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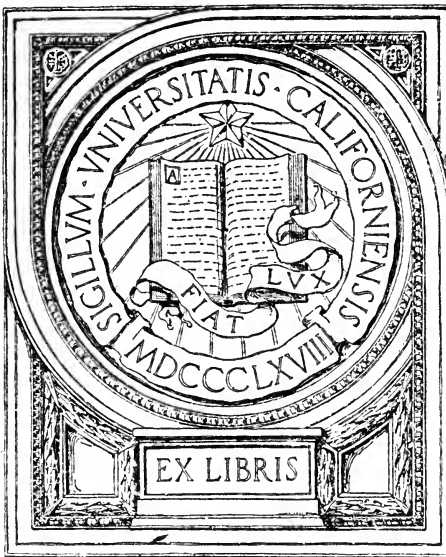
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# PLACEMENT OF CHILDREN IN THE ELEMENTARY GRADES

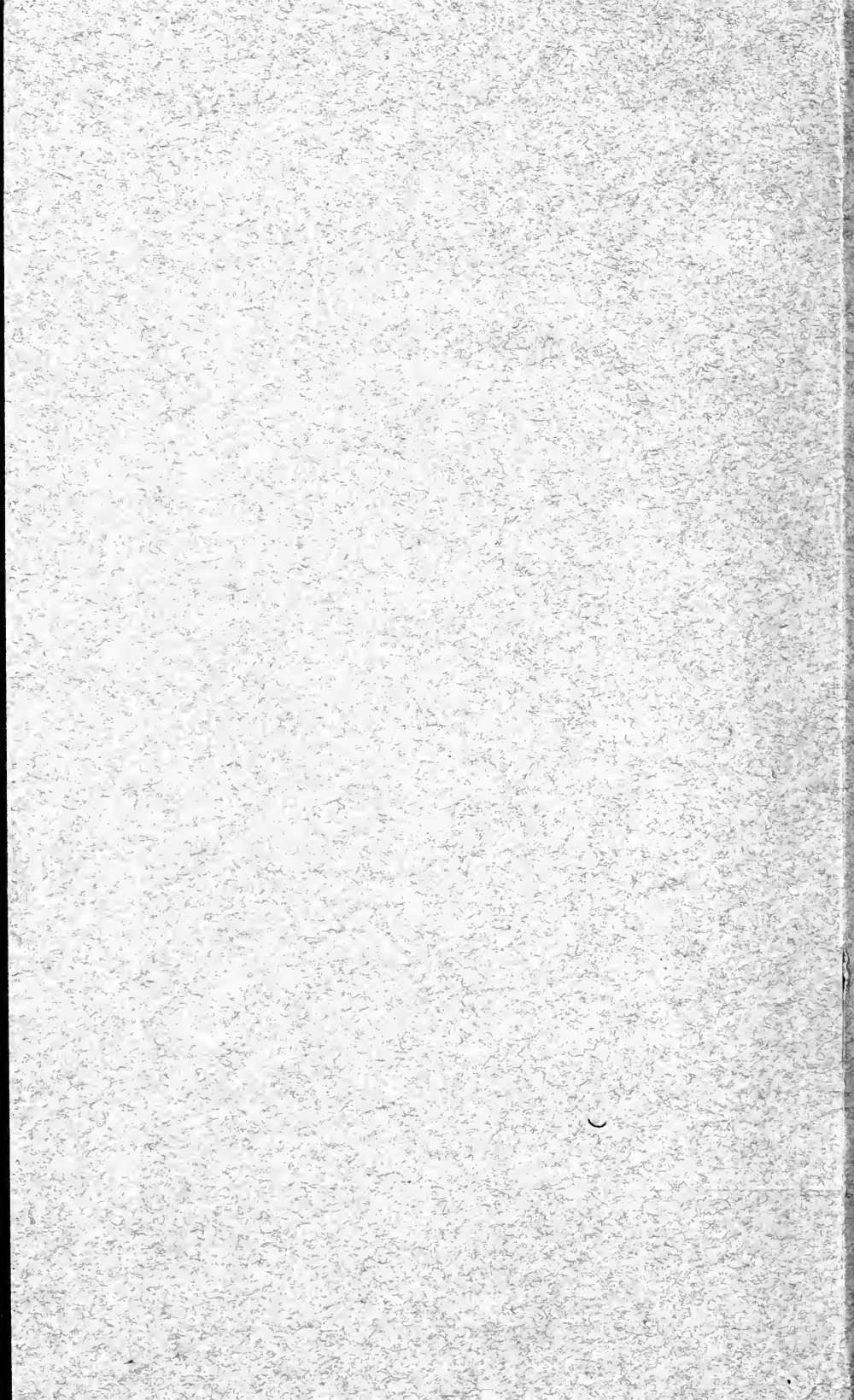
By

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RICHMOND, VA.



WASHINGTON  
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1916



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By

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RICHMOND, VA.

Submitted in Partial Fulfillment of the Requirements for the  
Degree of Doctor of Philosophy in the Faculty of  
Philosophy, Columbia University.



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K. J. H.

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# THE PLACEMENT OF CHILDREN IN THE ELEMENTARY GRADES.

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## CHAPTER I.

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### INTRODUCTION.

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In recent years many students of education have been placing considerable emphasis on the study of scientific measurements applied to the achievements of school children with a view to putting educational practice on a more scientific basis than in the past.

Because of the lack of scientific information, many theories not justified by systematic observation have obtained currency. As a result, much of the time and energy of teachers and pupils has been spent to a great disadvantage; confusion has been produced, and the advancement of the teaching profession has at times been greatly retarded.

Gradually a body of scientific knowledge concerning the actual accomplishment of school children is evolving. Administrators are being trained to realize the need of accurate and uniform records whereby the progress of children can be determined, not only in relation to other children in the city, but also to children in other cities. By this means standards or norms in educational practice will be set up whereby one school system can be compared with another as to the amount of elimination, retardation, and promotion; the percentage of children entering the high school from the elementary school, and the like. Such information has also been used to determine the relative differences