

October 2, 1931

Asst. Surgeon General F. A. Carmelia,  
U. S. Public Health Service,  
Washington, D. C.

Dear Doctor Carmelia:

I am inclosing herewith a copy of a tentative report on the mental examination of immigrants that I made and which was distributed to officers in Europe through the Medical Officer in Charge at Paris.

Respectfully,

LK:AMM

Lawrence Kolb  
Senior Surgeon

TENTATIVE REPORT AND SUGGESTIONS FOR THE MENTAL EXAMINATION  
OF IMMIGRANTS IN EUROPE.

As the result of research done on the intelligence of persons applying for immigration visas at different European stations, it has been possible to draw some conclusions as to <sup>the</sup> value of certain mental tests, to state more or less definitely what tests should be used and within what limits of performance, persons may or may not be considered mentally defective. The most widely known intelligence tests and probably the most valuable single set are the German Tests.

These tests were however standardized on American school children and the intelligence of adults can not be accurately rated by the same standards. Another thing that detracts from the value of the German tests in immigration work is that some of them lose practically all of their value when translated at the moment of giving or when given to persons who have not had <sup>a</sup> verbal education. Nevertheless every officer who examines immigrants should familiarise himself with the German Tests in order to acquire a necessary basic groundwork upon which to build additional knowledge of intelligence testing, and also in order to be able to use the tests or as many of them as are useful when the occasion requires it.

The German tests find their largest field of usefulness at stations in the British Isles and some of them are useful at all other stations, but no subject, and more especially no adult subject, at any station should be certified as defective solely on the basis of <sup>his</sup> ~~their~~ performance with the German Tests.

There are other comprehensive tests that require no language in performance and very little in giving. These tests tap various types of intelligence and all subjects whose intelligence is in question should be given an opportunity to show what they can do with these before a certificate of defect is issued.

The three comprehensive tests upon which most work has been done are the Fergusson Form Boards, The Pintner Non Language Test and The Porteus Maze Test. Of the three the Pintner Non Language Test is probably the most valuable when used with persons who have had reasonably fair educational opportunities. It is least valuable where illiteracy is high as in Poland and Italy and in these places it adds nothing to what can be learned by other tests and so may well be omitted.

Test performance depends not only on native intelligence which is the kind of intelligence, that in immigration work, it is desired to measure, but also on schooling and other environmental factors. In order to show the importance of these factors and also to give an idea what to expect from subjects at different stations some comparative percentile scales are given and a special scale of the Porteus Maze Test on 111 Irish Males is presented to illustrate the percentile method.

There was a uniform selection of subjects at the various stations in that no one who had more than a common school education was examined. There was no other selection except that in Naples, the Pintner Non Language test was given only to persons who could read reasonably well. The Pintner results

in Naples are therefore higher than the general run of emigrants examined in Naples would show.

An examination of these percentile scales show a wide difference between the four places; for instance, on the Pintner Non Language Test (males) the 10 percentile in Oslo is equal to the 90 percent. in Naples. In other words the 10th from the bottom in any given hundred in Oslo is equal to the 10th from the top in Naples.

Practically the same relative difference is true for all three tests on both males and females. The difference here noted is not all due to difference in native intelligence; some, perhaps a larger amount, is due to education, environment, Etc. This should be always borne in mind and the results in any case under question studied in connection with these percentile scales.

Some idea of the allowance to be made for education and environment may be gained from the following: The 50 percentile or median scores for the females when expressed as mental age are as follows:

Pintner Non Language.

Oslo	Stuttgart	Dublin	Naples
15 yrs. 10 mo.	13 yrs. 5 mo	8 yrs 9 mo.	8 yrs. 7 mo.

Ferguson Form Board.

Oslo	Stuttgart	Dublin.	Naples.	Naples
			Age 15-34	Age 23-44
16 yrs.	14 yrs. 6 mo.	11 yrs. 4 mo.	9 yrs. 10 mo.	8 yrs. 8 mo.

Porteus Maze.

Oslo	Stuttgart	Dublin.	Naples	Naples
			Age 15-34	Age 23-44
15 yrs.	13 yrs.	11.5 years.	11 yrs.	9.8.yrs.

An examination of the above shows that by standards that have been advanced for judging intelligence 50 per cent of women examined in Dublin and Naples would be defective. This is obviously not true and yet it is true that mentally defective persons may make from 8 to 11.5 years in intelligence tests. The 10 percentile scores expressed as mental age are as follows:-

Pintner Non Language.

