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The status of pupils of different foreign ancestry in the Valley Wheel Schools.

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THE STATUS OF PUPILS OF DIFFERENT FOREIGN
ANCESTRY IN THE VALLEY WHEEL SCHOOLS


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THE STATUS OF PUPILS OF DIFFERENT FOREIGN
ANCESTRY IN THE VALLEY WHEEL SCHOOLS



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THESIS SUBMITTED FOR DEGREE OF
MASTER OF SCIENCE

MASSACHUSETTS STATE COLLEGE, AMHERST.

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THE STATUS OF PUPILS OF DIFFERENT FOREIGN
ANCESTRY IN THE VALLEY WHEEL SCHOOLS

CHAPTER I

THE INTRODUCTION

Individuals differ among themselves in any conceivable trait. That they vary in mental characteristics has been apparent to observers. This is no new fact, but modern methods of precision in the measurement of mental traits have made us sensitive to these differences and have given us precise measures of them. In short, they have objectified and quantified our thinking upon these matters until to-day one of the great revelations of modern psychology is the differences existing between individuals grouped on account of age, race, ancestry, or for some other reason.¹

Individuals themselves are seldom aware of their own capacities, abilities, dispositions, or whatever one wishes to call them; even less generally of their own limitations. The knowledge of the fact that they do differ would seem to remain an abstraction. What is needed is a measure of these capabilities.² The measurements of a human being whose capa-

1. Jordan, A.M., "Educational Psychology", Henry Holt and Company, New York, 1928, page 284.
2. Trabue, M.R., "Measure Your Mind", Doubleday Page and Company, New York, 1920, page 5.
Kornhauser, A.W., "Psychological Tests in Business", The University of Chicago Press, Chicago, 1924, page 1.

cities for certain duties is to be determined "must be of those qualities, or dispositions which enable an individual to perform according to a certain predetermined requirement".³

As there exist differences among individuals, so there exist differences among races and nations. H.S.Jennings, biologist, states:

A race-----is a set of individuals having many genes in common - in spite of many differences in genes among component individuals - and differing in these common genes from other sets of individuals, other races. Among individuals belonging to the same race, diversity of genes produces differences in all these respects; and, moreover, produces differences in mentality; produces differences in power of adjustment to conditions met. It would be surprising if the same were not true for the differing genes of the differing races.⁴

At present anthropologists are unable properly to speak of "pure" races, especially among European peoples. There exist, rather, racial sub-groups of the white stem; and even between these sub-groups there has been considerable crossing. It is, therefore, more reasonable to speak of natio-racial groups, thereby taking into account environmental influences which might be exerted on members of national groups, and taking into account, as well, the fact that a national group may have some degree of racial sub-group homogeneity.⁵

3. Trabue, page 7.

4. Jennings, H.S., "The Biological Basis of Human Nature", W.W.Norton and Co., New York, 1930, page 284.

5. Freeman, Frank S., "Individual Differences", Henry Holt and Company Inc., New York, 1934, page 182f.

In the interpretation of the problem and the data to be presented, it must be remembered that the problem has been conducted and the data obtained with the difficulties, uncertainties, and irregularities of race classification still not solved, and intermixture a pronounced fact.

The phrase "race-mixture" accurately describes what has taken place in European countries of both the North and the South, and in English speaking lands. As a matter of practical interest and of social value, the mental differences of natio-racial groups, if there are such differences, are more significant educationally than would be the determination by theory of what the "pure" races might have been.

An heterogeneous group, because of natio-racial dispositions might well fall into the great American melting pot, although the latter may not be an end unto itself. Fusion of the heterogeneous into an homogeneous whole, if it takes place, would predicate the disappearance of most traces of foreign origin. Such being the case, assimilation would be predominant, and the schools would be exerting force in integrating the pupils of foreign heritage in their respective communities.

The problem, to be studied further, would involve work both with the adult who is foreign born and with the foreign born child or the native born child of foreign born parents. To determine any contribution the parents might make is not impertinent; yet, it is needless here. Such is not the case

in an educational test study of children of foreign parentage, or ancestry. Being in the schools they all have equal educational opportunities. They are easily accessible, and testing can be properly motivated. Such testing may possess the power of showing whether or not the offspring of foreign born parentage may be definitely educable and may be likely to become assimilated into an homogeneous whole.

The chief concern of this study is with these children of foreign born parents. They have spent such a great part of their lives in competition in the schools with the offspring of native parents and of English speaking parents, that the progress they are making relative to competition should give a rather definite idea of the progress of assimilation, which is the prime interest of this study.

It is hoped that the results obtained from this objective testing project will prove efficacious in answering in part this very interesting and important question: what is the comparative status of the pupils of foreign born parents and of English speaking parents in the schools of the Valley Wheel?

CHAPTER II

WHAT OTHERS HAVE DONE

There have been many studies undertaken to discover and to determine the status of the offspring of foreign born parents. These studies can be divided in general into two classes. First, there is the class which deals with the results of general intelligence testing; and second, there is the class which makes use of the results of achievement tests. In accordance with this grouping the most typical studies will be reviewed.

Studies of European groups in America, made by American psychologists with intelligence tests, have shown a certain unanimity in their results and in their conclusions. In general, the Northern European groups were found to be more intelligent than the Southern European groups. The most important single study is that made by Brigham working with the results of the Army Alpha and Beta examinations during the War. The results of that study are well known. Brigham found that of the three classes, Nordic, Alpine, and Mediterranean, the Nordic are more intelligent as tested than the Alpine and Mediterranean peoples. It is sufficient to say that his work and the discussion which it provoked provided much

6. Brigham, C. C., "A Study of American Intelligence", Princeton University Press, Princeton, N. J., 1924, p. 210.

of the impetus in the work of later investigators.

The studies which followed showed with minor variations a rather consistent tendency to rank the various groups of European origin in much the same order. The following studies may be taken as representative.

Feingold tested American born children of foreign parents of different racial groups. Using a modified form of the Army Alpha, he found that differences between the various racial groups were much smaller than had been previously reported. The groups which ranked first in his study--Americans, English, Jews, and Germans--showed a difference of only nine months in average mental age from the groups which rated last--Poles and Italians, as compared with the differences of 24 months between the same racial groups found among army draftees. He concludes that the difference between American-reared descendants of immigrants of any race are probably so small as to be practically negligible.⁷

Goodenough gave the Goodenough Intelligence Test (Drawing a Man) to white and Oriental school children in California, Negroes in California and in the South, and American Indians in the Hoopa Valley Indian School; to Americans, Armenians, Italians, Spanish Mexicans and Jews. She found the Jews to rank highest and the Americans

7. Feingold, G. A., "Intelligence of First Generation of Immigrant Groups", Journal of Educational Psychology, 1924, v. 15, pages 65-83.

approximating the Jews next; then in descending rank the Armenians, Italians, Spanish Mexicans, Orientals, Indians,⁸ and Negroes.

Kirkpatrick, using the Illinois Intelligence Test, also presented findings as to racial differences which confirmed those of other investigators. He found that the Americans ranked highest and the Italians lowest.⁹

Hirsch made a study of children of various nationalities in four Massachusetts mill towns, using the Pintner-Cunningham and the Dearborn A and C Tests, all of them at least partly non-language tests. On the basis of nationality he found the average I.Q. of the Swedes to be 102.1, of the English, 100.7, and of the Italians, 85.8. The differences between the Swedes and the Italians and the English and the Italians were both found to be reliable. However, he concludes that there is no connection between high intelligence and so-called Nordic blood, for among the eight nationalities that were superior in intelligence, only two have been called Nordic (English and Swedes), while two nationalities are thought to possess sixty per cent or more of Alpine blood (Germans and Lithuanians). He believes differences in intelligence are national or natio-racial and not racial.¹⁰

8. Goodenough, F. L., "Racial Differences in Intelligence of School Children", *Journal Experimental Psychology*, 1926, v. 9, pp. 388-97.
9. Kirkpatrick, C, "Intelligence and Immigration", *Mental Measures Monog.*, 192, v. 2, p. 127.
10. Hirsch, N. M. D., "A Study of Natio-Racial Differences", *Genetic Psychological Monograph*, July, 1926, vol. 1, 3, 4.