between sexes and nationalities for the purpose of planning courses of study, the organization of children into classes, and the determining of other educational policies. Administrators are further beginning to realize the necessity for definite and objective standards for guidance in the expenditure of school finances. A superintendent of schools in one city should know how much he is spending to educate a child through the kindergarten, the elementary school, and the high school, as well as the amount spent for the same purposes by a superintendent of schools in another city.

The application of scientific measurements to the achievement of school children is revealing waste and unbusinesslike methods in many school systems. Due consideration has not been given to the amount of time and energy spent in relation to achievement—or, in business terms, the amount of money spent in relation to value received. A school system should meet the same requirements that any business corporation must meet. The output must be commensurate with expenditure. If school men are to secure and retain the support of the business men and the taxpayers, they must, in the future, demonstrate their ability to handle finances on a businesslike basis.

In this connection the psychologist has played an important part in the establishment of general mentality tests and special subject tests for the purpose of determining the amount and kind of results, together with standards for guidance in educational practice. Tests that lend themselves most readily to practical uses in the public schools are the Binet-Simon tests and De Sanctis tests for general mentality, and the Courtis arithmetic tests, the Hillegas and Harvard-Newton language scales, the Thorndike, Ayres, and Freeman handwriting scales, the Buckingham spelling scale, and the Thorndike drawing and reading scales as special subject tests.

In this scientific movement two great goals have been kept in view. They are, first, the establishment of objective standards whereby the workers in educational practice can not only measure actual results of their time, energy, and methods, but will also have guideposts which will indicate clearly the different stages in the child's development; and, second, the prevention of waste through misplacement of children.

