1912 the writer was invited to Ellis Island to observe conditions and offer any suggestions as to what might be done to secure a more thorough examination of immigrants for the purpose of detecting mental defectives. A brief report was made of the preliminary testing of a few immigrants. The results of the test, meager as they were, seemed to offer some hope that something might be done through the use of mental tests such as the Binet-Simon and others.

In the spring of 1913 funds were provided and the Vineland laboratory was urged to make a serious study of the situation. The reader familiar with the history of mental testing will realize something of the difficulty that we faced. We were in fact most inadequately prepared for the task. There were scarcely any tests standardized at that time. Even the Binet-Simon Scale was so new as to be still largely in the experimental stage. But the opportunity was there and it seemed on the whole best to use it, unprepared as we were, rather than to pass it and trust to the opportunity coming again when we might be better prepared.

We have waited more than three years to present the results

because not until recently have we had standards by which we could make even a tentative evaluation of the data.

For collecting the data two members of the Vineland staff (a third member was sent later) went to the Island where they spent two and a half months testing about 165 immigrants. There were many delays, for reasons which we need not detail here. After hasty consideration we decided to use the Binet-Simon, Healy's Construction tests A and B, the Adaptation Board, the Norsworthy Form Board and the De Sanctis Tests. (The reader unfamiliar with these tests will find a brief description of them in the appendix.)

Two problems were set: First, whether persons trained in work with the feeble-minded could recognize, by simple inspection, the feeble-minded immigrant. Second, to what extent if any could mental tests be successfully applied to the detection of defective immigrants.

For the purpose of the first question an investigator selected 39 cases—20 were Italians and 19 were Russians—who appeared to her to be feeble-minded. These were then tested by the other investigator, the results being recorded for later study.

For the second question cases were picked who appeared to be representative of their respective groups. In this list we had 35 Jews, 22 Hungarians, 50 Italians and 45 Russians. (5 Jews, 2 Italians and 1 Russian were children under 12 years of age.)

In both instances the cases were selected after the government physicians had culled out all mental defectives that they recognized as such. On the other hand the very obviously high grade intelligent immigrant was not selected. Our study therefore makes no attempt to determine the percentage of feeble-minded among immigrants in general or even of the special groups named—the Jews, Hungarians, Italians and Russians. At the same time it must be remembered that these **superior** individuals, who were not included in our study, were so small a part of the group that they did not **noticeably** affect the character of the group. As stated the physicians had picked out the obviously feeble-minded, and to balance this we passed by the obviously normal. That left us the great mass of "average immigrants." So that while our results, even if the tests are valid, will not give us the percentage of Ellis Island immigrants who are defective, nevertheless the figures would only need to be revised (reduced) by a relatively small amount.

The work had to be conducted through interpreters. It was feared that this might be an insurmountable barrier to any efficient testing. However, experience showed that we had over-estimated this difficulty. Excellent interpreters were secured. And in one of the groups we were able to eliminate the interpreter entirely by having as examiner a psychologist, who spoke the language of the people examined—the Jewish. Inspection shows that the general character of the results in this group was not different from the others, so that, being practically certain of our ground in the case of the Jewish group and finding the results practically the same in the other groups, it is clear that the interpreting was reasonably satisfactory for the other groups.

THE DATA

Since the answer to the first question can only be given in terms of the mental tests, and the value of these is the second problem, we must discuss that first.

Binet-Simon Tests. The Scale was used in its entirety except question XI^5 which was found impossible, XV^3 (code) and Adult 1, 2, 3, and 5.

Such of the Fifteen Year and Adult tests as were used were employed because, while we are not satisfied with them as diagnostic for the grade indicated, it was thought worth while to see what the result would be with adult immigrants.

Results. A tabulation of the Binet-Simon results for the Jewish group will be found in Table I. In all groups out of a total of 148 cases none passed all the tests, and only two scored as high as 12 years.

Table I gives the results of each case tested arranged in the order of the resulting mental age, the highest first. Column 1 gives the serial number, that is, the order in which the cases were taken from the line. Column II is sex and age. Column III the basal year with the number of questions passed beyond the basal year and the final mental rating. Column IV the school experience of the individual. Column V shows the questions missed in the various years of the series up to and including age X. The remaining columns give the results of the other tests to be discussed later.

We shall consider mainly the Jewish group since, as above stated, these tests were given by a psychologist who was his own interpreter,

thereby eliminating any defect of interpretation. The other groups however give similar results and the same discussion applies.

Inspection of the results shows that we have one case testing XII years,* 4 testing between XI and XII, 12 cases testing between X and XI, 8 cases between IX and X, 5 between VIII and IX, 3 between VII and VIII. Three of the cases testing between VIII and IX are children. Two are 9 years old and one is 10. Another child of 11 tested IX^2 and one of 11 tested VII^2.

TABLE I. ORIGINAL DATA. JEWISH GROUP.

Case Number	Sex and Age	Binet Age	School Experience	Binet Questions Failed	Time in seconds for Construction A.	Equivalent Mental Age Dr. Hall's Standards.	Time for Fernald Board	Equivalent Mental Age Dr. Hall's Standards.	Time for Form-Board	Equivalent Mental Age Dr. Hall's Standards.	Equivalent Mental Age Mr. Doll's Vineland Stds.	DeSanctis Questions Missed	Equivalent Mental Age Vineland Standards	Adaptation Board. All passed except where marked	Remarks.
3	M21	10^{10} =12'	5 Yrs.	0	56	7+	18	15+	21	9-	7	0			Tailor. Knows three languages.
13	M21	8^{10} =11+	Until 13	$9^{6}10^{8}$	55	7+	110	15+	15	8+12-	11	0			Tailor
17	M21	9^{10} =11'	6 Yrs.	10^{2}	61	12+	16	15+	13	8+12-	11	0			Apothecary's Assistant. Diploma.
10	M23	9^{11} =11'	Until 14	10^{2}	226	7+	12	15+	16	7+12-	11	0			Works in leather.
38	M19	8^{11} = 11	Little.Syg until 13	$9^{1}10^{6}$	50	8+	40	12+	12	10+	11	bd	6		Tailor.
6	M17	8^{10} =10^{2}	Yes Syg.	$9^{2}10^{3}$	30	8+	27	15+	16	12-7+	11	0			No occupation. Writes a little.
16	M20	8^{10} =10^{2}	5 Yrs.	$9^{12}10^{2}$	186	9+	168	15+	23	9+	7	0			Tin worker. Idiotic look.
33	F14	8^{10} =10^{2}	Until 13 7th Grade	$9^{2}10^{14}$	47	8+	156	15-	14	8+12-	11	0			
11	M22	8^{12} =10^{2}	Only Syg.	$9^{2}10^{1}$	114	11-	31	15+	17	11-7+	9	0			Telegrapher.
21	F16	8^{12} =10^{2}	None	$9^{3}10^{6}$	107	11-	21	15+	20	10-	8	d	7		Did not work in Russia.
28	M15	8^{12} =10^{2}		$9^{5}10^{22}$	25	9+	80	15+	15	8+12-	11	0			Grocery clerk.
29	P20	8^{12} =10^{2}	4 Yrs. 4th class	$9^{2}10^{5}$	230	7-	117	15-	19	10-	8	bcd	6		Tailor
24	M21	8^{11} =10'		$9^{3}10^{45}$	116	11-	15	15+	17	7+11+	9	0			Held as defective, then disch'ged.
31	M19	8^{11} =10'	Syg.only	$9^{235}10^{45}$	26	8+	18	15+	15	8+12-	11	d	7		Detained 1 night. Waiter in Poland.
19	M22	8^{11} =10'	Syg.only until 13.	$9^{25}10^{45}$	15	10+	44	12+	12	10+	11	0			Printer.
4	M21	7^{14} =10'	Syg.only	$8^{5}9'10^{23}$	188	9+	13	15+	15	8+12-	11	0			Tailor.
20	M20	8^{10} = 10	Sch(?)Syg. 6 Yrs.	$9^{235}10^{25}$	285	7-	100	15-	35	6-	5	bcd	6		Seltzer works. Insane.(?)
26	M19	7^{13} = 9^{2}	3 Yrs.	$8^{5}9^{23}10^{345}$	51	8+	39	12+	18	10-	9	bd	6		Farmer.
5	M17	8^{2} = 9+	Syg.until 12 Yrs.	$9^{123}10^{25}$	43	8+	11	15+	15	8+12-	11	d	7		Tailor. Can read and write Russian and Jewish.
12	F22	8^{1}= 9^{2}	None	$9^{1234}10^{25}$	102	11-	18	15+	17	7+11-	9	0			
30	M17	8^{2} - 9^{2}	2Yrs. Syg.	$9^{123}10^{25}$	56	7+	F		12	10+	11	d	7		Tailor.
25	M17	8^{1} - 9^{1}	5 Yrs.	$9^{123}10^{2}$	262	7-	65	7+	29	8-	9	bd	6		Farmer. Learned Polish and Russian.
9	M18	6^{11} - 9^{1}	Only Syg.	$7^{3}9^{12}10^{25}$	56	7+	64	9+	18	10-	9	0			
15	M20	8^{7} - 9^{2}	Sg.until 10	$9^{234}10^{125}$	118	11-	F		14	8+12-	11	0			Tailor.
8	F11	8^{7} - 9^{2}	Only Syg.	$9^{23}10^{125}$	60	7+	360	7-	17	7+11-	9	0			Held over night. Spileptic.
27	M18	6^{14} - 8+	Only Syg.	$7^{19}9^{234}10^{245}$	284	7-	207	7-	19	10-	8	0			Baker.
14	M24	8^{1} - 8+	Only Syg. until 12	$9^{123}10^{25}$	175	9-	307	7-	25	8-	7	0			Tailor.
35	P 9	8^{2}= 8^{2}	1 Yr.	9^{234}	233	7-	272	7-	21	9-	7	bcd	6		
7	M10	5^{10} = 8'	None	$6^{4}7^{4}8^{2}9^{234}10^{245}$	304	7-	6	15+	24	8-	7	o	7		
23	M 9	7^{2}= 8	Only Syg.	$8^{5}9^{2345}$	47	8+	30	15+	19	10-	8	cd	7		
18	M24	4^{10} = 7+	Only Syg. 7 Yrs.	$5^{6}6^{5}7^{34}8^{1}9^{234}10^{1235}$	305	7-	113	15-	15	8+12-	11			-+	Merchant in Farm Produce
34	F11	5^{12} = 7^{2}		$6^{34}7^{24}8^{5}9^{234}10^{12345}$	238	7-	F		24	8-	7	bd	6	-+	Borderline
1	F18	6^{5} = 7	None	$7^{345}8^{245}9^{1234}10^{12345}$	320	7-	F		20	10-	8	acd	6		