Murdock gave the Pressey Group Intelligence Test to Hebrew, native American, and Italian boys selected from two New York City schools. In spite of the fact that she chose the brighter Italian boys to avoid any language difficulty, she found the Italians at every age to be considerably below the other races in their scores.¹¹

Seago and Kolden, using the National Intelligence Test compared Jewish and Italian children of foreign born parents. They found the Italians to be inferior, especially in comprehension, use of language, and abstract verbal reasoning.¹²

Klineberg was the first to crystallize into a definite project of research a sounder approach to the problem of racial differences in intelligence. He went to Rome, Paris, and Berlin and studied corresponding groups there, using form-boards as a test of intelligence--six performance tests in the Pintner-Patterson Series. He not only compared these national groups but also studied the different racial types within the same national group and compared urban and rural populations. Klineberg says that the differences between the three 'racial' groups are small and unreliable, and there are significant differences between different samples of the same race.

11. Murdock, Katherine, "Study of Race Differences in New York City", School and Society, 1920, v. 11, pp. 147-50.
12. Seago, D. W. & Kolden, T. S., "Mental Capacity of Sixth Grade Jewish and Italian Children", School and Society, 1925, v. 22, pp. 564-68.

More important is his discovery that while "the differences from city to city were not reliable, within each country wide variations exist among the racial groups. These variations, however, do not permit the establishment of any racial hierachy." The French Mediterranean group, for example, resembled the German group in achievement much more closely than it did the other French groups. Also, he found reliable differences between the urban and rural residents within each national group.

Klineberg's results afford definite proof that generalizations based upon a comparison of racial groups within the United States alone can no longer be justified. ¹³

These various studies above mentioned have afforded only measurements of intelligence of natio-racial groups. They are an important phase in comparing the several groups; yet, just as important is the phase of work done with the use of achievement tests.

The "achievement" test phase has been neglected to quite an extent. Several persons, however, have worked in this field of testing with a modicum of success.

Mixed and full blood Indians were tested by Garth and Isbell who used the Seashore Musical Talent Test. No differences were noted which were at all significant except in pitch and memory tests. The results of these tests were

13. Klineberg, Otto, "A Study of Psychological Differences between Racial and National Groups in Europe", Archives of Psychology, 1931, No. 132.

not considered as final measures of Indian (both mixed and full blood) ability.¹⁴

Davenport and Crayton, in testing immigrant stock (representative of all groups) concluded that the Germans were highest in leadership and pertinacity.¹⁵

Studies of achievement and intelligence of children in America and Australia have shown that there is no appreciable difference in favor of either national group. Differences in achievement would therefore depend on differences in organization, curriculum, or teaching methods. John Francis Cramer's studies have shown that in Grades IV, V, and VI, where practically all children in each country are in school, levels of achievement are approximately equal. In Grade VII and above, where the selectivity of the Australian examinations begins to have effect, American scores begin to fall below the others.¹⁶

It is essential that more be done about the achievement of natio-racial groups. As is noted there is no definite amount of material. There is the need for this before it can be claimed that our schools serve as an integrating influence. The present study may aid toward a partial answer to the question of achievement measures of the pupils

14. Garth, Thomas R., "Race Psychology", McGraw Hill Book Co., Inc., New York, 1931, pp. 148f, 242.
15. Davenport, C. B. and L. C. Crayton, "Comparative Traits of Various Races", Journal of Applied Psychology, 1921, v. 7, pp. 127-134.
16. Cramer, John Francis, "Australian Test and American Pupils", The Elementary School Journal, Sept., 1936, v. 3711, pp. 17-24.

of foreign born parents of different natio-racial groups,
and to the comparative status of these pupils.

CHAPTER III

THE PRESENT STUDY

A. The Problem

The problem being studied is how in the senior high schools of the Valley Wheel do the pupils of foreign born parentage compare in age, curricula chosen, and test marks with pupils of English speaking parents. Foreign born means European, and in a very few cases Asiatic born parents whether one or two generations removed.

It is desired to find the comparative status of these pupils of foreign born parents and English speaking parents. A partial answer to the following statement is desired: Are the senior high schools of the Valley Wheel serving as an integrating force in their respective schools and communities?

1. Cases

The high schools of the Valley Wheel are several in the western part of Massachusetts within a radius of twenty miles from Amherst, Mass. which include the schools of Agawam, Enfield, Easthampton, West Springfield, Ludlow, Palmer, South Hadley, Monson, and Ware. The schools of these towns mentioned are all nearly equal in size so far as number of pupils is concerned. For the most part the pupils are from the rural population, although West Spring-

field, a town, is more comparable to a city and is complemented by an urban population. In each school there are the pupils of foreign born parents and representatives of nearly all the nations.

2. Materials

Students in the class of Educational Tests and Measurements, Department of Education and Psychology, Massachusetts State College, Amherst, Massachusetts prepared achievement tests in the school subjects English, American history, algebra, and geometry. (See appendix II) The pupils of the schools, as cases, were given the tests, and information obtained from the results of the testing has been used as one aid in establishing the comparative status of the pupils.

The total number of tests given were:

English - - - - -	751
American history - - - - -	606
Algebra - - - - -	233
Geometry - - - - -	295

3. Natio-Racial Groupings

The first and outside page of each test was so drawn up and printed that all data regarding the present study could be gleaned from that source. A diagram of this first page shows the arrangement and context.

DIAGRAM I

A TEST OF ACHIEVEMENT IN

For

Senior High Schools

SCHOOL (in code) GRADE CURRICULUM

NAME (in code) AGE:--years months

Sex Date:

Nationality of Parents:--Mother Father

SCORING

SECTION	SCORE
1.	
2.	
3.	
4.	
TOTAL	

As the present study has to do chiefly with the nationality of the parents in estimating the status of the offspring, it is advisable to divide the different nationalities into groups.

Listed below is the classification of the various groups. There are five of these natio-racial groups included in this study.

I. Polish group

II. Southern European group

1. Italians

2. Spaniards

3. French

4. Greeks

5. Portuguese

III. Northern European Group

1. Germans

2. Austrians

3. Lithuanians

4. Finns

5. Swedes

6. Russians

IV. English speaking group

1. Americans and "Yankees"

2. English

3. Scotch

4. Irish

5. Canadians

V. Mixed group

1. Asiatics

2. Semitics

3. Unidentifiables

It was thought better to take the Polish as a separate group because of the relatively large number of this nationality in the Valley Wheel districts. Each other group was self-explanatory save for the following facts. The various nationalities have been grouped in accord with others who have worked with natio-racial groups. The English speaking group was found to be the largest and the Northern European group without the Polish group was the smallest. It is well to say that the Mixed group contained all others who could not be identified with any particular group. It was a veritable melting-pot with Asiatics, Semitics, nationalities not made known, and mixed nationalities, such as Italo-Polish. The Mixed group was useful and important since it was heterogeneous. Being so it was possible to judge what a cross section of the whole was doing.

4. Analysis of the Tests

The natio-racial groups having been formulated the school subjects were treated. Each school subject has been taken separately with American history first, then English, geometry and algebra following. Each test, or case, in each school subject was sorted into the natio-racial group

to which it belonged. This was repeated for all the schools included in the project. Individual schools and cases were listed in code, and numbers were used uniformly to represent the various courses in a school's curriculum. The five courses, their numbers, and what they included were the following:

#1. Academic course (including)

- a. College preparatory
- b. Technical
- c. English
- d. Classical
- e. Part college

#2. General course

- a. Social arts

#3. Vocational course

- a. Household arts
- b. Home economics
- c. Manual training

#4. Commercial course

- a. Business

#5. Non-specified

With the accomplishment of all grouping and sorting, a tabular treatment of each case was begun. Each case, each school subject, each group, each school was carefully recorded. For example, each case of the English Speaking group at School A in geometry was tabulated as shown in Table I.