Much progress has been made in the establishment of objective standards in the important subjects of the curriculum, but the placement of children by means of mental tests has not progressed so rapidly, due to the fact that the mental tests now available for practical purposes do not give all the information needed. The Binet-Simon tests have been widely used to locate mentally defective and retarded children. Recently, however, children's mental ages determined by the Binet-Simon tests, instead of their chronological ages, have been used as a standard to measure the amount of retarded, accelerated, and normal progress of children. Educational administrators see the need of some accurate means for determining children's mental abilities or mental ages in order to place them properly in school.

In order to show, then, that certain educational practices do result in waste of time, energy, and money, and can not be justified from a practical and businesslike viewpoint, and, further, that tests can be employed to prevent much of this waste and thereby secure a

more businesslike administration, a study has been made in the city of Richmond, Va.

Before proceeding to this study, information on the following topics is given in order to interpret better the data submitted: The school buildings, the rules and regulations whereby the system is administered, the teaching corps, the course of study and time allotment, the composition of the school enrollment, the grades and the ages for children in the kindergarten, the elementary school, and the high school, and the system of promotion. These facts will be discussed briefly in the order mentioned.

This study has been made entirely in the city of Richmond, which, according to the census of 1910, has a population of 127,628, of whom 46,733 are Negroes. In November, 1914, Richmond adopted by a vote of the electorate the Virginia compulsory school-attendance law.

This measure was put in operation September, 1915. The law states—

that every parent, guardian, or other person having charge or control of any child between the ages of 8 and 12 years shall be required to send such child to a public school of this Commonwealth for at least 12 weeks in each school year, at least 6 weeks of which shall be consecutive, unless the district school trustees of the district in which such parent, guardian, or other person resides excuse for cause such child, or unless such child be weak in body or mind, or can read and write, or is attending a private school, or lives more than 2 miles by the usually traveled route from the nearest public school or more than 1 mile from the line of an established public free-school wagon route.

While this law is far from what is desired, it is a beginning that will result in better legislation in the near future. In the past the attendance that has been secured has depended almost entirely on the interest aroused by the principal, the teacher, and the parent.

That the teaching force has been able to arouse the interest of the children and to hold them is indicated by the fact that 49 per cent of the school population in 1903 was enrolled and 39 per cent in attendance, while 65.5 per cent was enrolled in 1913 and 52 per cent in attendance. During recent years considerable effort has been made by the teaching force to learn the child's home conditions. If a child leaves school, the teacher immediately inquires the reason. If it is impossible to have this child return to the day school, an effort is made to have him enter the night school.

The efficiency of the teaching force has also increased. Teachers have been constantly taking advantage of summer normal schools, professional reading courses, and, in some cases, more protracted courses at universities.

This improvement is shown from the following data, which give the number of collegiate, normal, professional, special, first-grade,

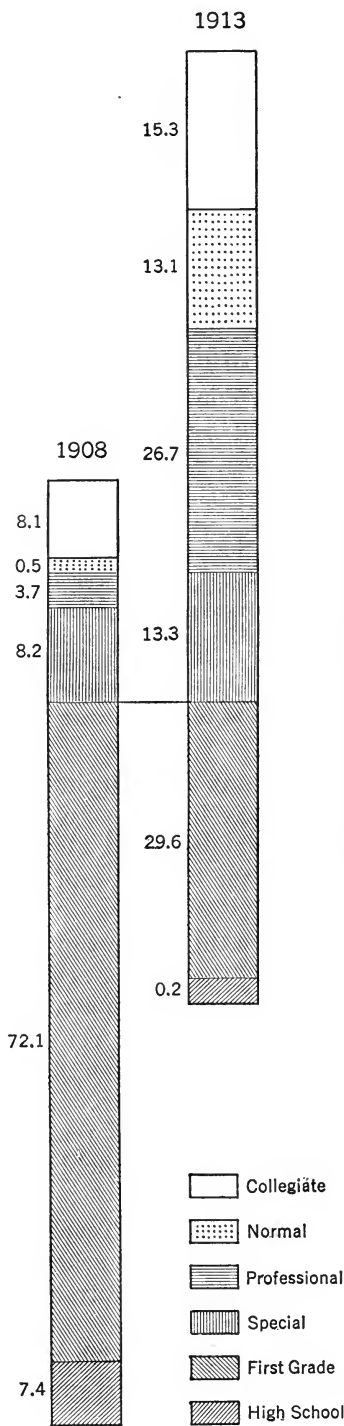


FIG. 1.—Character of teachers' certificates in 1908 and 1913.