Note: In column 8 the intermediate mark should be the sign of equality in all cases. In column 4 "Syg." refers to synogogue. In column 9 lines 2 and 7 should read 15 — in each case.

*Roman notation used for age indicates mental age according to the Binet-Simon Scale. A small figure to the right indicates points passed beyond the year.

If we apply to these results Kohs' criteria of normality, and consider those testing above XI^2 as normal, we have three normal cases out of the total 30 (omitting the children). Those above X^3 and below XI^3 Kohs regards as borderline; there are two such in our list; the rest would be feeble-minded, all classifying as morons except 3 who test respectively VII, VII^2, and VII^4. There are 33 cases in this group, 3 of whom are children under 11, leaving 30 cases of whom 25 or 83 per cent are, according to this, feeble-minded.

The other groups, analyzed the same way, give very similar results.

The results obtained by the foregoing evaluation of the data are so surprising and difficult of acceptance that they can hardly stand by themselves as valid.

Let us try another method. Perhaps the tests are too hard and none of the immigrants can pass them. At least we can determine what test questions are passed by 75 per cent of immigrants and hence are valid tests. We may thus construct a new scale with which we can measure the individuals in terms of the group standards.

For this purpose we have ascertained the percentage of persons passing each Binet-Simon question. The result is shown graphically by the curves of Fig. 1. (Original Data Table I)*.

An inspection of these curves shows that if we use the customary 75 per cent as the criterion for the validity of a test, the Scale is satisfactory for all four groups up to and including the first question in age IX (making change), except VIII^4 for the Russian group.

Confining our study to the Jewish group for the present, we find in addition to these above tests, 75 per cent also passed questions IX^4, IX^5, X^1, X^3 and X^4. They are therefore valid tests. The remaining questions of the series, which include the fifteen year and adult (or such of them as were given), amount to 17 extra questions in all. All of the immigrants passed some of these and have been credited with them.

Analyzing the answers on these 17 questions we find, upon counting up, that the number passed was as follows: one immigrant passed 15 out of the 17 questions, two passed 14, one 12, one 10, three 9, two 8, one 7, five 6, three 5, one 4, six 3, one 2, one 1, and two 0. When

*We print only the data for the Jewish group. The data for the other groups are on file in the Vineland laboratory, and will be loaned to anyone interested.

these are combined we have the following results: 28 persons out of 30 in the whole group (3 of the original group were children under 11) passed at least one of these additional questions; 27 or 90 per cent

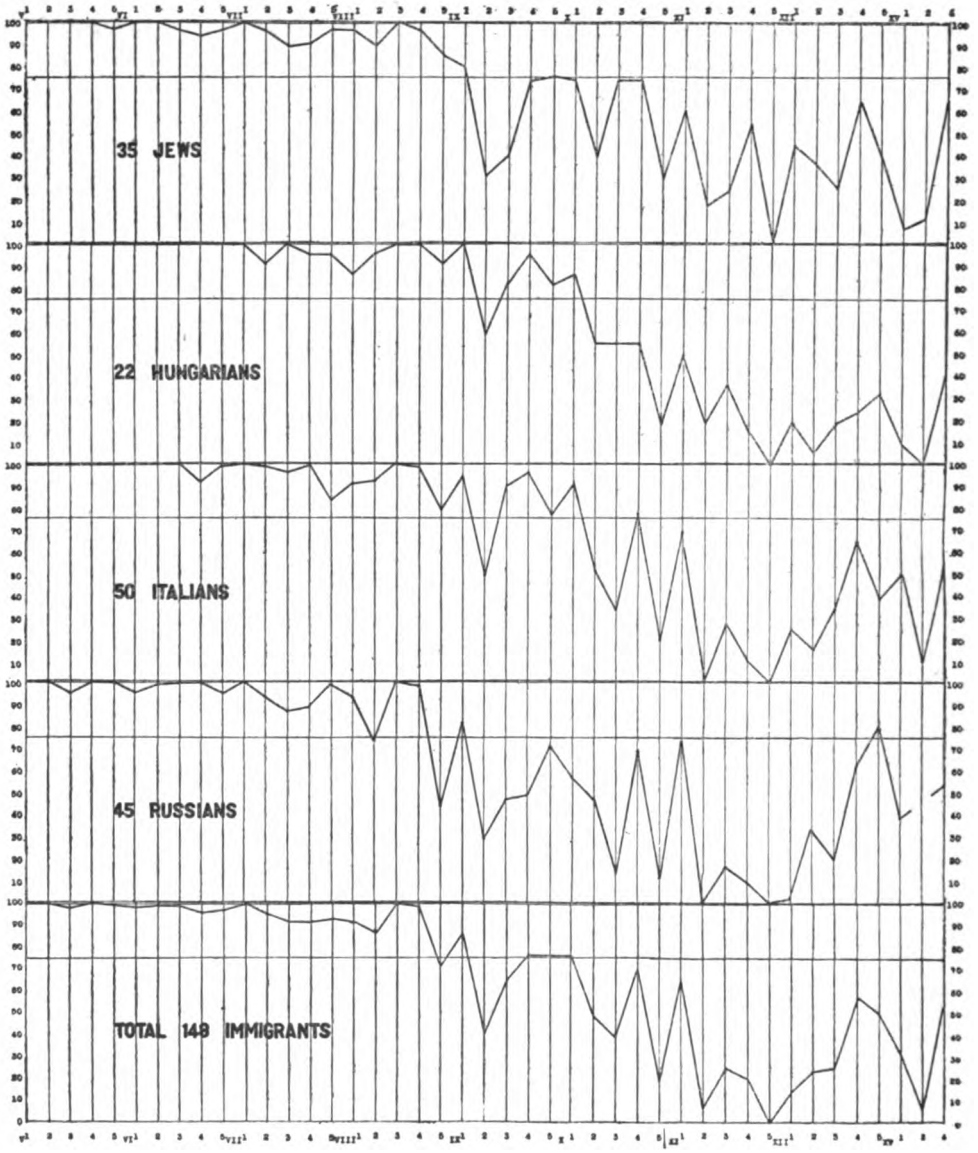

FIG. 1. SHOWING PERCENTAGE OF PERSONS PASSING EACH TEST.

passed 2; 26, or 87 per cent passed 3; 20, or 67 per cent passed 4; 19, or 63 per cent passed 5; 53 per cent passed 6; 37 per cent passed 7. Taking the per cent nearest below 75 we have 67 per cent who passed at least 4 tests. In other words 67 per cent had intelligence enough to do at least 4 out of these remaining 17 questions. We may therefore add the 4 to our X^1 which gives us the equivalent of five tests for age ten, the passing of all of which would mean a mental age of ten. This may be taken as our standard. That is to say, the Binet-Simon Scale gives a person a chance to make a rating of XII. But the usual scale is shown by these data to be not valid for this group of immigrants, because certain questions are not passed by 75 per cent of them. Nevertheless after omitting these non-valid questions there is still enough left of the scale to give the examinee the chance to make a rating of X. More than 40 per cent of the Jewish immigrants fail to do even this. (See original data, Table I). According to this criterion more than 40 per cent (for all groups it is 39.1 per cent) would be considered feeble-minded according to the usual definition. It must be admitted that this gives the immigrant the benefit of every doubt.