TABLE I

A Tabular Treatment of Each Case in
the School Subject Geometry
in School A

GEOMETRY		ENGLISH SPEAKING GROUP						
		SCHOOL A						
Case Number	Curriculum Number	Age		Section - SCORES -				Total
		Year-	Mon.	1	2	3	4	
1	1	16	0	16	15	48	14	93
2	2	14	6	17	23	54	24	118
3	1	15	3	17	20	36	18	91
7	1	14	7	20	24	33	24	101
9	1	16	2	18	23	45	20	106
10	1	15	0	15	15	27	20	77
13	1	16	1	17	6	15	12	50
16	1	17	8	17	22	51	24	114
17	1	15	7	18	14	45	16	93
Grand Totals								
9 (cases)		138	34	155	162	354	172	843
Averages		15	8	17.2	18.0	39.4	19.1	93.7

Such a tabulation as that in Table I was carried out for the English Speaking group in the remaining seven schools C, F, E, H, D, I, and G. After the tabulation was completed totals for each school were made and arithmetic averages computed; then, a grand total for all the schools of the English Speaking group in the school subject, GEOMETRY was made and the average of the grand total found. This procedure was followed for the other natio-racial groups of these eight schools tested in geometry. Likewise, the procedure, that of tabulating each case of each group at each school, was repeated in the remaining school subjects, English, American history, and algebra. The only

variation in tabulating was in the number of score-sections of the different tests, and in American history School G was not represented.

After the averages of the grand totals of the ages and scores were found they were brought together and listed; the ages of each school, in each school subject, and for all the groups were listed separately. A percentage analysis of curricula for each group was made. The test scores of each school subject were tabulated separately and in descending order of their totals. Each school subject taken in this way will serve to show how the various groups compared in age, curricula chosen, and test scores.

A. AGE

As has been mentioned the average pupil-ages of the schools of the various groups were listed separately ; thus permitting a more critical analysis of this phase of establishing the status of the pupils of foreign born parents. The tables showing the results are treated definitely and critically in Chapter IV.

B. CURRICULA

The curriculum of which each pupil was a member was carefully noted in the analysis of the first page of the individual tests. A curriculum is that regular or specified list of subjects followed by a relatively large group

of students who have chosen that list because of a desire for a particular type of training or preparation. There were five curricula which were included in the present study: college, general, vocational, commercial, and non-specified.

The subjects tested in the study were English, American history, geometry, and algebra. English and American history are regularly required of all curricula and the percentage of pupils from each group taking these school subjects was relatively large. Algebra and geometry are regularly required only of the academic groups and are elective for the remaining curricula. Consequently, the percentage of pupils undertaking these subjects in some curricula is relatively small.

The total number of pupils in each curriculum in each school and in each school subject was listed and the percentages found. Then the percentages of the grand totals were found and properly recorded.

C. TEST SCORES

Tables were prepared showing the rise and fall of the natio-racial groups so far as test scores in the several school subjects were concerned. The listing of the scores was carried out by presenting the group attaining the highest scores first. These tables contain the average total test scores for each natio-racial group in each school subject.

In analyzing the test scores of the different groups the study was concerned not only with the differences as found in this study, but with the probability of like differences being repeated upon further testing. In other words, were the differences which seem apparent in the present study real differences between the groups? In order to arrive at the probability of the significance of the present findings the usual statistical procedure in such cases was followed. This procedure involves the computation of the critical ratio of the differences.

The procedure for finding the critical ratio of the difference existing between any two groups is as follows:

a. A frequency distribution of the scores of the groups was made and the means and standard deviation, σ , computed.

(A frequency distribution is a table which shows how many persons made each score.¹⁷ The mean is the average score. The standard deviation may be defined as the square root of the mean, or average, of the squared deviations taken from the average of a distribution.)¹⁸

b. The standard error of each mean was computed using the formula $\xi_m = \frac{\sigma}{\sqrt{N}}$, the standard error being the quotient of the standard deviation by the square root of the number of cases in a frequency distribution.

c. The standard error of the difference between means was

17. Thorndike, pages 255, 257.

18. Garrett, Henry E., "Statistics in Psychology and Education", Longmans, Green and Co., New York, 1926, p.26.

next computed using the formula: $\epsilon_d = \sqrt{(\epsilon_{m_1})^2 + (\epsilon_{m_2})^2}$

d. From this the critical ratio was found by subtracting the means of the two groups and dividing by ϵ_d . The formula is: $C. R = \frac{m_1 - m_2}{\epsilon_d}$

The critical ratio gives the probability of the same relative results being obtained if the study were repeated. A critical ratio of 3.0 or greater indicates that there is but one chance in a thousand that the results obtained are due to chance and do not represent true differences. By convention a critical ratio of 3.0 has been chosen in educational statistics as representing sufficient probability to warrant practical certainty. An example of the computation of the critical ratio is found in Appendix I.

By taking the test scores, curricula distribution by percentages, and ages each separately a better analysis of the results could be made. Chapter IV contains an analysis of the ages, curricula chosen, and test results, and an interpretation of the data.

CHAPTER IV

THE ANALYSIS AND INTERPRETATION OF DATA

In the present chapter on the analysis and interpretation of data are presented comparisons of pupils of English Speaking parents and of foreign born parents in age, curricula, and test scores. These three topics are treated in the order mentioned and for each topic individually the natio-racial groups are compared in the school subjects, American history, English, algebra, and geometry in like order throughout. Therefore, the first interest is in the average ages of natio-racial groups in the school subject, American history.

I. AGE

The following tables will show the relative ages of the groups in the several school subjects. Table II shows the ages of the natio-racial groups in the school subject, American history.

The difference from one group to each subsequent group is relatively small, but the difference between the extreme groups, the Northern European and Polish groups, amounts to seven months. The Northern European group has the greatest average age, but is greater than either the English Speaking group or the Southern European group by only one month. There is a drop of two months from the

average ages of the English Speaking and the Southern European groups to the Mixed group, and then another drop of four months from the Mixed group to the Polish group.

TABLE II

Average Ages of Natio-Racial Groups in the
School Subject American History

AMERICAN HISTORY

GROUP	NUMBER OF INDIVIDUALS	AVERAGE AGE
Northern European	23	17 yr. 2 mon.
English Speaking	231	17 1
Southern European	73	17 1
Mixed	155	16 11
Polish	124	16 7

The results in the school subject, American history, however, were found to be rather unreliable because of the fact that an undesignated number of pupils taking this test were in grade 11 instead of grade 12. Since the proportion of those in grade 11 will vary with the different natio-racial groups the average ages on the test in American history cannot be taken as entirely representative of these groups. The same is true of the ages given in the test on the school subject, geometry.

Table III shows the range of ages among the natio-racial groups tested in geometry.

TABLE III

Average Ages of Natio-Racial Groups in the
School Subject Geometry

GEOMETRY

GROUP	NUMBER OF INDIVIDUALS	AVERAGE AGE
Northern European	11	16 yr. 11 mon.
Southern European	40	16 0
Mixed	58	15 11
Polish	26	15 10
English Speaking	160	15 7

In the school subject, English, the pupils were all in grade 12 and, consequently, the ages in Table IV can be taken as fairly representative of the comparative school ages of the different natio-racial groups.

TABLE IV

Average Ages of Natio-Racial Groups in the
School Subject English

ENGLISH

GROUP	NUMBER OF INDIVIDUALS	AVERAGE AGE
Northern European	42	17 yr. 7 mon.
Southern European	122	17 7
English Speaking	288	17 6
Mixed	152	17 6
Polish	147	17 5

In this table we note that the averages vary but little. The Northern and Southern European groups are both 17 years and 7 months. There is a drop of one month to the English Speaking and Mixed groups both of which have an average age of 17 years and 6 months. The Polish group is the youngest group in this school subject,

but differs by only two months from the first two groups and one month from the second two.

In the school subject, algebra, the pupils are all in grade 11 and as is the case in the school subject, English, the ages should be representative of the school ages of the groups. It is to be noted, however, that (1) these pupils, being in grade 11, should average one year less than those in the school subject, English, and that (2) the number of pupils of each group taking algebra is relatively small and the averages, therefore, are not so significant. Table V gives the results in algebra.