and high-school certificates in force in 1908 and in 1913, respectively, together with the proportion which each class of certificates constituted of the total number of certificates in each of these grades:

*Teachers' certificates in 1908 and 1913.*

Character of certificates.	Teachers holding certificates of specified character.			
	Number.		Percentage.	
	1908	1913	1908	1913
Collegiate.....	31	83	8.1	15.3
Normal.....	2	71	.5	13.1
Professional.....	14	145	3.7	26.7
Special.....	31	72	8.2	13.3
First grade.....	274	161	72.1	29.6
High school.....	28	11	7.4	2.0
Total.....	380	543	100.0	100.0

The relative value of these different certificates is indicated by the order in which they are mentioned. The collegiate and normal, as well as the professional, certificates represent the greatest amount of professional or scholastic training, while the high-school and the first-grade certificates represent the smallest amount of professional or scholastic training. The first three grades of certificates, and even the fourth (special) in some instances, are to be encouraged, while the last two grades of certificates are to be discouraged.

It will be seen from the above figures that 79.5 per cent of all the certificates in force in 1908 were either first-grade or high-school, the corresponding proportions for 1913 being only 31.6 per cent. This change in the character of the certificates in force from 1908 to 1913 is represented graphically in figure 1.

The time allotment (which is shown in Tables 1 and 2 in terms of the

percentages of the total time given to each subject per week from 1903 to 1913) indicates with fair accuracy the changes in the time schedule which controlled the teachers' instruction in the classroom during the past 10 years. The total number of minutes per week given to each grade is shown at the bottom of the tables. The distribution of this time by subjects in the several grades is given in percentages. Therefore these figures indicate not only the distribution of the weekly time allotment by subjects in 1903 and in 1913, but also the changes which have taken place in this distribution in that time.

Some of the changes in the time allotment that have taken place between 1903 and 1913 are significant. For example, 43.2 per cent of the total time available in the 1A grade was devoted in 1903 to reading and literature, while in 1913 the proportion given to reading and literature in this same grade was 29.9 per cent. In the 2A, 2B, 3A, and 3B grades there was a much larger proportion of the total time given to reading and literature in 1913 than in 1903. Marked changes are found also in arithmetic, spelling, penmanship, and other subjects. In general, it would seem that the changes which have been made in the allotment of time to the different subjects indicate an effort to secure more intensive and rational teaching, as well as a distribution of time by subjects better suited to the capacities of the children in the several grades.





TABLE 2.—Time allotment in percentages, for a week in 1913.

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B
Opening exercises.....	5.3	5.3	4.8	4.8	4.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Reading and literature.....	29.9	29.9	28.6	28.6	25.4	25.4	16.7	16.7	13.9	13.9	8.3	8.3	8.3	8.3
Arithmetic.....	7.0	7.0	14.3	14.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3
Spelling.....	5.3	5.3	4.8	4.8	6.3	6.3	5.8	5.8	5.8	5.8	5.5	5.5	5.5	5.5
Drill in penmanship.....	7.0	7.0	4.8	4.8	4.8	4.8	4.2	4.2	5.5	5.5	3.3	3.3	3.3	3.3
Language—Oral and written.....	10.5	10.5	11.1	11.1	12.7	12.7	6.9	6.9	6.9	6.9	5.5	5.5	5.8	5.8
Grammar.....	(1)	(1)	(1)	(1)	(1)	(1)	10.0	10.0	8.3	8.3	8.3	8.3	8.3	8.3
Geography.....	(1)	(1)	(1)	(1)	(1)	(1)	6.7	6.7	8.3	8.3	8.3	8.3	8.3	8.3
History.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2.2	2.2	2.2	2.2
Civics.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	2.8	2.8	2.2	2.2	2.2	2.2
Nature study.....	(1)	(1)	(1)	(1)	(1)	(1)	1.4	1.4	1.4	1.4	2.8	2.8	2.8	2.8
Hygiene and physiology.....	(1)	(1)	(1)	(1)	(1)	(1)	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Music.....	5.3	5.3	4.8	4.8	4.8	4.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Physical education.....	3.5	3.5	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Drawing.....	2.8	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.8	2.8	2.8	2.8
Handwork.....	2.8	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.8	2.8	2.8	2.8
Sewing and cooking (girls).....	2.8	2.8	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.8	2.8	2.8	2.8
Optional.....	1.4	1.4	1.3	1.3	1.3	1.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Recesses.....	14.0	14.0	12.6	12.6	12.6	12.6	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Preparation for recess and dismissal.....	5.3	5.3	4.8	4.8	4.8	4.8	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total time in minutes.....	1,425	1,425	1,575	1,575	1,575	1,575	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800