It is interesting to note at this point that the subjective impression of the examiners was, that upon a very liberal allowance we might accept as normal those who have passed at X, crediting this difference to the difference in standard of the race, to the circumstances of the examination, the emotional situation, etc.

The other groups give figures closely similar to the Jewish. It is not necessary to repeat the argument in detail.

This method of interpretation gives us approximately half as many defectives as we counted by our first method. But even 40 per cent is a startling proportion for the feeble-minded among our immigrants. And moreover we cannot escape feeling that this method is too lenient. The standard would seem to be too low for prospective American citizens. This feeling is intensified if we examine the questions that we have thrown out of the scale because not passed by the requisite 75 per cent. To define common terms better than by "use" (IX^2) is the first of the questions omitted. Only 40 per cent pass this test, the rest define a "table" as "something to eat on"; or a "fork", "it is to eat with"; a "horse", "is to ride" and so on. It cannot but give us something of a shock to realize that 60 per cent of this group of immigrants do not define common objects better than

to mention the most obvious use for them. Can we be satisfied with the explanation that never having been to school (as many of the immigrants have not) and never having been called upon to explain to anyone what a "table" is, it is natural that the immigrant should be satisfied with the simplest expression that came to his mind even though his definition of a table did not differentiate it from a plate, or his definition of a fork did not differentiate it from a knife or a spoon, or that his definition of a chair would equally well apply to the floor?

What shall we say of his ignorance of the date? This does not mean the **exact** date, since a leeway of a few days is always allowed. Must we again conclude that the European peasant of the type that immigrates to America pays no attention to the passage of time? That the drudgery of life is so severe that he cares not whether it is January or July, whether it is 1912 or 1906? Is it possible that the person may be of considerable intelligence and yet, because of the peculiarity of his environment, not have acquired this ordinary bit of knowledge, even though the calendar is not in general use on the continent, or is somewhat complicated as in Russia? If so what an environment it must have been!

The next question is "drawing a design from memory" which is passed by only 50 per cent. To the uninitiated this will not seem surprising since it looks hard, and even those who are familiar with the fact that normal children of ten pass it without difficulty may admit that persons who have never had a pen or a pencil in their hands, as was true of many of the immigrants, may find it impossible to draw the design even though something of its image is left on the mind.

Consider the memory for six digits. This is passed by only 40 per cent. Here again we must probably assume that the European peasant has very little to do with figures of any kind, oftentimes has not even learned to count; consequently the repetition of six digits is more like the repetition of six Greek words would be to an American, and consequently not a fair test. Another element enters in the case of the Russian and allied languages where the number names are long words. In English "seven" is the only number name that is not a one syllable word while in Russian one, eight and nine are two syllable words and four is a three syllable. In the Lithuanian dialect one, five and six are two syllable words and four, seven, eight and nine

are three syllable. To any one who did not visualize the number symbols this would render the test unduly hard.

Again take the test "to make a sentence, a little story, employing among others the three words (in English) **Philadelphia, money, river.**" (This was translated into their native tongue with as nearly as possible familiar names). Here we ask for something that is perhaps beyond the reach of the people who have lived as most of these immigrants have. We are really asking for a sort of creation, an element of literary ability, the construction of an original sentence which shall include three given words. Only 40 per cent attain to it. The same test is credited at age XI but the sentence must be better than is credited in age X. Only 10 per cent give a sentence that is good enough to be credited at age XI.

What shall we say of the fact that only 45 per cent can give sixty words in three minutes, when normal children of eleven years sometimes give 200 words in that time! It is hard to find an explanation except lack of intelligence or lack of vocabulary and such a lack of vocabulary in an adult would probably mean lack of intelligence. How could a person live even fifteen years in any environment without learning hundreds of names of which he could certainly think of 60 in three minutes?

Rhymes are given by 40 per cent.

Only 20 per cent can repeat seven figures.

Practically no one is able to put together the dissected sentences and the test was consequently omitted after a very few trials and never again used.

The Fifteen year and Adult tests we shall not discuss since they have proved unsatisfactory for American children. Some of them were given and were sometimes passed, in which case credit was given.

While we may not be very well satisfied with the results of our study of the data furnished by the Binet-Simon examination by either of the methods employed, we cannot escape the general conclusion that these immigrants were of surprisingly low intelligence.

Before passing on to consider the other tests we must say a few words about the children in these groups and about the two small groups picked for defectives.

In the Jewish group were five children aged respectively 11, 11, 10, 9, 9. These were not included in the previous discussion but

were included in Fig. 1 and the data are in Table I. Only one of these could be counted as feeble-minded. That was an eleven year old girl who tested VII [2], with a basal year of V.

In the Hungarian group was one child of 12 years who tested X. In the Italian group were two children, one 8 years tested VI[3] and one 4 tested III [2]. In the Russian group was one child of 6 years who tested VI [4].

It is a matter of regret that the number of children tested was not greater, since so far as they go the data seem to indicate that the scale may be quite satisfactory for children under 12 years.

Besides the groups already discussed two small groups, 18 Russians and 19 Italians, were selected because in the judgment of the investigator they appeared feeble-minded.

The per cent "normal", "borderline", etc., according to our first method of evaluation will be found in Table II.

TABLE II. INTELLIGENCE CLASSIFICATION OF IMMIGRANTS OF DIFFERENT NATIONALITIES.

	Normal		Borderline		Feeble-minded		Moron		Imbecile	
	No.	%	No.	%	No.	%	No.	%	No.	%
JEWS 3	10		2	7—	25	83+	23	76	2	7
HUNGARIANS 0	0		4	20	16	80	16	80	0	0
ITALIANS 3	7—		7	15—	38	79	38	79	0	0
RUSSIANS 0	0		4	9	39	87	37	82	2	2.5
ITALIAN F. M.....0	0		1	5+	17	94+	12	63	6	32—
RUSSIAN F. M.....0	0		0	0	18	100	14	78—	4	22+

If we compare the "Italian Normal" group with this "Italian Defective" we note a similar distribution in the two groups but with less "normal" and "borderline" and correspondingly larger groups of imbeciles. The same is seen upon comparing the two Russian groups. In other words while our investigator did not succeed in getting only normals in the normal group, yet when she picked defectives, only one person out of 37 tested as high as "borderline", in other words 94 per cent of the Italians and 100 per cent of the Russians were feeble-minded by test, while more than 25 per cent of the cases were actually imbeciles—in the case of the Italians 32 per cent. According to our second criterion, 89 per cent of these Russians and 75 per cent of the Italians were feeble-minded.

A further evidence of the success of the investigator in picking defectives, as well as further evidence of the correctness of the con-

clusion that they are defective is found by an examination of the basal years. In the defective group will be found lower basal years and more scattering, e. g. one who tested X [1], and would therefore be counted normal by our second method, had a basal year of VII. One of these cases is 11 years and tests VIII [4]—a doubtful case.

TESTS OTHER THAN BINET-SIMON

We shall now pass to a consideration of the other tests used in this investigation. It should be remembered that with the exception of the De Sanctis these are single tests and cannot possibly be as diagnostic as a series of tests like the Binet-Simon. Nevertheless as far as they go these tests are usually considered valuable and especially have found favor with the Ellis Island physicians, partly because they avoid the language difficulty.

Healy Construction Test A. For lack of time and facilities in testing the immigrants, the Healy Construction Test A was not used as Dr. Healy prescribes, but merely the time of placing the blocks in the frame was recorded. In column VI of Table I, will be found the time in seconds required by each individual for the performance of this test.

At the time the tests were given there were no standards for this test. We had expected to make a study of normal children and deduce our own standards. Recently, however, there has appeared a report by Dr. Gertrude Hall (1) of the New York State Board of Charities, which gives (p. 31) standards based upon 180 public school children. These results will be found in Table III. This gives us a standard of comparison. The first line of this table reads as follows. "Of children of the age of 7, 30 were tested. Their average time for doing the Healy Construction Puzzle A was 126.8 seconds, with an average deviation of 63.04 seconds." In other words 50 per cent of these 30 children ranged in time from 63.76 seconds to 189.89 seconds. The 8 year old children, it will be seen, likewise range from 55 seconds to 211, and so on through the table. From these figures we can say that there is a probability of 3 to 1 that any person who takes less than 63 seconds is more than 7 years of age mentally. We should also conclude that any person who takes more than 189 seconds is less than 7 years were it not that we find that some of the 8 year children take 211 seconds. We have, therefore, to conclude that the test does not standardize in the upper limits

for age 7, but we must take age 8, from which we conclude that to take more than 211 seconds is to be less than 8 years old mentally. In the same way from the next line, to take less than 17 seconds is to be more than 10 years old, and to take more than 165 seconds is to be less than 9 years old, and so on through the rest of the table. These standards are given in tabular form in Table III.