TABLE V

Average Ages of Natio-Racial Groups in the
School Subject Algebra

ALGEBRA

GROUP	NUMBER OF INDIVIDUALS	AVERAGE AGE
Polish	18	16 yr. 6 mon.
Northern European	9	16 5
Southern European	30	16 5
Mixed	47	16 5
English Speaking	129	16 4

Here again the difference between the extreme groups is but two months. The Polish group averages the greatest age at 16 years 6 months with the Northern European, Southern European, and Mixed groups only a month less at 16 years 5 months. The English Speaking group is the youngest at 16 years 4 months. In this school subject, as in the school subject, English, we find that the groups are approximating the same average age.

The most interesting point in a comparison of the ages of the pupils in the school subjects, English and algebra, is the fact that the Polish is the youngest group in English, but the oldest in algebra. The reason for this is unknown, but probably may be ascribed to item #1 above (page 27) which points out the small numbers of pupils involved in algebra. The 147 Polish pupils in the school subject English, should give a more reliable average than the 18 in algebra, and consequently, the age 17 years 5 months is more likely to be the correct age for the Polish children.

So far as age is concerned, it would seem, therefore, that differences are not very significant. Because of grade placement differences, the ages in only two school subjects, English and algebra, can be used, and the latter results are of doubtful validity because of fewness of numbers. If only the school subject, English, be taken, the groups range in average age by only two months, which difference does not appear to be of much significance.

II. CURRICULA

In the present study there are five principal curricula which have been considered. These five are: college, general, vocational, commercial, and non-specified. The results of the curricula chosen by the pupils are given in the form of percentages. These percentages show that some groups are following a distinct

path, while in other subjects tested the groups show a decided variation.

The groups are compared first with regard to each individual curriculum and in each school subject, and then a summary will show how the groups are distributed among the various curricula.

With the use of tables the distribution of the groups among the five curricula may be more easily visualized. The first distribution is that in the school subject, American history. For this school subject the percentage distribution of the pupils through the five curricula is represented in Table VI.

TABLE VI

Percentage Distribution of Pupils
of the Natio-Racial Groups through
Curricula in the School Subject
American History

AMERICAN HISTORY

GROUP	NUMBER OF INDIVIDUALS	CURRICULA				
		College	General	Vocat.	Comm.	Non-Sp.
English Speaking	231	49.3%	20.3%	10.4%	10.0%	10.0%
Northern European	23	34.8%	17.4%	13.0%	26.1%	8.7%
Polish	124	29.9%	15.3%	14.5%	25.0%	15.3%
Mixed	155	26.5%	33.5%	3.9%	27.7%	8.4%
Southern European	73	21.9%	24.7%	23.3%	20.5%	9.6%

As all students in any school are required by law to study American history, this school subject offers a good opportunity to see how the pupils in the present problem are distributed in the various curricula. Table VI shows the distribution in American history very well. However, there are a few outstanding points which should be noted.

The English Speaking group leads all the groups with nearly fifty percent of the pupils in the college curriculum. In the college curriculum there is a noticeable difference between the English Speaking group and the Southern European group. In percentage there is less than half as many Southern Europeans as there are English Speaking in the College curriculum. It is evident that the former group is not inclined so much to college work as is the latter group. The percentages of the other three groups are more than that of the Southern European group. The Northern European group is 13% more than the Southern European group and approximately 13% less than the English Speaking group. The Polish and Mixed groups' percentages are nearly the same being 29.9% and 26.5% respectively.

The percentages in the general curriculum seem to fluctuate. From a gradual drop from the English Speaking group through the Northern European to the Polish group there is, then, a noticeable rise to the Mixed group. Then occurs a falling off to the Southern European group which balances well with its percentage in the college curriculum. The Mixed group has a percentage greater than any one of the other groups and is more than double that of the Polish group. Evidently the pupils of the Mixed group are more prone to follow the general course than they are the college course, and could they be identified the tendency might be that the percentages in each group would be more uniform.

The 3.9% of the Mixed group in the vocational curriculum is the smallest of any of the groups in any one curriculum.

There are not many of the English Speaking, Northern Europeans, and Polish in the vocational curriculum. One thinks of the Polish as an agricultural people; yet, the percentage here is low and approximates the number in the general curriculum. The Southern European group has the greatest percentage in this curriculum with 23.3%. This percentage about equals the percentages made by this same group in the college and general curricula.

The Southern European group has a little more than 20% in the commercial curriculum. In numbers there are few more or less of this group in one curriculum than in another. A large percentage of the other groups, excluding the English Speaking group, is found in the commercial curriculum. But the percentage of the Northern Europeans, the Polish, and the Mixed group is only about 6.0% more than the Southern European group. Only 10.0% of the English Speaking group is in the commercial course. This group is weaker in the vocational and commercial courses, but it must be remembered that nearly fifty percent of the group is in the college curriculum.

Ten percent of the English Speaking group is also in the non-specified curriculum. With the exception of the Polish group the percentages of those groups, whose members mentioned no specific curriculum, are all about the same. With the Polish, however, we find 15.3% who either did not know or did not wish to make known the curriculum in which he or she belonged.

The percentage distributions in the school subject English are about the same as those in American history; yet, they balance up better. This distribution is shown in Table VII.

TABLE VII

Percentage Distribution of Pupils
of the Natio-Racial Groups through
Curricula in the School Subject English

ENGLISH

GROUP	NUMBER OF INDIVIDUALS	CURRICULA				
		College	General	Vocat.	Comm.	Non-Sp.
English Speaking	288	43.1%	28.8%	8.7%	12.5%	6.9%
Northern European	42	28.6%	23.8%	14.3%	28.6%	4.7%
Mixed	152	21.7%	30.9%	15.1%	25.7%	6.6%
Southern European	122	19.7%	29.5%	16.4%	29.5%	4.9%
Polish	147	14.3%	38.1%	17.0%	27.2%	3.4%

Here again the English Speaking group begins with the highest percentage in the college curriculum with 43.1%. This percentage is less than that of the English Speaking group in American history in the same curriculum. Also, the percentage for the Northern European and the Mixed groups is smaller, but not such a drop has occurred for these two groups as has for the Polish group. There are about half as many Polish in the college curriculum taking English as there were those taking American history. The Southern European group has remained nearly the same, the difference being only two points from what it was in the school subject, American history.

On the part of the Polish group in the general curriculum in the school subject, English there is a rise. Here is found 38.1% for the Polish group, a drop from that

to 23.8% for the Northern European group, and the other three groups ranging between 28% and 30%.

In the vocational curriculum the Polish group is low, although there is 3.0% more here than in the college curriculum. There is only half as much for the English Speaking group as for the Polish, and save for the English Speaking group the percentage for each group is only about half of what the group has in the general curriculum. Of the four principal courses the vocational curriculum suffers greatest in this particular school subject.

The distribution of the groups in the commercial curriculum is about 2% greater throughout than in the commercial curriculum in American history with the exception of the Southern European group. This group with 29.5% of the individuals in the commercial course has 10% more than in the college curriculum.

In the non-specified curriculum the percentages, ranging from 3.4% to 6.9%, have decreased somewhat from those noted in the school subject, American history and the differences in the percentages is negligible.

The two school subjects, algebra and geometry, which are generally to be considered as purely academic subjects, are found to be divided for the most part between the college and general curricula. Algebra has a much wider distribution than has geometry, and it is particularly interesting in both school subjects to notice the percentages that are found in the general course. Table VIII shows the percentage grouping of the natio-racial groups in algebra, and Table IX

the percentage grouping in geometry.

It would seem better to present these two school subjects at the same time and explain them together. It is to be noted particularly that the order of the natio-racial groups is the same in both cases, so far as the college curriculum is concerned; and is divided, as said before between the college and general curricula, save for a few exceptions.