1 Correlate with language. 2 Recess or physical exercises and games; but in most schools, recess.

The composition of the school enrollment, so far as the presence of any foreign element is concerned, is homogeneous. In fact the number of children of foreign extraction is so small as to be practically a negligible quantity, with the exception of one school. One factor, however, in the school population enrolled stands out prominently. The school enrollment is made up of the two races, white and colored, which are kept entirely separate. The enrollment for the session of 1913-14 was as follows:

*Enrollment in the schools of Richmond in 1913-14.*

	Boys.	Girls.	Total.
White.....	6,318	6,915	13,233
Negro.....	2,850	3,839	6,689
Total.....	9,168	10,754	19,922

It is seen that there are about half as many Negro children as white children enrolled.

The organization of the Richmond school system provides for two years in the kindergarten, seven years in the elementary schools, and four years in the high school. The normal age<sup>1</sup> for children to enter the grades is at 7 years, but in the last few years a large number of children have been entering under 7 years, due to the fact that they have become too old for the kindergarten. This condition is being met by the introduction of connecting classes which meet the needs of the children who are too old for kindergarten and too young for the first grade.

The system provides for semiannual promotion, so that the grades in the elementary schools run from 1A, 1B, 2A, etc., to 7B. Moreover, considerable attention has been given to the question of making the grading system elastic, so that children can be advanced at any time through the year as their ability and progress demand. There has been a feeling on the part of many that children are being held back when their ability would enable them to advance. A desire to secure more scientific information on this problem than the regular school records supplied prompted the employment of a woman who could use the Binet-Simon tests in measuring children's mental abilities. This situation made possible much of the information which is used in this study.

In order to make an application of tests to the results achieved by the children in the schools of the city of Richmond, it was deemed advisable to inquire into what has been actually happening to some of the children, at least, who have been in school a number of years;

<sup>1</sup> A recent legislative enactment reduces the entering age for children in the public schools of Virginia to 6 years.

to ascertain what progress these children have made through the grades, where some of them have repeated and at what age, where others have dropped out and at what age.

Therefore the plan which has been pursued in this study consists of, first, a study of the progress of a group of children, 627 white and 547 Negro, who were in the 1A grade seven years ago, September, 1906, through seven years—the school life of a child who makes normal progress—in order to show what is actually taking place in the history of the children who enter the Richmond school system; second, a study consisting of the progress of 897 white children who made up the enrollment of the 1A to the 5A grades, inclusive, in three schools, and of a group of 787 white children who were selected from the 1A to the 5A grades of 10 schools because they were a year or more over age chronologically for their grade or because they had made frequent repetitions. All of the children in the last two groups were tested with the Binet-Simon tests. From the data thus obtained it is evident (1) that many children are misplaced, (2) that mental tests can be employed to determine where they ought to be, and (3) that many of these children can succeed when differently placed, as will be shown in the following chapter.