TABLE III. HEALY CONSTRUCTION TEST A. (Compiled from Dr. Hall's results based on the examination of 180 public school children.)

AGE	NO. TESTED	AV. TIME	AV. DEV.	RANGE FROM	RANGE TO
VII	30	126	63	63	189
VIII	30	133	78	55	211
IX	30	95	69	26	165
X	30	75	57	17	133
XI	30	48	34	14	82
XII	30	41	27	14	69

On the basis of these standards we deduce the following conclusions:

To take MORE THAN 211 secs. is to be LESS THAN VIII years old mentally.

To take MORE THAN 165 secs. is to be LESS THAN IX years old mentally.

To take MORE THAN 133 secs. is to be LESS THAN X years old mentally.

To take MORE THAN 82 secs. is to be LESS THAN XI years old mentally.

To take MORE THAN 69 secs. is to be LESS THAN XII years old mentally.

To take LESS THAN 14 secs. is to be MORE THAN XI years old mentally.

To take LESS THAN 17 secs. is to be MORE THAN X years old mentally.

To take LESS THAN 26 secs. is to be MORE THAN IX years old mentally.

To take LESS THAN 55 secs. is to be MORE THAN VIII years old mentally.

To take LESS THAN 63 secs. is to be MORE THAN VII years old mentally.

Applying this criterion to our Construction A records we have the results shown in column 7 of Table I.

NOTE: Dr. Hall does not give the deviations for her defective groups, hence we cannot make this table exactly comparable to the Form Board or to Construction B to be discussed later. Dr. Hall's **average** times (to the nearest second) for the defectives are as follows:

Mental Age	VI	VII	VIII	IX	X	XI	XII	XII+	XV
Av. Time	60	98	70	70	69	50	54	28	18

A comparison with the times given in Table I will show how the immigrants compare with the **average** of public school children of the respective ages.

While these results are not so satisfactory as a more definite standard, yet they are of some significance and help in our problem. The results applied to our data will be found in column 7 of Table I. For instance, the first line reads that Case No. 3, male, 18 years old, mentally XII [1] with the basal year at X, was in school five years, missed no questions under age XI, did Healy Construction A in 56 seconds which indicates better than 7 year mentality (7+). The third case did the test in 81 seconds of which we can only say that the person is, according to this test, under 12 mentally ("12—"); similarly for each case.

It will be seen from a study of these standards that as a rule they agree with the Binet rating as far as they go. In a few cases they are contradictory. For example, Case No. 20 has a Binet rating of X but according to the Construction A is under 7. Here is a contradiction that has to be explained, but we have not sufficient data to explain it unless the other tests contribute something. Most of the tests, however, as said, are in fair agreement. For instance No. 32, Binet age XI, according to the Healy A is above 8 which is correct enough although apparently not a very close statement. No 11 tests X [2]. According to Construction Puzzle A he is less than 11.

Healy Construction Test B. In column 8 will be found the times for the performance of Healy's Construction Test B. These results we have treated by the same method as the preceding, using Dr. Hall's standards with our deductions according to Table IV.

TABLE IV. FERNALD BOARD. ("Healy B") (1 p. 38)

MENTAL AGE	NO. CASES	AV. TIME	AV. DEV.	RANGE FROM	RANGE TO
VII	22	152	54	98	206
VIII	54	137	52	84	189
IX	108	121	49	71	170
X	112	118	67	51	185
XI	117	100	52	48	152
XII	48	108	65	43	174
XII+	39	113	64	49	177
XV	13	64	30	34	94

From the above table we get the following:

To take MORE THAN 94 secs. is to be LESS THAN XV years old mentally.

To take MORE THAN 177 secs. is to be LESS THAN XII years old mentally.

To take MORE THAN 185 secs. is to be LESS THAN X years old mentally.

To take MORE THAN 189 secs. is to be LESS THAN VIII years old mentally.

To take MORE THAN 206 secs. is to be LESS THAN VII years old mentally.

To take LESS THAN 34 secs. is to be MORE THAN XV years old mentally.

To take LESS THAN 49 secs. is to be MORE THAN XII years old mentally.

To take LESS THAN 51 secs. is to be MORE THAN X years old mentally.

To take LESS THAN 71 secs. is to be MORE THAN IX years old mentally.

To take LESS THAN 84 secs. is to be MORE THAN VIII years old mentally.

To take LESS THAN 98 secs. is to be MORE THAN VII years old mentally.

Applying these criteria to our Healy Construction B records we have the results shown in column 9 in Table I.

Form Board. Data from the form-board test will be found in column 10 of Table I. Next to this will be found the mental age rating according to Dr. Hall's standards and our deductions as shown in Table V.

TABLE V. FORM BOARD STANDARDS. (1 p. 24)

MENTAL AGE	NO. CASES	AV. TIME	AV. DEV.	RANGE FROM	RANGE TO
V	37	33	7	26	41
VI	63	28	5	22	34
VII	126	24	5	18	30
VIII	164	19	3	16	23
IX	232	16	3	13	20
X	172	15	2	13	17
XI	145	14	2	11	16
XII	57	12	1	11	14
XII+	56	12	1	11	13
XV	14	12	2	10	15

Comparing the ranges of performance with the mental ages we get the following:

To take MORE THAN 41 secs. is to be LESS THAN 5 years old mentally.
To take MORE THAN 34 secs. is to be LESS THAN 6 years old mentally.
To take MORE THAN 30 secs. is to be LESS THAN 7 years old mentally.
To take MORE THAN 23 secs. is to be LESS THAN 8 years old mentally.
To take MORE THAN 20 secs. is to be LESS THAN 9 years old mentally.
To take MORE THAN 17 secs. is to be LESS THAN 10 years old mentally.
To take MORE THAN 16 secs. is to be LESS THAN 11 years old mentally.
To take MORE THAN 14 secs. is to be LESS THAN 12 years old mentally.
To take MORE THAN 13 secs. is to be LESS THAN 12+ years old mentally.

To take LESS THAN 26 secs. is to be MORE THAN 5 years old mentally.
To take LESS THAN 23 secs. is to be MORE THAN 6 years old mentally.
To take LESS THAN 18 secs. is to be MORE THAN 7 years old mentally.
To take LESS THAN 16 secs. is to be MORE THAN 8 years old mentally.
To take LESS THAN 13 secs. is to be MORE THAN 10 years old mentally.
To take LESS THAN 11 secs. is to be MORE THAN 12 years old mentally.
To take LESS THAN 10 secs. is to be MORE THAN 15 years old mentally.

Applying these criteria to our Form Board records we get column 11 in Table I.

"If it is desired to use the form-board as a special age test, it seems properly to be a test of IX mentality when done in 18 seconds." The figures to support this view are:

1. The average time for 649 orphan asylum children was 18.4 seconds.
2. The average time of 9 year old children with IX year mentality was 18.3 seconds.
3. The average time for 9 year old public school children was 17.49 seconds.

4. Sylvester's 9 year old group averaged 18.7 seconds.
5. Goddard's IX year defectives averaged 18.3 seconds.
6. The Bureau's average for 232 subjects with IX mentality was 16.95 seconds." (1. p. 25.)

According to Knox the Form Board is a 9 year test if done in 20 seconds. Table VI gives results according to these standards.

TABLE VI. PER CENT OF CASES PASSING FORM BOARD AT 9 YEARS ACCORDING TO THE STANDARDS OF KNOX (2) AND DR. HALL. KNOX'S STANDARD (20 secs.) HALL'S STANDARD (18 secs.)

CLASS	KNOX'S DATA	OUR DATA KNOX STD.	OUR DATA HALL STD.
HEBREW	62	73	60
POLISH	74	71	62
ITALIAN	87	87	74
RUSSIAN	76	67	42

We are also able to evaluate the Form Board data according to another standardization, viz. that of Mr. Doll of this laboratory. This standardization, originally worked up by Mr. Doll for my use in this study, has now been published. Mr. Doll gives the following standards: (3. p. 61)

The Form Board is a test for

Mental age	4	if done in	120	seconds	or	better.			
" "	5	" "	"	80	"	"	"		
" "	6	" "	"	32	"	"	"		
" "	7	" "	"	28	"	"	"		
" "	8	" "	"	20	"	"	"		
" "	9	" "	"	18	"	"	"		
" "	10	" "	"	16	"	"	"		

These standards applied to the data from the immigrants give the mental age found in Column 12 of Table I. It is very convincing of the validity of the final rating to find that these two standardizations, Dr. Hall's and Mr. Doll's, on entirely different data give the same result. That is to say when Mr. Doll's standard gives us an exact year it is always within the limits prescribed by Dr. Hall's data. Also it confirms the other authorities quoted by Dr. Hall (Sylvester, Goddard, Knox) and her own groups of orphans and public school children—that it is a test of 9 year mentality if done in 18 seconds.