Cole	Stuttgart	Dublin	Naples
12 yrs 6 mo.	10 yrs	6 yrs 9 mo.	7 yrs 8 mo.

Ferguson Form Board

Cole	Stuttgart	Dublin.	Naples age 15-34	Naples Age 34-44
14 yrs. 10mo.	11 yrs. 6mo.	8 yrs. 6 mo.	7 yrs. 6 mo.	8 yrs. 4 mo.

Porteus Maze Test.

Cole	Stuttgart	Dublin	Naples Age 15-34	Naples Age 35-44
13 yrs.	10.5 yrs	8 yrs.	7.5 yrs.	6.5 yrs.

The 10 percentile score is the score made by the tenth from the bottom in any given 100 cases. The other nine make the same or a worse score. The tenth from the bottom in Dublin and Naples make worse scores than many persons in institutes for mental defectives but 10 per cent of females have never been certified in Dublin or Naples. These persons are however in the danger zone even by the liberal measure that has been applied to them by the Public Health Service and some persons making these scores or better are certified. It has depended on environment and educational opportunities and the general reactions of the subjects as observed by the examiner.

A mental age of no more than 6.5 years on these three tests would almost certainly lead to certification in Germany or Scandinavia and yet 10 per cent of applicants in Dublin and Naples do worse than this and are passed. It is known that primary education in Germany and Scandinavia is much better than in Ireland and Italy and this is believed to explain at least in part the difference in test results.

The scales show that, except in Oslo, men score higher than women. This is not believed to be due to a difference in native ability. It is thought to be merely a difference in test ability brought about by a more stimulating contact of the men with the environment, and the inference from it is that, in the practical work of examining adult immigrants, less should be expected from the women than from the men. In other words a female adult immigrant may test considerably lower than a male and have the same native mental ability.

To summarize: three things are to be borne in mind in judging the intelligence of adult immigrants by intelligence tests: (1) The difference between the sexes due solely to a difference in environment. (2) The difference between people of different countries due largely to a difference in environment. (3) The difference between people of the same country due largely to a difference in environment.

The social history including particularly the amount of schooling, occupation and reading habits are important in determining the effect of environmental differences, and an

actual reading test showing whether or not the subject reads well, poorly or not at all is invaluable. Poor reading ability on the part of an immigrant means in nearly all cases, lack of opportunity rather than mental defect.

A 18 year old school child brought up in the best schooling and family environment and testing only at the level of 8.5 years is never better than a borderline case and is in most cases defective. On the other hand illiterate or near illiterate women testing at the 8.5 level and coming from the environment that supplies most of the immigrants from some countries are in most cases not defective.

Practically all the intelligence tests that have been tried on immigrants show the same relative national difference that has been shown in the scales, and all of those on the list furnished various stations are useful but taken alone none of them is sufficiently comprehensive. A combined scale for them will be published later on. Among these tests are the Healy A, Healy B, Pintner cubes, repeating digits etc. The Kops Block Design test is another comprehensive and valuable test for which scales will be published for some of the countries.

In the practical application of the results to the certifications of intending emigrants, Norway, Sweden, Denmark, Germany, Holland, England and Scotland may be judged by the same standard and adults from these countries who on the Ferguson, Pintner Non Language, Porteus and Kops average no more than the equivalent of 8.5 years of mental age may be certified without fear of

injustice. This is liberal to the immigrant and some who average more should be certified. The history of the case and the observations of the officer making the examination should determine this.

In Southern Ireland many may be certified who average no more than 8.5 years on the four tests, but the native intelligence of immigrants from this section is more difficult to determine because their schooling is, as a rule, poor.

These people may do very poorly on some tests and fairly well on others. Hence the necessity of using as many tests as possible. They should be given a chance on the Terman tests, and a high Terman score should be regarded as of more significance than a low score on the other tests. It is a safe rule to pass any person applying in Dublin or Cobh who make 9 years on the Terman, regardless of what they do on the other tests. The reason for this special provision is that near illiterate people as well as those who are naturally dull scatter more on tests than well tutored people, and the special circumstances under which they are examined introduces elements that vary the results still more. The interpretation of results is therefore more difficult and the rule should be to try every suitable test before making a decision in doubtful cases.

An examination of the scales will show how important it is to use many tests. By any one of these tests and also by the Terman and Kohns 10 per cent of Irish women would fall at 8.5 years or below, but one who makes 8.5 years on one test may go higher or lower on the others. It is the average that is important,



and in Ireland an average of 8 years or lower on the three tests given in the enclosed scales together with the German and Kohe may always be considered evidence of defect.