TABLE VIII

Percentage Distribution of Pupils
of the Natio-Racial Groups through
Curricula in the School Subject Algebra

ALGEBRA

GROUP	NUMBER OF INDIVIDUALS	CURRICULA				
		College	General	Vocat.	Comm.	Non-Sp.
English Speaking	129	83.7%	11.6%	2.3%	0.8%	1.6%
Polish	18	83.3%	16.7%			
Southern European	30	83.3%	10.0%		6.7%	
Mixed	47	66.0%	19.1%			14.9%
Northern European	9	55.6%	11.1%	11.1%	11.1%	11.1%

TABLE IX

Percentage Distribution of Pupils
of the Natio-Racial Groups through
Curricula in the School Subject Geometry

GEOMETRY

GROUP	NUMBER OF INDIVIDUALS	CURRICULA				
		College	General	Vocat.	Comm.	Non-Sp.
English Speaking	160	89.4%	10.6%			
Polish	26	88.5%	11.5%			
Southern European	40	82.5%	10.0%			7.5%
Mixed	58	81.0%	12.1%	3.4%	3.4%	
Northern European	11	63.6%	36.4%			

In algebra the English Speaking group has the greatest percentage in the college curriculum with 83.7%. The percentage of the Polish and Southern European groups is

is nearly the same as in geometry, 19.1% and 12.1% respectively. In algebra we find the remaining percentage in the non-specified curriculum, while in geometry the remaining 6.8% is divided evenly between the vocational and commercial curricula.

On the whole, Tables VIII and IX show that in the school subjects, algebra and geometry, the groups fall practically into the same niche. With few and small percentages in the other curricula of vocational, commercial, and non-specified, the groups are nearly the same in the college and general curricula.

To formulate a general summary of the percentage distribution of the pupils in the various curricula will be helpful. There are several really outstanding points not only in the curricula themselves, but also among the groups as well. It is difficult to mention one group without another, or to avoid one curriculum in the light of another.

The English Speaking group and the academic curricula seem jointly to be the most distinctive. In all four school subjects tested the greatest percentage of the English Speaking group tends to the academic work. This same group has noticeable fewer in the vocational field than has any other group.

The Polish group has a small percentage in the vocational curriculum, but in the school subject, English, there is found a large percentage in the general curriculum,

only 0.4% lower at 83.3%. But then there occurs a drop of 17% to the Mixed group and a drop of 11% more to the Northern European group.

In geometry the English Speaking group in the college course maintains the highest percentage with 89.4%. The Polish group follows with 88.5% of its number in the college curriculum. The Southern European and the Mixed groups are a little less with 82.5% and 81% respectively. The greatest change occurs when the Northern European group is found to have only 63.6%. This last is supplemented in the general curriculum where the percentage is 36.4%. This group is the most surprising. Although attaining high test scores, as will be noted subsequently, this group does not tend to be in the college curriculum as much as the other groups. It is for the most part entirely made up of academic members.

In the general course the percentages are on the whole somewhat the same for the groups in both algebra and geometry. The English Speaking group has 11.6% in this curriculum. The Polish groups in the college and general curricula supplement one another with 16.7% of the Polish group in the general course in algebra, and 11.5% of the group in geometry. The Southern European group has 10% in the general course and 6.7% in the commercial course who are studying algebra. This is rather odd, but unexplainable. In geometry the Southern European group has 10% in the general course and 7.5% in the non-specified course. For the Mixed group the percentage in the general course

and a percentage larger than any other group in the non-specified curriculum.

For balanced parts the Southern European group is about evenly divided throughout the curricula in both school subjects, American history and English, and in about the same manner in algebra and geometry. The commercial curriculum has nearly the same percentage of all groups in the school subjects, American history and English.

There is not a too distinct line drawn between the college curriculum and the general curriculum. Insofar as algebra and geometry are concerned both these curricula might be termed academic.

Algebra and geometry are definitely academic school subjects, and as would be expected the majority of the pupils are found in the academic courses. There are small percentages of the groups scattered about the remaining curricula, but these percentages are quite negligible.

The curriculum that receives the least attention is the vocational. The percentages in this course are comparatively small. The groups that would be expected to be a part of this curriculum are not doing so. There are other slight variations, but there is not much significance to be attached to them.

The curricular percentage distributions of the national groups in the four school subjects have been analyzed, and the ages of the pupils have been discussed in the first

part of the present chapter. We shall now turn to the third phase of the present study, that of the test scores, or marks.

III. TEST SCORES

The ages of, and the curricula chosen by the pupils of foreign born parents have been analyzed and an interpretation of the data has been made. The most important phase of the present study, that of analyzing and interpreting the test scores of the natio-racial groups is to be considered.

Each school subject is to be taken singly, and comparisons in school subjects between some of the groups is to be made by means of the critical ratio. The first school subject considered is that of American history. Table X shows the rise and fall of the natio-racial groups in this particular school subject.

TABLE X

Test Scores by Sections and Totals of
Natio-Racial Groups in the School
Subject American History

AMERICAN HISTORY

GROUP	NUMBER OF INDIVIDUALS-	AVERAGE SCORES							
		Sections							Total
Northern European	23	7.2	12.2	19.9	11.0	7.3	16.7	74.2	
English Speaking	231	6.5	12.6	18.7	11.4	7.3	16.9	73.4	
Polish	124	6.7	12.3	19.4	10.9	6.9	16.6	73.3	
Southern European	73	5.9	11.6	16.7	11.0	6.8	15.5	67.4	
Mixed	155	5.5	11.5	17.2	10.6	7.1	15.4	67.1	

Of all the school subjects tested the results in American history have proved to be the most divergent. In

Table X one notes the order of the natio-racial groups in total scores with the Northern European group leading and the English Speaking, Polish, Southern European, and Mixed groups following respectively. The scores by sections follow closely the same order as the average total scores.

Because of the fact that the numbers of individuals differ for each group, numerical differences in scores among the groups may be more apparent than real. For this reason the critical ratio existing between groups has been found. In Table XI are the results of computing the critical ratio in four comparisons.

TABLE XI

Data Obtained in Computing the Critical Ratio Existing between Natio-Racial Groups in American History

GROUPS	<u>M</u>	<u>σ</u>	<u>E_m</u>	<u>E_d</u>	<u>C.R.</u>
Northern European and Mixed	74.13 67.90	16.37 15.73	3.41 1.26	3.63	1.7
English Speaking and Mixed	74.00 67.90	16.60 15.73	1.09 1.26	1.66	3.7
Polish and Southern European	74.19 67.74	16.95 13.38	1.52 1.57	2.18	3.0
Southern European and Eng. Speaking	67.74 74.00	13.38 16.60	1.57 1.09	1.90	3.3

The critical ratio existing between the Northern European and Mixed groups is found to be 1.7. To be reliable a critical ratio has to be at least 3.0 or more.¹⁹ The ratio 1.7 shows that the difference found

19. Garrett, page 132.

between the Northern European and the Mixed groups in the school subject, American history, is not reliable. The differences found in the other three comparisons are reliable since the ratios are 3.0 and more. It is practically certain, therefore, that the difference between the average scores would be in favor of the English Speaking group over the Southern European and Mixed groups, and the Polish group over the Southern European group, if the study were repeated.

In educational statistics a probability of at least 998 in a 1000 is necessary before one can say that the difference will be repeated upon subsequent measurement. The ratio 3.0, or the probability 998 out of a 1000 has been chosen by convention and is rather closely adhered to. For this reason the conclusion is made that the groups above mentioned do differ in their ability in American history, as measured by the tests used. This convention will be used in interpreting results of the other tests as well.

In the school subject, English, the trend of average total scores is in the same direction as in the case of American history. Just why there should be this correspondence in ranking between English and American history is problematic, but probably due to the fact that the school subject, history, requires much reading and much oral reporting, and, consequently, much use of English. The Northern European group leads and is followed

by the English Speaking, Polish, Mixed, and Southern European groups. There is this difference. The Mixed group and the Southern European group are this time interchanged, but there is less than a point difference, as was the case in American history. Among the score sections the differences are very small and the differences between the extremes of the sections are not more than three points. In one instance is the difference greater than three points; between the Northern and Southern European groups in section six. Table XII shows the test scores in the school subject, English.