## CHAPTER II.

### PROGRESS OF CHILDREN IN THE ELEMENTARY SCHOOLS (WHITE).

During the past few years the information on the cumulative record cards in the cities where they have been in use for some time has supplied the material for several studies in educational administration. By means of the information contained on these cards, the progress of children through the schools has been studied and conclusions drawn therefrom that serve as a basis for many changes in educational practice. It is to be regretted that more city school systems have not made an attempt to secure the helpful information which such records make possible. Of 31 southern cities to which an inquiry as to the use of the cumulative record cards was sent in March, 1913, only 14 reported their use. In nine cities the cards have been introduced since 1910, in one they were introduced in 1906, in another in 1907, while in only one city did the use of the cards date back as far as 1900.

As the school system of the city of Richmond continued to grow and become more complex, the school officials saw the necessity for accurate information concerning the child's family and school history. Consequently a cumulative record card was introduced in September, 1906. The following is a sample card duly filled:

#### CUMULATIVE RECORD CARD.

[FRONT.]

....., John .....		{ WHITE COLORED
(Name in full. Write last name first.)		
RESIDENCE.....		
MALE } FEMALE }	AGE.. DATE OF BIRTH 5/3/1899..	PLACE OF BIRTH, Rd., Va.
PARENT } GUARDIAN }	Mrs. H. H. .... E. Clay St. ....	
	(Name) (Residence)	(Occupation)
VACCINATED BY DR. ....		{ SUCCESSFUL UNSUCCESSFUL
-----		
PASSED ON INSPECTION BY DR. ....		Sept. .... 1906
ENTERED..... Central SCHOOL.....		Sept. .... 1906
TRANSFERRED { TO FROM }..... High SCHOOL.....		Sept. .... 1913
-----		

CUMULATIVE RECORD CARD.

[BACK.]

DATE	Sep 19 06	Feb 19 07	Sep 19 07	Feb 19 08	Sep 19 08	Feb 19 09	Sep 19 09	Feb 19 10	Sep 19 10	Feb 19 11	Sep 19 11	Feb 19 12	Sep 19 12	Feb 19 13	Sep 19 13
NO. GRADE LETTER	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	
TERM STAND'G	A	A	A	A	A	B	B	B	B	B	B	B	B	B	
DEFICIENT ON															
EX. %															
ABSENT	0	9	9	3	0	10	0	0	2	0	0	0	0	0	
TARDY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DEPT	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
														93.3%	Transferred to high school.

When the records were made for the first time, every child in the 1A grade in September, 1906, was recorded as having entered that grade at the beginning of the session 1906-7. The children so recorded ought to form the entering group for this session; but, as a matter of fact, some of these children were repeating the 1A grade, having entered prior to September, 1906. This group of children and those who entered in February, 1907, the beginning of the second half term, make up the total enrollment in the 1A grade for the session of 1906-7. This enrollment, according to the superintendent's report of that year, was 650 for the white schools and 572 for the colored schools.

According to the record cards there were 627 children in the white schools in September, 1906, and 547 in the colored schools, or a total of 1,174 children who had either entered or were repeating the 1A grade. The school history of these 1,174 children presents many problems such as the following: How many have completed the elementary schools in normal time? How many of those who have finished have entered the high school? How many are still in the elementary schools, and where and at what ages were they retarded? How many had finished the elementary schools in less than the normal time and what became of them? How many had dropped out of school and what became of them? Of this dropped group, how many had not repeated a grade and how many had repeated a grade? At what ages and in what grades?

These and other questions will be answered in connection with the white children by the data in the following tables.

If a child was in the 1A grade in September, 1906, and would advance two grades each year, he would complete the elementary schools of Richmond in seven years, the normal time. This would make this child finish the 7B grade in June, 1913, and be ready for the high school in September, 1913.