The certification of persons because of failure to do a few of the simple German tests and answer a few simple questions of general information leads to errors that should be avoided. Failure to copy a diamond, count backwards from 20, name the largest river in Ireland, add 8 and 9 etc. is always suspicious but never proof of defect. A few questions of this kind can never be more than a small selection from a comprehensive series of tests. The inadequate scope of such tests as well as possible embarrassment and anxiety as the cause for failure to do them are each sufficient reasons for deferring the decision and giving a larger series of tests.

With the conditions under which the applicants for visas are examined normal persons may fail the simple tests given above and defective persons may pass them. Many inmates of institutions for the feeble-minded do them well. High grade defective persons brought up in the best environment have no trouble with them. This variation of performance if not borne in mind leads to the error of passing defective persons as well as of certifying normal ones. A defective person from a very good environment may take 11 years on some tests but an 8 year standard would catch many presumably normal persons at Italian stations.

The rule should be to give the applicant some simple preliminary questions and set aside for further examination those who do not answer promptly and accurately. These should then be judged partly by their test performance and partly by their

previous environment, especially their educational environment.

It is not necessary to give the entire series of tests to every person set aside, a few minutes is sufficient; in most cases to prove normality but one and one half hours may be required to prove defect. The Ferguson is the best secondary eliminative test. A person who is set aside for apparent stupidity may be dismissed as normal if he later on quickly does three or four Ferguson Boards. In fact, it can almost be established as a rule that any applicant who does four Ferguson Boards within the prescribed five minutes limit is not defective. This rule is good for Ireland and Italy even though only 1 point is scored for each board. There will be rare exceptions to it in Scandinavia, England, Germany and Holland. The reverse rule that persons who fail to complete four boards are defective does not hold. The Scale "Ferguson Form Boards completed" shows that 30 per cent of females in Dublin and Naples complete only three boards.

A score by an Irish peasant of 175 (mental age 8 yrs 3 mo) on the Piattner Non Language Test is to my mind proof that he is not defective. Also a score of 200 (mental age 9) on this test in Germany is only rarely reached by a defective applicant. The Piattner Non Language, when used in connection with the scales here presented, is probably the best single series of tests.

Less is expected from Italian than from Irish immigrants because they are more illiterate. A large number of tests, some very simple, have been given in Italy. The results will be analysed and published later on. In the meantime, the results

of all tests on illiterate Italian women should be read according to the scales given here.

What has been said about the allowances to be made for environment is not intended to mean that applicants for visas in all countries have the same native mental ability, and that the scales show only a difference of environment. It is believed on the contrary, that there is a great difference in inherent ability. The difficulty is in determining how much of the difference shown by the scales is due to environment and where to draw the line for mental deficiency. An attempt will be made in future publications to give more information on these points.

Applicants in Belfast do somewhat better than those in Southern Ireland, but there are many of the same near illiterate type and the standard for certification should be about the same. Applicants in Belgium and Austria are so similar to those in Germany that they may be judged on about the same basis. Applicants in Poland and Prague may be judged on the basis of results to be published by Surgeon J. D. Reichard for Poland.

3 sheets, scales, attached.

PERCENTILE SCORES ON PINTNER NON LANGUAGE TEST IN

OSLO, STUTTGART, DUBLIN AND NAPLES

MALE					FEMALE				
PERCENT TILES:	OSLO cases	STUTTGART cases	DUBLIN cases	NAPLES cases	PERCENT TILES:	OSLO cases	STUTTGART cases	DUBLIN cases	NAPLES cases
	156	157	108	75		183	190	115	75
100	558	535	459	420	100	544	551	480	424
90	504	449	336	329	90	508	443	298	283
80	470	424	310	290	80	480	412	269	250
70	452	404	272	260	70	464	385	232	225
60	439	385	248	249	60	448	357	216	206
50	422	365	225	230	50	424	345	195	184
40	402	343	191	214	40	402	326	172	174
30	379	307	167	179	30	376	306	151	151
20	355	285	134	162	20	356	290	127	141
10	329	261	109	139	10	330	249	87	123
0	247	140	83	87	0	247	161	40	61

PERCENTILE SCORES ON FERGUSON FORM BOARDS IN

OSLO, STUTTGART, DUBLIN AND NAPLES.