De Sanctis Tests. Let us turn our attention to the De Sanctis series and see what it adds to our data. The De Sanctis test consists theoretically of six questions. As a matter of fact it is eleven tests, since No. 5 consists of three parts, A, B, and C, and No. 6 of four parts, A, B, C, and D. Examining the results we find that no one of our immigrants failed in any question under 6. A standardization of this question on normal American children (4) shows that 6A is a 6 or 7 year test, 6B, a 9 year test, C and D, 7 or 8 year tests.

From this we see that to pass all the De Sanctis tests only shows that the subject is at least 9 years mentally. To miss any one means at least less than 9 and may mean less than 6. Column 13 of Table I shows the questions missed and the resulting age according to this standard.

It is well to keep in mind what it means to miss any of these De Sanctis tests. For after making all possible allowances we are still confronted with a puzzling question as to how any person over 12 years old cannot answer the questions, "Are large things heavier or lighter than small things?" "Why are small things sometimes heavier than large things?" "Are distant objects smaller or larger than near objects?" And finally "Are they really smaller or do they only look smaller?" One finds it hard not to conclude that such a person must surely be lacking in mentality.

Adaptation Board. According to the only standards we have (5) this is an eight year test, hence for all who pass, it only tells us that they are at least 8 years mentally; and for those who fail, that they are under 8 years. As would be anticipated from the results of the other tests very few fail. Indeed the number is so small and in most cases the result is so contradictory of the other tests that one is inclined to regard many of the failures as due to temporary confusion. It is noticeable that the two young Italian children fail and that the per cent of the feeble-minded groups is decidedly larger than the normals and includes some who fail on both turns.

This completes the explanation of the original data and the evaluation of each test as given in Table I.

DISCUSSION

Each test taken by itself seems to indicate a very high percentage of defectiveness. There is no exception to this. We have not determined the proportion according to any test except the Binet,

because no single test is in our judgment sufficiently reliable as a test of mental age to do this. A single test is valuable as an additional bit of evidence in connection with a rating tentatively established on the basis of a series of tests (like the Binet) or on the basis of school history, social history, industrial record, or hereditary indications or upon part or all of these combined.

In the present study the Binet Scale must stand in the position of establishing the tentative diagnosis of mental level. The remaining tests either singly or in combination should modify this diagnosis to the extent of their number and validity. For example, if a subject is rated IX years by the Binet and every one of the other tests makes him less than 7, one might conclude—provided the other tests appear valid—that the Binet is somewhat too high and his mental level is below 9 or even below 7.

When we inspect Table I with this in view we find that on the whole there is fair agreement in the levels indicated by the various tests. There are however so many cases of non-agreement and even of glaring contradiction that they call for consideration and explanation.

Some users of mental tests, notably Healy and the physicians at Ellis Island, have expressed a strong preference for performance tests as against those involving language. With immigrants this at first glance seems particularly reasonable. We were prepared therefore to find the performance tests used in this study of great value. Inspection of results however, whether we regard the time or the resulting mental level according to the standardizations used, shows clearly that the performance tests as often contradict each other as they contradict the Binet. Apparently then the performance tests have not the great value that has been attached to them.

Unfortunately no tests were made of vision. It is possible that defective sight may account for some of the poor scores by subjects who rank relatively high in other tests. One would expect this factor to operate in all the performance tests if in one, although that might not follow. In the form board the blocks are large, each fits a separate hole. One must be almost blind for sight to be much of a factor here. But in the Healy Construction Puzzle A perhaps a comparatively slight blurring of the image might prevent the examinee from noticing that a block did not fill the space in the position in

which it was placed, while a hemianopsia or a restriction of the field of vision might interfere with the performance in Healy B.

But more significant is the following suggestion from Dr. Healy's laboratory: Dr. Bronner (6) has shown that

> "Construction Puzzle A is not a good test for determining general intelligence or for placement at some special age-level. Rather, it affords an opportunity of testing the subject's ability to solve a particular kind of problem, namely, one that involves perception of relationship of form. It enables one to know the subject's reactions in a particular kind of situation, to find the method used in a solution, and the ability to profit by the experience of repeated trials. This it does as well for older as for younger subjects."

What is true of Construction Puzzle A is probably true also of Construction Puzzle B. If this be accepted it removes a large part of our difficulty.

We can still use the results, however, but with a new interpretation. A case graded by this test as "under 7" would no longer mean "under 7" in general intelligence, but we would say "in the constructive ability tested by this puzzle this subject ranks lower than most 7-year children." This is not without its value in the sizing up of our cases.

We have now examined the data of the various tests used in this investigation. They have not been studied microscopically or by extensive statistical methods. The problem does not call for that and the conditions under which the data had to be collected made them subject to certain inaccuracies which probably render them unsuitable for such treatment. They must be looked at in the gross and questions involving the finer use of data must wait for a new experiment.

Looked at in the gross the results are certainly surprising. But they must be accepted or rejected. If accepted they furnish important considerations for future action both scientific and social as well as legislative. Before rejecting the results it will be proper to make the attempt to rationalize them. That is to say, we may consider the general situation with a view to making them more easily acceptable.

FOLLOW-UP WORK

Before proceeding to rationalize the results we will present those of another line of investigation that we had looked to, to establish the correctness or the error of the conclusions.

A part of our original plan contemplated the following up of at least a few of the cases tested, to see how the conduct of the individual, after he had taken his place in the new world, agreed with the diagnosis of the tests.

The government requires that each immigrant on being admitted give the name and address of some relative or friend already a citizen of this country, who supposedly will act as sponsor for him. These names and addresses were carefully recorded for every individual to whom the test was given. They were the only clue we had when we began the follow up work two years later.

We have made search for about 50 cases. The result indicates that this method is practically impossible, principally owing to the fact, which our investigation revealed, that the relatives or friends whose names were given often had never even seen the immigrant in question since he or she landed, and actually knew nothing about his present address, and seemed but indifferently interested, their own struggle for existence making them oblivious to all else. "Vat's de drouble?" was the anxious inquiry that usually met the field agent. "No trouble, my good woman, I've just come"—etc. etc. Great difficulty of comprehension on both sides generally followed with only one fact sure to be carried away—in the immigrant's struggle for adaptation in the new world there was "drouble—very much drouble."

In the Spring of 1915 an attempt was made to locate those cases who had given an address in Philadelphia, New York and nearby cities, as Brooklyn, Newark, Jersey City, etc., these localities being chosen because of their accessibility. Of the 40-odd cases herein included not a single immigrant for whom search was being made was actually found, and only two of the addressees could be located with certainty as still living at the place given. One of these, a Russian Jew, very decent in appearance, was a butcher and uncle of the girl who is given as Case 29, Jewish Group, Binet test X^2. This man lives in one of the better immigrant sections in the Bronx, but as he spoke neither German nor English he sent the field agent to the girl's aunt living nearby who gave an excellent report of her. She had been a dressmaker in Russia, and had secured work at $10.00 a week on arriving. She had been thrifty and saving so that she was able two years after her arrival to send for her mother and younger brothers and sisters, of whom there were five, the father having died

in the meantime. The girl's savings had naturally not been sufficient to do all this but she had been able to borrow what was lacking. The aunt said they were doing nicely—the younger children in school and the older ones at work. From the character of the uncle and aunt who were seen, the general tidiness of their appearance and home, it was undoubtedly here a case of the better class immigrant who was satisfactorily adapting himself to American life.

For the other cases studied however, the situation was entirely different. The addresses given led through narrow streets, up dingy flights of stairs, from dreary tenement to dreary tenement. In many of these no registry was kept, the families coming and going with no one noting the change. The children belonging to the tenements, who thronged the streets and passage-ways, nearly all spoke English and were the most eager of helpers. They would come in troops, soon followed by groups of women to see what the unusual caller wanted of them. They would repeat the name—the women would discuss it, there would be an eagerness to suggest possible people who might be the one desired, but only occasionally did any light fall upon the problem even to the finding of anyone who actually remembered that such and such a family had ever lived there. Several times the address was given to which they had moved, but in no case were they found at this address.

Another difficulty came through changed spelling or uncertainty of spelling as the following instance shows. A Polish girl, of fifteen years or thereabouts, gave the address of a relative living in Newark, but no person of that name could be found at the address. In the nearby public school however, the agent found a family of children coming from the address given, with a name similar; that is, if a middle syllable **nu** were changed to **mi** the spelling would be identical. With this new information she continued the search and was rewarded by finding the mother of the family, who, however, spoke very little English and appeared suspicious of our intentions in asking for the girl. It took some time to get on any possible terms of relationship, though in the end she opened up somewhat and said she knew about the girl (of the name given) but had never seen her and only knew she had a brother in New York and "worked there somewhere." No clue for any further search was obtainable nor was there any means of knowing whether she really knew whom we were seeking or only said she knew so as to get rid of the visitor.