TABLE XII

Test Scores by Sections and Totals of
Natio-Racial Groups in the School
Subject English

ENGLISH

GROUP	NUMBER OF INDIVIDUALS-	AVERAGE SCORES							
		Sections							
Northern European	42	13.2	27.0	23.8	13.4	17.5	11.8		106.7
English Speaking	288	13.2	26.9	24.5	14.7	16.7	10.3		106.3
Polish	147	12.4	26.3	23.8	13.6	17.8	9.6		103.5
Mixed	152	12.6	26.5	23.7	12.9	17.0	9.3		102.0
Southern European	122	11.0	26.0	24.1	14.2	17.4	8.6		101.3

Here we see the Northern European and English Speaking groups doing approximately the same grade of work. These two groups are doing better than the other three groups; yet, the Polish, Mixed, and Southern European groups are doing about the same grade of work, also. The extreme difference in the average total scores is but 5.4 between the Northern and Southern European groups.

Again critical ratios were found between some of

the groups, but the variability is not so great. The ratio between certain groups is shown in Table XIII.

TABLE XIII

Data Obtained in Computing the Critical Ratio Existing between Natio-Racial Groups in English

ENGLISH

GROUPS	M	σ	ϵ_m	ϵ_d	CR
Northern European	107.86	25.84	6.48	6.72	1.0
and So. European	101.39	19.75	1.78		
English Speaking	106.94	27.22	1.60	2.59	1.8
and Mixed	102.18	25.14	2.04		
English Speaking	106.94	27.22	1.60	2.40	2.3
and So. European	101.39	19.75	1.78		
Polish and	104.46	21.94	1.81	2.72	.82
Mixed	102.18	25.14	2.04		

None of the critical ratios obtained in the school subject, English, can be called reliable. Between the Northern and Southern European groups there is found to be a critical ratio of 1.0. The critical ratios of the English Speaking group and the Mixed group, and the English Speaking and Southern European groups are such that the chances of their maintaining the same relative ranking in subsequent testing are rather small. Therefore, the obtained differences in scores in the school subject, English, are not large enough to insure that the results are significantly different.

The third subject to be considered is algebra. The order of the groups has changed considerably. This may be due to the fact that less English is required here than

in American history, and that a different type of ability is required. The English Speaking group is this time in the lead, while the Northern European group has fallen to third place. The Southern European group has assumed the lowest position. The differences in scores in this school subject are not great; the difference in the extreme scores being only 2.1, and the difference in the scores of the first three groups, the English Speaking, the Mixed, and the Northern European groups amounts to half a point at the most. The relative position of the groups is shown in Table XIV.

TABLE XIV

Test Scores by Sections and Totals of
Natio-Racial Groups in the School
Subject Algebra

ALGEBRA

GROUP	NUMBER OF INDIVIDUALS	AVERAGE SCORES				
		Sections			Total	
English Speaking	129	4.0	1.5	11.2	2.8	19.5
Mixed	47	4.0	1.7	10.6	3.1	19.3
Northern European	9	4.0	2.1	10.1	2.8	19.0
Polish	18	4.5	1.3	10.2	2.8	18.8
Southern European	30	3.3	1.2	9.8	3.1	17.4

The only critical ratio found is that existing between the English Speaking and the Southern European groups. It is a negligible one amounting to 1.4. It is safe to say that the ratio between any other two groups would be even smaller. So little variability among the groups suggests that perhaps the groups are really more homogeneous in algebra than in the subjects, English and American history. If this ^{be} true, the reason is not evident

in the data.

It is to be noted that the ranking in the school subject, geometry, more closely resembles that in English and American history than it does that in algebra. The reason for this seeming anomaly is not evident.

In the school subject, geometry, the Mixed group has moved one place higher in the ranking from what it was in the school subjects, English and American history. The number of pupils in each group is more varied. The scores for each test section descend in the same order as do the average total scores, save in the fourth section where the score of the Polish group rises a little and then drops again to that of the Southern European group.

A comparison of the total scores of each group would seem to indicate that the groups differ considerably in their ability in geometry. This difference in terms of reliability may once more be more apparent than real.

It is noticeable in Table XV that the scores of the Northern European group seem quite superior to the scores of the Southern European group. The three middle groups, the English Speaking, the Mixed, and the Polish, have maintained an average score relatively close the one to the other.

TABLE XV

Test Scores by Sections and Totals of
Natio-Racial Groups in the School
Subject Geometry

GEOMETRY

GROUP	NUMBER OF INDIVIDUALS	AVERAGE SCORES				
		Sections	Total			
Northern European	11	17.8	20.1	44.7	19.6	102.2
English Speaking	160	16.6	18.9	42.2	17.5	95.2
Mixed	58	16.3	18.9	42.1	17.3	94.6
Polish	26	16.3	18.5	39.9	18.0	92.7
Southern European	40	15.7	17.9	39.9	16.4	89.8

The variability of the groups in geometry is small, although it is noticeable that the Northern European group has continued to maintain the highest score in this school subject as in the majority of other school subjects. Two critical ratios found will serve to show just how significant are the differences between the extreme groups. The Northern European and the Southern European groups will be treated first, and then the English Speaking and Southern European groups will be compared and commented upon. Table XVI shows these two critical ratios.

TABLE XVI

Data Obtained in Computing the Critical
Ratio Existing between Natio-Racial
Groups in Geometry

GEOMETRY

GROUPS	M	σ	E_m	E_d	C.R.
Northern European and So. European	103.18 87.50	16.41 25.86	4.94 4.09	6.42	2.4
English Speaking and So. European	95.87 87.50	22.03 25.86	1.74 4.09	4.44	1.8

These two ratios found and expressed statistically show that in the first one of 2.4 there is not much likelihood of a true difference existing between the Northern European and the Southern European groups. It is not large enough to guarantee that the Northern Europeans will always score higher than the Southern Europeans. In the second critical ratio, 1.8, the same conditions hold between the English Speaking and the Southern European groups.

Each group in each school subject rises and falls in the test scores and totals. Groups adjacent to one another in many cases are not variant greatly. Discrimination is more apparent in the differences between the extreme scores.

On the basis of the material presented above there is little justification for ascribing superiority in achievement to any one natio-racial group. The one exception is in the study, American history. In this school subject differences which are statistically reliable do occur. In the remaining subjects the groups, although differing to a greater or less degree in this study, do not do so to a sufficiently great extent to justify the conclusion that there is a real difference.

The ages, curricula, and test scores having been analyzed, and the data interpreted, it is well that the results of this study be summarized in conclusion. The conclusions drawn from the present study are contained in the following chapter, chapter V.

CHAPTER V

GENERAL SUMMARY, IMPLICATIONS, AND LIMITATIONS

A. SUMMARY

With the analysis and interpretation of the data completed, there remains to be made a general summary of the comparative status of the pupils of foreign parentage and English Speaking parentage.

We are sensitive to the fact that there are differences existing between the natio-racial groups. The measurements of the groups in age, curricula, and test scores show that, although there are differences in evidence, the latter are not extreme and do not loom large.

The results found in the present study seem to bear out the conclusions that other investigators have formed, and especially what Klineberg said that "while variations exist among the racial groups, these variations do not permit the establishment of any racial hierarchy."²⁰

It would seem best to treat the three topics of age, curricula, and test scores in the same order as before. Therefore, the question of ages of the pupils in the natio-racial groups will be discussed.

I. AGE

The chronological age of the pupils studied is a very

20. Klineberg, page xxi.

important one because it gives one measure of the selective power of the school.

A composite ranking of the pupils in all four school subjects would give a final ranking in a descending order of chronological age as follows:

1. Northern European group
2. Southern European group
3. Mixed group
4. Polish group
5. English Speaking group

Since, however, there is some doubt as to the grade in which some pupils took American history and geometry, it might be well to make a composite ranking of only the school subjects, algebra and English, which is as follows:

1. Northern European group
2. Southern European group
3. Polish group
4. Mixed group
5. English Speaking group

In either list it is to be noted that the Northern European group leads the list as the oldest pupils in the schools, and the Southern European group comes second. If the English Speaking group is taken as a norm or standard of desirability in the matter of age, all of the groups would appear to be slightly over-age.