MALE					FEMALE				
PERCENT TILES:	OSLO cases	Stuttgart cases	DUBLIN cases	NAPLES cases	PERCENT TILES:	OSLO cases	STUTTGART cases	DUBLIN cases	NAPLES cases
	123	157	202	99		164	190	118	110
100	60	60	60	60	100	60	60	60	54
90	60	60	55	51	90	60	58	47	39
80	60	59	49	47	80	60	54	40	31
70	60	58	44	44	70	59	50	36	25
60	59	55	40	39	60	58	48	31	22
50	59	51	35	33	50	58	45	26	17
40	58	49	28	28	40	57	42	21	13
30	57	45	19	23	30	55	38	17	8
20	55	41	16	19	20	53	33	12	5
10	52	37	11	11	10	47	27	6	3
0	30	11	2	1	0	24	12	2	1

PERCENTILE SCORES ON FERGUSON FORM BOARDS

IN OSLO, STUTTGART, DUBLIN AND NAPLES.

Boards completed in the allowed 5 minutes.

PERCENT ILES:	FEMALE			
	OSLO	STUTTGART	DUBLIN	NAPLES
	cases 164	cases 190	cases 118	cases 110
100	6	6	6	6
90	6	6	6	5
80	6	6	5	5
70	6	6	5	5
60	6	6	5	4
50	6	5	4	4
40	6	5	4	4
30	6	5	3	3
20	6	5	3	3
10	6	4	2	2
0	4	3	1	1

PERCENTILE SCORES ON PORTEUS MAZE TEST IN  
OSLO, STUTTGART, DUBLIN AND NAPLES.

PERCENT ILES:	MALES				PERCENT ILES:	FEMALES				
	OSLO cases 123	STUTTGART cases 153	DUBLIN cases 111	NAPLES cases 40		OSLO cases 163	STUTTGART cases 190	DUBLIN cases 101	NAPLES age 15-34 cases 68	NAPLES age 35-44 cases 48
100	16.0	16.0	16.0	16.0	100	16.0	16.0	16.0	16.0	16.0
90	16.0	16.0	16.0	15.0	90	16.0	15.0	15.0	13.0	13.0
80	16.0	15.0	15.0	14.0	80	16.0	14.5	14.5	13.0	12.0
70	15.6	14.5	15.0	13.5	70	15.5	14.0	13.0	12.0	11.0
60	15.0	14.0	14.5	13.8	60	15.0	13.5	12.5	11.5	10.5
50	15.0	13.5	14.0	13.0	50	15.0	13.0	11.5	11.0	9.5
40	15.0	13.5	13.0	12.5	40	14.5	13.0	10.5	10.0	8.5
30	14.0	13.0	12.5	12.0	30	14.0	12.5	9.5	9.5	8.0
20	14.0	12.0	12.0	12.0	20	13.5	12.0	8.5	8.5	7.5
10	13.0	11.5	11.0	11.0	10	13.0	10.5	8.0	7.5	6.5
0	7.0	8.0	9.0	8.0	0	9.5	7.5	4.5	5.0	5.0

**Example of method of finding percentiles for 111 cases.**

The Score for each case is put down in order from the lowest to the highest. The 56st case with a score of 14.0 is the median. The lowest score 9 is the zero percentile and the highest 16 is the 100 percentile. The other percentiles are calculated on the 10 percentile basis, and are found by taking every 11th case in order: For instance the 20 percentile is 12. This means that the 22nd man from the bottom made 12, and 20 percent of all cases examined made 12 or less.

Eighty % made 12 or more, and so on as shown by the ratings as given.

Scores and percentiles ratings on the Porteus Maze Test of 111 Irish Males.

Table Below.

9	12.5	14.5	15.5
9	12.5	14.5	15.5
9.5	12.5	14.5	15.5
9.5	12.5	14.5	16
9.5	12.5	14.5	16
10	12.5	14.5	16
10	12.5	14.5	16
10.5	12.5	14.5	16
10.5	12.5	15	16
11	13	15	16
11	13	15	16
11	13	15	16
11	13	15	16
11	13	15	16
11	13	15	16
11	13	15	16
11.5	13.5	15	<u>16</u>
11.5	13.5	15	111 total
11.5	13.5	15	
11.5	13.5	15	
11.5	13.5	15	
11.5	13.5	15	
11.5	13.5	15	
12	13.5	15	
12	13.5	15	
12	14	15	
12	14	15	
12	14	15	
12	14	15	
12	14	15.5	
12	14	15.5	
12	14	15.5	
12	14	15.5	
12.5	14.5	15.5	
12.5	14.5	15.5	

**Males  
Ireland Porteus Maze  
Percentiles**

100	--	16
98	--	16
80	--	15
70	--	15
60	--	14.5
50	--	14
40	--	13
30	--	12.5
20	--	12
10	--	11
0	--	9