Eight cases were located in St. Louis, Missouri. Here rather better success was attained owing to the fact that the immigrant section is less crowded and the neighbors know one another better. However, even here only two of the addressees were discovered. One of these belonging to a better class of Italian peasant, a man full of enterprise and initiative named Mittino, had helped to bring over three of the cases tested at Ellis Island, mental ages respectively, XI [1], XI [4] and X [2]. He had, however, seen none of them after their arrival in America, he living in the middle West and they going direct from New York to the mines in Canada for which they were destined. They had written to the family in St. Louis several times, giving good reports of themselves; one, however, had received an injury while working in the mines and had later returned to Italy. All this information was given by Mittino's oldest son, a fine intelligent looking lad of fifteen who acted as interpreter.

The other addressee who was found was a man named Paul Barra. The immigrant (Case 5) was his brother-in-law, his sister's husband. It was a rather sad story he told. They had saved and saved and finally the husband was able to come to America expecting to send for his wife and family later. The brother-in-law, who is a barber, a big handsome fellow doing well in St. Louis, had secured work for him, but on the voyage over he contracted some sort of eye trouble so that he and four others were deported. "I spent $50.00 of my own money to try and get him clear" the barber said sadly, "but 'twas no use. They sent him back and now he's fighting for his country, and of course there's no hope he'll ever get away."

A number of cases gave addresses in small cities and towns scattered over the United States. The distances being so great and the chances so small of actually finding the immigrants in question, little attention has been paid to these. The one case, however, that was actually seen, had given as her destination the home of an aunt in Chester, Pennsylvania. This seems perhaps significant. If smaller towns had been selected it is possible better results would have been obtained. The case in question was that of R. D., classified in the "matron's group"* as possibly delinquent and testing only VII [2]. Her aunt, Margaret B., was first seen at her home in Chester, Pennsylvania. She proved to be a thoroughly normal Irish woman, living

*Matrons' group has not been included in our study. It was a small group of girls that the matrons of Ellis Island asked us to test.

in neat, attractive surroundings. Her daughter was also seen, a strikingly handsome young woman evidently capable and earning a good salary. They said R. had stayed with them until she had found work, that she was a good, honest girl and self supporting. The girl was found serving as chambermaid in the Military Academy in Chester. She was under the close surveillance of an energetic, capable house-keeper, had been well trained and was satisfactory enough to have remained in the same place more than a year. When seen the girl was neat in appearance, seemed to be on good terms with the other servants, and though rather dull and stolid-looking answered the questions put to her fairly well. The reasons she gave for deciding to come to America were childish. It seemed to have been a matter of "just taking a notion to" and then coming.

Miss Kite, our investigator, reports: "On September 25th, 1916, I called again at the Academy. The house-keeper was not home but I saw two over-servants who told me R. had left them six months ago. There had been no particular reason for her going except that a change to a private home seemed desirable to her, probably better wages. They told me she was now staying with a cousin of hers nearby, and was looking for a place, having left the one to which she went from the Academy. I took R.'s present address, also that of the woman with whom she had formerly lived. I found R. had been a maid in a large and well kept place where a cook was also employed. There were four children and plenty of work to do. The lady of the house was not at home but I questioned the cook, an intelligent Irish woman, who gave a good report of R., but as I questioned further she offered to find the mother of the lady of the house, who was upstairs. She came down and I found her sufficiently intelligent to go into a quite thorough analysis of R.'s mentality as shown in her work and care of the children. She said R. had stayed with them about six months and had been in most ways satisfactory. She was perfectly honest, reliable and industrious, neat and good to the children.

" 'Why then was she discharged?' 'Well, my daughter got angry with her for something one morning and told her it was time she went away.' It seemed at first very difficult for the lady to express what the trouble really was. There was about the girl a certain obstinacy, a determination to do her own way, of which they had been told when she came to them. This peculiar mental state seemed incurable. The mistress had often been annoyed by it and finally the outbreak came.

"There seems little doubt that this mental state has directly to do with the ntelligence and comes from a certain lack of power of comprehension, but apart from this I could get no history of anything bordering on what we know to be characteristic of feeble-mindedness."

It should also be noted that the attempt to locate our immigrants through the addresses given in New York having for the most part failed, the investigator did not stop there. Settlement houses, schools and missions were visited in hopes of finding trace of the families given. The negative method was also adopted of searching in the charity registers for the names of our cases who might have become dependent. Nothing definite in regard to them came to light.

It will be seen that the net result of this follow-up work is two cases seen and three cases heard from, all apparently "doing well." Reference to our record shows that all tested above X (two above XI) except an Irish girl who was characterized by a kind of obstinacy, which may have impelled her to refuse to answer our questions.

These meager results at least do not contradict the criterion based on the group standard.

ARE THESE RESULTS REASONABLE?

Doubtless the thought in every reader's mind is the same as in ours, that it is impossible that half of such a group of immigrants could be feeble-minded, but we know that it is never wise to discard a scientific result because of apparent absurdity. Many a scientific discovery has seemed at first glance absurd. We can only arrive at the truth by fairly and conscientiously analyzing the data.

First it should be noted that the immigration of recent years is of a decidedly different character from the earlier immigration. It is no longer representative of the respective races. It is admitted on all sides that we are getting now the poorest of each race. This makes them a highly selected group at the start. For example Salmon (13) says "of every 1000 Polish immigrants all but 103 are laborers and servants." (p. 262)

Of the 22 in the Jewish group who classify as feeble-minded, 19, or 60 per cent of the whole, classify as morons. It will be recalled that the English Royal College of Physicians define a moron (what they call feeble-minded in the specific sense) as "One who is capable of earning his living under favorable circumstances but is incapable from mental defect, existing from birth or from an early age, (a), of competing on equal terms with his normal fellows, or (b), of managing himself and his affairs with ordinary prudence." (7) We have now to ask the question, is it possible or reasonable that 40 per cent of the immigrants in such groups as we have examined are

morons according to this definition? Let us examine critically the definition, and bring to bear upon the problem what we know of the nature, character and work of this class of immigrants.

First, the definition admits that they are capable of earning a living under favorable circumstances. "Favorable circumstances" may be construed to mean an opportunity to work at any possible kind of labor which will bring sufficient remuneration to supply food, clothing and home. It is easy to be seen that the kind of labor and the remuneration necessary for support will depend very largely upon the character of the living that is needed, that is to say, the amount and quality of food, the quality of clothing, and the kind of domicile. One familiar with the requirements of the average immigrant will not hesitate to admit that the conditions under which he is willing to live are so relatively simple that if he is willing to work at all it is not difficult for him to make a living.

The second clause of the definition says that he is incapable ("because of mental defect, etc.") of competing on equal terms with his normal fellows in the struggle for existence. Again a consideration of the immigrant's situation shows us that he, on the average, does not have what is meant in the definition by competition with his normal fellows. As a result of his early training, and the conditions under which he has lived in his own country he is willing to do work that no one else will do. There is therefore no competition, properly speaking.

The last clause says that he is incapable of managing his own affairs with ordinary prudence. It is not at all impossible that it is literally true that the 40 per cent do not manage their own affairs with ordinary prudence. In many cases the affairs are managed for them, as surely and as thoroughly as for any group of dependents among us.

We may look at the problem from another standpoint. The writer has already suggested (8) that the problem of the care of morons might be solved if the public could be educated to recognize these people as morons, and to treat them with that care and consideration which their mental makeup requires. Morons as a class, if taken early and trained carefully and so kept from becoming vicious and criminal, could be successfully employed if the employer understood them, and, realizing that they are children, excused their faults and mistakes, was watchful of, and patient with them.

Now strangely enough it seems that this is exactly what we often do for the immigrant, not because he is a moron but because he is an immigrant. He is watched and protected because he does not know the customs of the country. He is excused because he does not understand the language. His every act and movement is more or less closely supervised because he is a foreigner. In a large percentage of the cases he goes at once, when he lands, to his own group. They protect and care for him, partly through racial pride, partly through common humanity, extending to him the care and oversight and patience which we have just mentioned. Contrast this with the intelligent, independent immigrant!