If the pupils enter school at the average age of 5.5 years and continue through school with no retardation, the

average age in grade 12 should be 17.5 years plus the number of months intervening between the beginning of school in September and the time at which the tests were given. It is to be noted that all of the groups had an average age less than 18.0 years. The fact that they average lower indicates that the older pupils are leaving school before grade 12, but it is evident in no wise which of these two conditions is operating in the Valley Wheel schools to cause the relatively small difference in age between the English Speaking and foreign groups.

II. CURRICULA

Several points worthy of note were mentioned in regard to curricula in Chapter IV. Some of these were as follows: first, the large number of pupils who were found in the academic and general curricula; second, the relatively few who were being trained in vocational lines; third, the fact that there was tendency for different groups to choose the same curricula.

In particular it was noted that the English Speaking group was found almost wholly in the academic and general curricula, while the other natio-racial groups spread themselves over several curricula with relatively few in the so called college divisions. This would seem to indicate the presence of a certain degree of class distinction - a distinction which may not be due to the school, but which is nevertheless present. Real integration demands

that all group distinctions be eliminated so far as possible. It requires that foreign portions of the population should not be delegated to minor stations of life, but that the professional, semi-professional, and managerial occupations should receive their due proportion.

The schools tested in this study show a tendency to educate the children of English Speaking parents to the higher ranking positions and the pupils of foreign born groups to the lower.

III. TEST SCORES

There are differences in the test scores, but these differences are not very great. It is noticeable that the Northern European and English Speaking groups score somewhat higher than the Southern European group, but the unreliability of these differences is apparent when critical ratios found between the groups are analyzed.

There is a continual rise and fall in each natio-racial group from one subject to another; one group is now higher in one school subject, but is lower in another school subject. The differences are not great.

The results in the school subject, American history, prove to be the most significant. The Northern European group, the Polish group, and the English Speaking group are well versed in American history. The Southern European group and the unidentifiables in the Mixed group are somewhat lower.

In the remaining subjects the critical ratios would indicate that the different natio-racial groups are approximately equal in achievement, with no significant differences showing.

B. IMPLICATIONS AND LIMITATION OF THE STUDY

The implications which come from the present study more or less directly are of two types. First, there are the implications derived from a study of the testing procedure. Second, there are the implications which are to be made from the point of view of the pupils and the schools themselves.

From the testing procedure it would appear that greater accuracy in securing the personal history and other information of the pupils is necessary. The "tester" should make certain that the individuals being tested had written all of the information requested, especially with regard to the racial ancestry and to the age. By having more accurate information the Mixed group would be reduced in number because many could have been included in the more specific natio-racial group.

If there were better equalization of the groups, the results obtained would be more justifiable and definite. It would be nicer, also, if the groups in algebra and geometry were decidedly larger than they are in the present study.

In order to find out from the tests whether or not the

groups are selected groups, it would be advantageous to have the ranking in intelligence (intelligence quotient) of the pupils. This would be quite pertinent in comparing the status of the several natio-racial groups.

With regard to the schools there are several things which may be implied from this study. As regards age, it has been noted above that first, the older pupils of the groups seem to be leaving school. Further study of the causes of this exodus should be made, and if the causes lie with the school, rather than with the pupils, remedies should be provided. It is to be noted, however, that home guidance in the matter of the importance of schooling is likely to be lacking to a degree among certain of the foreign groups. The necessity of giving this extra guidance would seem to fall on the school.

Second, all foreign groups in this study have a slightly greater average age than the English Speaking group. Further study of age differences should be made to discover if these differences are common to other schools. If it^{is} found that the pupils of foreign born parents tend to be over-age or under-age, a further study should be made of the causes of retardation or elimination in an attempt to discover remedies.

In curricula it is encouraging to note that the assumption that the vocational courses have been used as a dumping ground is now very definitely being combated in theory, and in some schools in practice. However, it is

up to the schools to make the attempt to spread the natio-racial groups throughout the different curricula. With a more widespread use of educational and vocational guidance, and a different philosophy behind it, and with a more careful and effective distribution of the groups into the various curricula, the schools might even do more than at present in integrating these groups into an "American" people, so that foreign traces would ultimately disappear insofar as their presence in particular groups is concerned.

With regard to test scores, the most significant results have been noticed in the school subject, American history. It has been noted that the Southern European group fell far behind the other natio-racial groups.

Further study should be made to discover if this relative lack of success in American history means a lack of assimilation of American ideals and attitudes. If so, the necessity of further work by the schools is obvious.

The general question raised by the study was the status of pupils of different foreign ancestry in the Valley Wheel schools. However, one obstacle in giving a definite answer is the lack of knowledge as to whether or not the nationality of the parents is one or two generations removed from the native country. In general, one could say that if the parents are removed only one generation, the offspring have advanced tremendously in becoming Americanized. If the parents are two generations removed, the offspring are faring well, but are not advancing at an unexpectedly rapid rate.

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APPENDIX I

Computation of the Critical Ratio
in the School Subject American
History of the English Speaking
and Mixed Groups

Scores	f	d	fd	fd ²	
<u>Mixed Group</u>					
100	2	4	8	32	M = 67.9
90	10	3	30	90	
80	25	2	50	100	C = $\frac{\sum fd}{N} = \frac{45}{155}$
70	30	1	30	30	
60	40				C = .29
50	31	-1	-31	31	
40	12	-2	-24	48	$\sigma = \left(\sqrt{\frac{397}{155} - (.29)^2} \right) 10$
30	2	-3	-6	18	
20	3	-4	-12	48	
	<u>N = 155</u>		<u>+45</u>	<u>397</u>	= 15.7
			$\sum fd$	$\sum fd^2$	

Scores	f	d	fd	fd ²	
<u>English Sp. Group</u>					
100	15	4	60	240	M = 74.0
90	25	3	75	225	
80	46	2	92	184	C = $\frac{\sum fd}{N} = \frac{209}{231}$
70	48	1	48	48	
60	55				C = .90
50	24	-1	-24	24	
40	13	-2	-26	52	$\sigma = \left(\sqrt{\frac{825}{231} - (.9)^2} \right) 10$
30	4	-3	-12	36	
20	1	-4	-4	16	
	<u>N = 231</u>		<u>209</u>	<u>825</u>	= 16.6
			$\sum fd$	$\sum fd^2$	

$$\sigma_{m_1} = \frac{\sigma}{\sqrt{N}} = \frac{16.6}{\sqrt{231}}$$

$$= 1.092$$

$$\sigma_{m_2} = \frac{\sigma}{\sqrt{N}} = \frac{15.7}{\sqrt{155}}$$

$$= 1.261$$

$$\sigma_{d, m_1, m_2} = \sqrt{(\sigma_{m_1})^2 + (\sigma_{m_2})^2}$$

$$= \sqrt{1.19 + 1.59}$$

$$= 1.66$$

$$\underline{C.R.} = \frac{M_1 - M_2}{\sigma_d}$$

$$= \frac{6.10}{1.66}$$

$$= 3.7$$

APPENDIX II

American History Test

Directions: Below are two columns, one of dates, the other of events. The column of dates is numbered. In the parentheses before each event, place the number of the date related to the event.

Example: a. 1730 (b) Compromise of 1850
 b. 1850

1. 1776 () First legislation for religious toleration.
2. 1649 () Union of the New England States for protection against the Indians.
3. 1803 () First attempt at union among the several colonies.
4. 1787 () Northwest Ordinance.
5. 1816 () Gold rush to California.
6. 1588 () The colonies assert their independence.
7. 1775 () Stamp Act.
8. 1829 () England becomes queen of the seas.
9. 1765 () Discovery of the West Indies.
10. 1643 () Louisiana Purchase.
11. 1849 () Founding of Jamestown.
12. 1789 () Wilmot Proviso.
13. 1453 () Battle of Lexington.
14. 1754 () The Constitution goes into effect.
15. 1727 () First slave ships arrive in America.
16. 1492 () First Continental Congress.
17. 1846
18. 1619
19. 1607
20. 1774

American

History

Directions: Below are two columns, one of men, the other of events. The column of men is numbered. In the () before each event, place the number of the man connected with the event.

Example: a. George Washington

b. Leif Ericson

(a) The first president of the U.S.