There are no statistics available to prove or disprove the truth of these theories, but certainly it cannot be denied that this is literally true of a great many immigrants. It will doubtless be said by some reader that this is a libel upon the immigrant; that on the contrary he is a keen, sharp, energetic worker; that much of our population has been immigrant. It seems hardly necessary to suggest in reply that we are only speaking of 40 per cent of the immigrants and that, too, of the immigrants who come in the steerage, whereas many immigrants come second class or even first, and that those who make a success and become prosperous citizens are the ones we most often meet, whereas the great mass are entirely beyond the ken of the average citizen. He knows nothing of them or how they live.* It may be but proper to add also that very few people realize what the moron is. To many people it is a simple formula; moron means feeble-minded, feeble-minded means imbecile or idiot as is known in the community. This is not the fact. The moron is a person of mental level of from 8 to perhaps 12 years. He is capable of earning a living under favorable circumstances. He many times gets along in the community because someone looks after him and manages his affairs for him, and sees to it that the competition with others of the community is not too severe for him. It must be understood that we are not claiming that we have proved that 40 per cent of these immigrants are morons, but we do feel that the foregoing consideration to a considerable extent removes the absurdity which stood in

*For the difference between the "old immigration" and the "new immigration," which commenced just after the Spanish-American War, the reader should consult Salmon (13) p. 253.

our way of accepting as fact that a surprisingly large percentage of immigrants are of relatively low mentality.

Assuming for the sake of argument that the percentages and mental levels shown in the foregoing results are approximately correct, what is to be done about it? Shall we say that they are feeble-minded; and we want no feeble-minded persons in this country, at least no more than we can produce ourselves? That is undoubtedly our first thought, but let us look at the matter broadly.

The fact seems to be that a very large percentage of these immigrants make good after a fashion. At least it is true that they do a great deal of work that no one else will do. If some of them run amuck and make us trouble, then the wise solution of the problem would seem to be not to exclude them all but to take care of those who are not getting along well. It is perfectly true that there is an immense amount of drudgery to be done, an immense amount of work for which we do not wish to pay enough to secure more intelligent workers. It is a very big social and economical problem and one which we cannot at this time discuss, as to what kind of adjustment or arrangement society ought to make for getting this work done. May it be that possibly the moron has his place? As we have already said, the real problem in connection with the moron lies in his training. The moron boy and girl require a radically different treatment from the normal child. It is because we have mistreated them that we now have the great problem of the feeble-minded before us, but perhaps after all it is a superficial view of that problem to say, we will eliminate them all as fast as we can. It may be vastly wiser, more scientific, and more practicable to say, we will accept the moron, discover him as early as we can, train him properly and use him as far as his limited intelligence will permit. That is for the moron child born in this country. The adult moron immigrant is a very different matter. Different in the fact that he has already had his education. This education has not been obtained in schools, except what has been termed the school of hard knocks. But it is interesting to discover that the very hardships, the very limited environment, the oftimes harsh and cruel treatment he has received at the hands of individuals and even of the government, have been such as to render him docile and obedient, have kept him as a rule from becoming a criminal, and have made him willing to do the most menial labor and to live in the most primitive conditions. And, even

under these conditions, he is vastly happier in this country than in his native land. We are making no argument but merely presenting suggestions. It is a practical social problem which society itself must solve.

There is one more consideration that must not be overlooked, and that is the question of heredity. Morons beget morons, and while these people themselves, as we have already said, have been trained in their own country through the vicissitudes of their life and environment so that they are fairly safe people in our community, and because they themselves are immigrants they are excused and protected, yet when they marry and have children the case may be entirely different. Those children are Americans. They do not have the same excuse of being immigrants. They do not have the same hard but helpful education. They tend to grow up either our very worst citizens or our best. The worst because the very elements and conditions, which saved their parents, work against them. The best because, the heredity being good, improvement in the environment results in a manifestation of normal human qualities that make for efficiency.

Here then is a vital question which obviously our investigation does not answer. Are these immigrants of low mentality cases of hereditary defect or cases of apparent mental defect by deprivation? If the latter the situation is not so serious. We have only to assure ourselves that these parents will not be a social burden, to be satisfied to accept them as citizens. And we may be confident that their children will be of average intelligence and if rightly brought up will be good citizens. We know of no data on this point, but indirectly we may argue that it is far more probable that their condition is due to environment than that it is due to heredity. To mention only two considerations: First, we know their environment has been poor. It seems able to account for the result. Second, this kind of immigration has been going on for 20 years (13). If the condition were due to hereditary feeble-mindedness we should properly expect a noticeable increase in the proportion of the feeble-minded of foreign ancestry. This is not the case. Some years ago the writer made a study (16) in which was shown that only 4½ per cent of inmates of institutions for feeble-minded were of foreign parentage.

If on the other hand these are cases of hereditary defect we may expect defective children, although as already stated moron parents

tend to have moron children, not idiots or imbeciles. This opens up another problem. Shall we exclude the moron immigrants because they are likely to have moron children who will become troublesome citizens? It need only be suggested here that what we urge for our own native morons will accomplish the same results with the moron children of the moron immigrants.

CONCLUSION

We believe that this study has demonstrated that it is entirely feasible to test with considerable degree of accuracy the mentality of the immigrant. When we say **feasible** we do not mean **easy**. Dr. Williams (14), chief medical officer at Ellis Island in 1914, has ably set forth the difficulties. Nevertheless he shows that, beginning at about the time of our experiment, the number of aliens deported because of feeble-mindedness (not insane or epileptic) increased approximately 350 per cent in 1913 and 570 per cent in 1914 over what it had been in each of the five preceding years.

This was due to the untiring efforts of the physicians who were inspired by the belief that mental tests could be used for the detection of feeble-minded aliens (See 2) and in spite of very inadequate facilities in the way of room, interpreters and a sufficient force of medical officers to do the work. All of this means that if the American public wishes feeble-minded aliens excluded, it must demand that Congress provide the necessary facilities at the ports of entry. Whatever may be decided as to the course to be followed in regard to the moron, it must not be forgotten, that besides the morons, there are some imbeciles. Probably no one would question but that these should be deported. It must also be remembered that these figures are in addition to those that are recognized by present methods, since all the cases were selected after the line had passed the inspectors, and those who were recognized by them as mentally defective had been removed.

APPENDIX

A BRIEF EXPLANATION OF THE TESTS USED IN THIS STUDY.

The Binet-Simon Measuring Scale. The following statements are taken from Terman (9). "The Binet scale is made up of an extended series of tests in the nature of 'stunts,' or problems, success in which demands the exercise of intelligence. As left by

Binet, the scale consists of 54 tests, so graded in difficulty that the easiest lie well within the range of normal 3-year-old children, while the hardest tax the intelligence of the average adult. The problems are designed primarily to test native intelligence, not school knowledge or home training. They try to answer the question, 'How intelligent is this child?' How much the child has learned is of significance only in so far as it throws light on his ability to learn more."

"The tests were arranged in order of difficulty, as found by trying them upon some 200 normal children of different ages from 3 to 15 years. It was found, for illustration, that a certain test was passed by only a very small proportion of the younger children, say the 5-year-olds, and that the number passing this test increased rapidly in the succeeding years until by the age of 7 or 8 years, let us say, practically all the children were successful. If, in our supposed case, the test was passed by about two thirds to three fourths of the normal children aged 7 years, it was considered by Binet a test of 7-year intelligence. In like manner, a test passed by 65 to 75 per cent of the normal 9-year-olds was considered a test of 9-year intelligence, and so on. By trying out many different tests in this way it was possible to secure five tests to represent each age from 3 to 10 years (excepting age 4, which has only four tests), five for age 12, five for 15, and five for adults, making 54 tests in all."

"It should be emphasized that merely to name the tests in this way gives little idea of their nature and meaning, and tells nothing about Binet's method of conducting the 54 experiments. In order to use the tests intelligently it is necessary to acquaint one's self thoroughly with the purpose of each test, its correct procedure, and the psychological interpretation of different types of response.

"In fairness to Binet, it should also be borne in mind that the scale of tests was only a rough approximation to the ideal which the author had set himself to realize. Had his life been spared a few years longer, he would doubtless have carried the method much nearer perfection.

"By means of the Binet tests we can judge the intelligence of a given individual by comparison with standards of intellectual performance for normal children of different ages. In order to make the comparison it is only necessary to begin the examination of the subject at a point in the scale where all the tests are passed successfully, and to continue up the scale until no more successes are possible. Then we compare our subject's performances with the standard for normal children of the same age, and note the amount of acceleration or retardation.

"Let us suppose the subject being tested is 9 years of age. If he goes as far in the tests as normal 9-year-old children ordinarily go, we can say that the child has a 'mental age' of 9 years, which in this case is normal (our child being 9 years of age). If he goes only as far as normal 8-year-old children ordinarily go, we say that his 'mental age' is 8 years. In like manner, a mentally defective child of 9 years may have a 'mental age' of only 4 years, or a young genius of 9 years may have a mental age of 12 or 13 years."

The following tests for the years V, VII, and IX will serve as illustrations:

V.

1. Compares 3 and 12 grams. 6 and 15 grams.
2. Copies square. (Draw on back of this sheet.)
3. Repeats, "His name is John. He is a very good boy."
4. Counts four pennies.
5. "Patience."

VII.