++++ +

- | | |
|---------------------------|--|
| 1. Marco Polo | () First steamboat trip from New York to Albany. |
| 2. Peter Zenger | () Defender of the American Colonies in Parliament. |
| 3. William Pitt | () Conquest of Northwest Territory. |
| 4. John Adams | () Debater with Lincoln. |
| 5. George Rogers Clark | () Leader of the capture of Harper's Ferry. |
| 6. Dred Scott | () Travels in Asia. |
| 7. Christopher Columbus | () Traitor in American Revolution. |
| 8. Robert Fulton | () First trip around Cape of Good Hope to India. |
| 9. John Knox | () Test case for slavery in the territories. |
| 10. Stephen Douglas | () Freedom of the press. |
| 11. Vasco da Gamma | () Author of "Uncle Tom's Cabin." |
| 12. Benedict Arnold | () First voyage around the world. |
| 13. Harriet Beecher Stowe | () Inventor of the cotton gin. |
| 14. Winfield Scott | () Author of "Common Sense". |
| 15. John Brown | () Second president of the United States. |
| 16. Thomas Jefferson | () Discovery of the West Indies. |
| 17. Ferdinand Magellan | |
| 18. John Jay | |
| 19. Eli Whitney | |
| 20. Thomas Paine | |

Directions: The first column of the table below contains 6 main topics. First -- in the column of the table marked sequence, number the topics in the order in which they occurred-- 1, 2, 3, etc. Second -- in the column of the table marked MEN, place the number or numbers of the Men connected with each topic from the list above. Third -- in the column of the table marked statements, place the number or numbers of the statements connected with each topic from the list above.

MEN

STATEMENTS

- | | |
|-----------------------|---|
| 1. John C. Calhoun | 1. Oppression of the South by excessive tax on imports. |
| 2. James Polk | 2. Missouri Compromise |
| 3. William Hull | 3. Burgoyne's surrender |
| 4. Robert Morris | 4. No new colonies on the American Continent |
| 5. Andrew Jackson | 5. Conquest of California |
| 6. O. H. Henry | 6. Battle of Tippecanoe |
| 7. James Wilson | 7. Nullification doctrine of John C. Calhoun |
| 8. George Washington | 8. Maine admitted as a free state |
| 9. Zachary Taylor | 9. Boston Tea Party |
| 10. Ethan Allen | 10. Burning of Washington, D. C. |
| 11. Benjamin Franklin | 11. No meddling in Old World affairs |
| 12. John Paul Jones | 12. Popular sovereignty |
| 13. Henry Clay | |
| 14. Winfield Scott | |

	SEQUENCE	MEN	STATEMENTS
Revolution			
War of 1812			
Monroe Doctrine			
Tariff of Abominations			
Missouri Compromise			
Mexican War			

PART 4

THE CONSTITUTION

If the statement is in general true, place a plus sign (+) in the parentheses before the number of the statement. If the statement is in general false place a zero (0) in the parentheses. DO NOT GUESS.

- () 1. A naturalized citizen may become President of the United States.
- () 2. All bills for raising revenue must originate in the House of Representatives.
- () 3. To be eligible for President a citizen must have resided within the United States for a period of at least fourteen years.
- () 4. The terms of office of the justices of the Supreme Court are limited by law.
- () 5. Approval by three-fourths of the States is necessary to amend the Constitution.
- () 6. The first twelve amendments of the Constitution make up the Bill of Rights.
- () 7. Congress must meet at least once a year.
- () 8. Congress has the right to levy duty upon exports.
- () 9. A two-thirds vote of both houses is necessary to override a presidential veto.
- () 10. A bill may become a law without the signature of the President.
- () 11. The Senate impeaches the President and the House of Representatives tries him.
- () 12. A Senator or Representative may not, during his term of office, hold any civil office under authority of the United States.
- () 13. No state, without the consent of Congress, may levy imposts or duties on imports or exports.
- () 14. The Constitution was adopted unanimously by the States.
- () 15. The Supreme Court determines the interpretation of the Constitution.

Section 5

DIRECTIONS: In the following questions underline the word or phrase that correctly completes the first part of the statement.

1. The "War-hawks" that desired the war of 1812 were a product of (New England), (the frontier), (Virginia).
2. The "Spoils System" was inaugurated by (John C. Calhoun) (Andrew Jackson), (Van Buren).
3. The principle behind abolition in the North was chiefly (social), (economic), (religious).
4. The statement "the power to tax is the power to destroy" arose from the Supreme Court decision in the (Dartmouth College Case), (McCulloch vs. Maryland), (Marbury vs. Madison).
5. The election of Andrew Jackson marked a new era in democracy because
 - (1) the franchise was greatly extended
 - (2) the "Spoils System" was established
 - (3) Jackson was a bitter opponent of the U.S. National Bank.
6. The Republican party formed on the issue of (1) Refusal to enforce Fugitive Slave Law), (2) The need for a higher tariff), (3) No further extension of slavery) in 1854. In the 1850s the Republican party was formed on the issue of (1) Refusal to enforce Fugitive Slave Law), (2) The need for a higher tariff), (3) No further extension of slavery).
7. The westward movement was strongly opposed by (eastern industrialists), (laborers), (farmers).
8. In case of the death of both the President (and the Vice-President) the vacancy is filled by the (Secretary of War), (Secretary of Treasury), (Secretary of State).
9. In the decade of 1848-1853 the railroad mileage of the country was almost (doubled), (tripled), (quadrupled).
10. The oldest college in the U.S. is (Yale), (Harvard), (William and Mary).
11. In New England before 1700 most of the enthusiasm of the colonists was directed toward (religion), (commerce), (politics).
12. The French-Indian war was a struggle for control of (the Mississippi valley), (the high seas), (North America).
13. One of the supporters of the colonists' cause in Parliament was (Lord North), (William Pitt), (George Grenville).

DIRECTIONS: In the problem below there are three topics. In the lists below the topics, there are statements which go with the topics. These statements are lettered. In the blank table beside the topics, place in column I the letter of the Cause from list I below. In column II, place the letter of the Fact found in the second list below, etc. Be sure to get the letter into the correct box in the blank table.

Topics:

1. French Revolution
2. The coming of the Pilgrims
3. The Articles of Confederation
4. The Mexican War

I	II	III	IV
E	J	H	T

I. CAUSE OR PURPOSE

- A. Escape from religious oppression
- B. Conquering the Philippines
- C. Boundary of Texas
- D. National unity
- E. Revolt of masses

II. FACTS OR DETAILS

- F. Inability of Congress to collect taxes
- G. Polk's imperial ambition
- H. The Battle of Bunker Hill
- I. Mayflower Compact
- J. Reign of Terror

III. EFFECTS OR RESULTS

- L. Freeing the slaves
- M. Founding of republic
- N. Constitutional Convention of 1787
- O. Settlement of Massachusetts

IV. RELATED EVENTS

- P. Gadsden Purchase
- Q. Establishment of public education
- R. Northwest Ordinance
- S. Conquering the Aztecs
- T. American Revolution

PART II

DIRECTIONS: In the problem below there are three topics. In the lists below the topics, there are statements which go with the topics. These statements are lettered. In the blank table beside the topics, place in column I the letter of the Cause from list I below. In column II, place the letter of the Fact found in the second list below, etc. Be sure to get the letter into the correct box in the blank table.

Topics:

1. The discovery of America
2. Louisiana Purchase
3. Compromise of 1850

	I	II	III	IV

I. CAUSE OR PURPOSE

- A. Control of the Miss. R.
- B. Extension of Slave Trade
- C. Need for trade route to India
- D. Slavery Question in the territories

II. FACTS AND DETAILS

- E. Admission of California as a free state
- F. Jefferson's "strict constructionism"
- G. 36° 30' Line
- H. New conception of the world

III. RESULTS

- I. Line of Demarcation
- J. Temporary truce in sectionalism
- K. Race for colonial possessions
- L. Development of the Miss. Valley

IV. RELATED EVENTS

- M. Threats of Secession
- N. Napoleonic Wars
- O. Capture of Constantinople
- P. Birth of Republican Party

Date Sept 27, 1937

J. C. Graham
Graduate Committee

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Approved by