1. Counts 13 pennies.
2. Describes Pictures. (Action.)
3. Sees picture lacks eyes, nose, mouth, arms.
4. Copies diamond. (over)
5. Recognizes red, blue, green, yellow. (Time 6 sec.)

IX.

1. Makes change .20 - .04.
2. Definitions.
3. Knows date.
4. Months. J. F. M. A. M. J. J. A. S. O. N. D. (Time 15 sec.)
5. Arranges weights. (2 correct) (1 min. each.) 1. 2. 3.

For full explanation of the tests the reader is referred to Terman (9) and to (10), (11), and (12) of the reference list.

Healy Construction Test A. (1 p. 26). Description of Test and Material: Construction test A is described by Healy (15) for whom it was sketched by Prof. F. N. Freeman, and is also used by Knox (2). Five rectangular blocks of different sizes but of the same thickness, some of which are interchangeable, fit into a rectangular frame, the inside measurements of which are 3 inches by 4 inches.

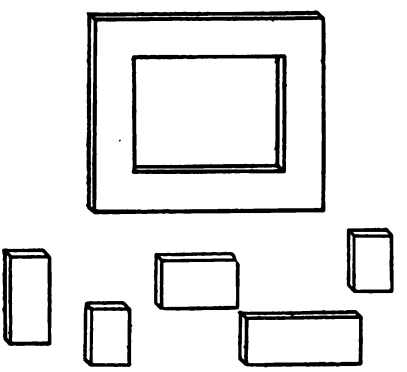

FIG. 2. HEALY CONSTRUCTION TEST A

Method of Presentation: No directions are given further than that the pieces, which are scattered about on the table, will all go into the frame and exactly fill it.

Healy Construction Test B ("Fernald Board") (1) Description of Test and Material: Construction test B is one designed by Dr. Grace Fernald and used by Healy (15) and also by Knox (2) who refer to it as the "Fernald board." The apparatus is a wooden frame with spaces into which fit eleven pieces of different sizes, which are interchangeable. Success does not depend upon previous moves to the extent that it does in construction test A.

Method of Presentation: The test is given to the subject as a game. He is told that the pieces, which are scattered on the table, will all go in and exactly fill up the spaces, and that the time is being kept but there is no need of hurrying. It has been found that if the subject tries to hurry and the pieces do not fit at the first attempt he is apt to become nervous and not finish as quickly or as well as if he feels that he has plenty of time. A failure is recorded if more than five minutes are consumed in aimless moves.

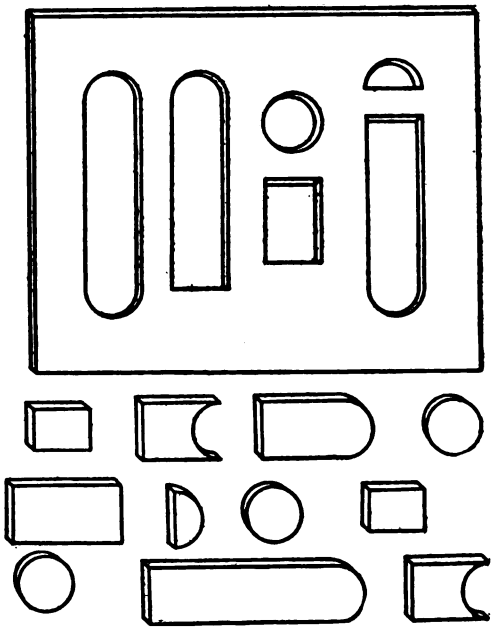

FIG. 3. HEALY CONSTRUCTION TEST B

Form Board. The board is sufficiently indicated by the accompanying picture. In use, the blocks are placed to the right of the board; the child

is shown what is to be done by placing a few blocks in their proper holes and calling his attention to the fact that each block has a hole in which it will fit, and only one. He is then told that he is to start at a given signal and put each block into its hole as fast as he can. Then the watch is started and he begins, and the watch is stopped when he has finished the ten blocks.

De Sanctis Tests (4). "A graded series of six tests was published by De Sanctis in 1906. They are the following:

1. Give me a ball. (The experimenter notes the time it takes the child to respond and when the response is obtained, covers the balls with a screen.)
2. Which is the ball you gave me? (time and cover as before.)
3. Do you see this piece of wood (cube)? Show me all that are like it in that group. (Time and screen as before.)
4. See this card. Mark every figure that you can find on the card that is like this piece of wood (holding a cube before him). (Time, note errors and omissions and replace the screen.)
5. Here are blocks of wood just like what you saw on the card. (a) Look carefully and tell me how many there are. (Child is allowed to count.) (b) Which of them is the largest? (c) Which one is farthest from you? (Note the time, errors and omissions. Replace screen.)
6. (a) Are large things heavier or lighter than small things? (b) How does it happen that sometimes small things are heavier than large

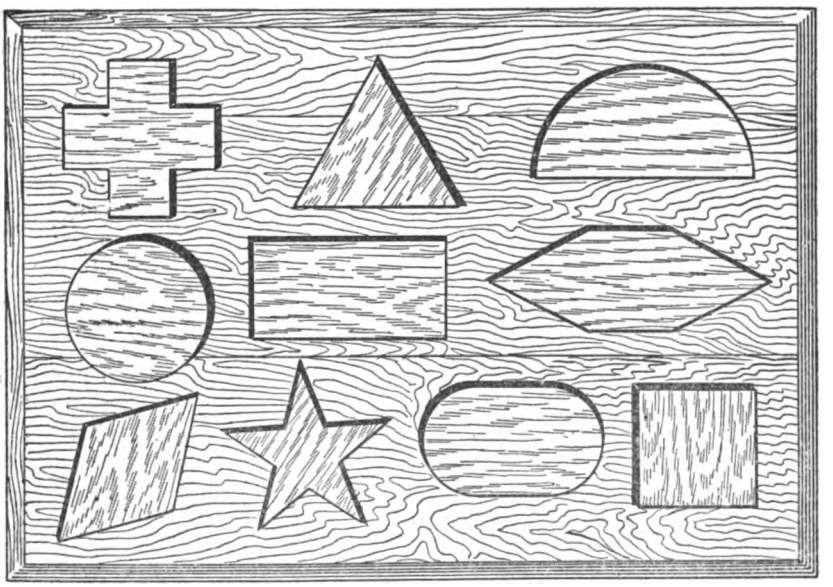

FIG. 4. FORM BOARD

things? (c) Do distant things look larger or smaller than near ones? (d) Do they only appear smaller or are they smaller?

Classifications: (a) Intellectual defect of a very high degree is established when the subject cannot go beyond the second question. (b) Moderate degree when he cannot go beyond the fourth question, but does fifth with great difficulty and many errors. (c) Light degree when he does fifth but not sixth.

A child who does all with normal rapidity is not defective."

Adaptation Board. "The apparatus consists of a piece of half-inch wood 22x28 cm. Through this are bored four holes; the centers of these are about 55 mm. from the sides and 70 mm. from the ends of the board. Three of the holes have a diameter of 63 mm.; the fourth one has a diameter of 65 mm. The whole is finished (painted, or stained), so there is no obvious difference between the two sides. A circular block is prepared, preferably about an inch thick, and in diameter it is 64 mm., or such size that it will fit easily into the larger hole, but will not go into any of the other three.

"The method of procedure for the use of the test is as follows: The child to be tested stands at the left side of the examiner; the board is in front of them on the table, in such a position that the hole into which the block will fit is in the upper left hand corner. Directions are given as follows: Examiner: 'You see this block, and you see these holes. The block will fit into only one hole. Find which one.'

"By trial the child discovers the correct hole in the upper left-hand corner and places the block in. The block is removed by the examiner, who says, 'Do it again. Once more place the block into the only hole it will fit.' This may be repeated until the child places the block, without hesitation and without trying in any other place, in the correct hole. Examiner: 'Now you take the block. Watch me carefully.'

"The examiner turns the board over from left to right, slowly, taking about 2 or 3 seconds for the turn; then turns to the child, 'Now put the block into the only hole that it will fit.' Those of sufficient intelligence will place the block at once into the upper right-hand hole. Another group, however, attempt to place the block still in the upper left-hand hole, not having been able to adapt themselves in the slightest degree to the changed condition. Failing to get the block into this hole, the child tries until he discovers that it goes into the upper right-hand hole.

"The examiner now places the board back in its original position, with the large hole in the upper left-hand corner. Proceeding as before, he shows the child that the block goes in the upper left-hand hole. This being learned, he again says, 'Now watch me carefully,' and turns the board at the same rate as before, but instead of turning the board from left to right, he turns it from back to front, that is the side farthest away from him to the position nearest, and says, 'Now place the block into the only hole into which it will fit.'" The sign (—) indicates failure on both turns of the board. (—+) indicates failure on first and success on the second turn; conversely (+—) indicates success on first and failure on second turn.

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