Therefore, if the children who were in the 1A grade of the Richmond school system in September, 1906, are divided according to their progress they will be classified as follows: Those who have completed the work of the elementary grades in normal time or less than normal time (seven years) will be called the finished group; those who have not completed the work of the elementary grades in seven years and are still in school will be called the unfinished group; and those who left school before the expiration of seven years will be called the dropped group. This classification for the 627 white children will give the following distribution:

*Classification of 627 white children in 1A grade in September, 1906.*

Groups.	Boys.	Girls.	Total.
I. Finished group:			
In less than normal time.....	4	2	6
In normal time.....	20	30	50
II. Unfinished group.....	98	96	194
III. Dropped group:			
With no repetition.....	48	44	92
With repetition.....	150	135	285
Total.....	320	307	627

For the purpose of analysis each of these groups will be studied separately.

TABLE 3.—*Age, grade, and progress of finished group (white).*

Ages.	Sex.	Finished group in—		Normal group.		Accelerated group in high school.			
		Normal time.	Less than normal.	In high school.	Not in high school.	1A	1B	2A	2B
13.....	{Boys.....	9	3	8	1		2	1	
	{Girls.....	13		13					
14.....	{Boys.....	11	1	11				1	
	{Girls.....	16	2	16			2		
15.....	{Boys.....								
	{Girls.....	1			1				
	Boys.....	20	4	19	1		2	2	
	Girls.....	30	2	29	1		2		

Table 3 shows that out of 627 children who were in the 1A grade September, 1906, only 4 boys and 2 girls, or less than 1 per cent (0.96 per cent), completed the elementary course in less than seven years,

and these had all entered the high school by September, 1913. If a child enters the 1A grade at 7, normally he should enter the high school at 14 years. All of these 6 children are at the ages of 13 or 14. Therefore these children are accelerated from the standpoint of age and progress. Two of them, both boys, one at 13 and the other at 14, are in the second year in the high school, due to the fact that they have been able to skip two grades in the elementary school. It should be noted, too, that all of the children who are accelerated entered the high school. The table further shows that 50 children, or 7.97 per cent, completed the elementary school in seven years, the normal time. Of this number, which consisted of 20 boys and 30 girls, all but 2 entered the high school. Therefore the number of children of the 1A grade of September, 1906, completing the elementary grades in normal or less than normal time and entering the high school is 8.6 per cent.

TABLE 4.—Age, grade, and progress of unfinished group (white).<sup>1</sup>

Age.	Sex.	Grades, September, 1913.								Total.	
		3B	4A	4B	5A	5B	6A	6B	7A		7B
13.	Boys.....				3	1	2	2	4	6	18
	Girls.....			1	4	1	5	6	6	8	31
14.	Boys.....	1	2	3	4	12	12	4	9	13	60
	Girls.....	1	1		3	3	11	13	12	12	56
15.	Boys.....		2	1	1	1	6		5	2	18
	Girls.....			1	1		3			4	9
16.	Boys.....					1					1
	Girls.....										
17.	Boys.....									1	1
	Girls.....										
Total.	Boys.....	1	4	4	8	15	20	6	18	22	98
	Girls.....	1	1	2	8	4	19	19	18	24	96

<sup>1</sup> There were no pupils under 13 years of age or below grade 3B.

Table 4 shows the progress made by those children who were still in the elementary school in September, 1913. It is read as follows: At the age of 13 years there was 1 girl who was in the 4B grade, 3 boys and 4 girls in 5A grade, 1 boy and 1 girl in the 5B, etc. There are still in school 194 children, or 30.94 per cent, distributed all the way from the 7B grade down to the 3B grade. All of these children have been in school seven years, which is long enough to have completed 14 terms' work, while as a matter of fact—

- 22 boys and 24 girls had completed 13 terms.
- 18 boys and 18 girls had completed 12 terms.
- 6 boys and 19 girls had completed 11 terms.
- 20 boys and 19 girls had completed 10 terms.
- 15 boys and 9 girls had completed 9 terms.
- 8 boys and 8 girls had completed 8 terms.
- 4 boys and 2 girls had completed 7 terms.
- 4 boys and 1 girl had completed 6 terms.
- 1 boy and 1 girl had completed 5 terms.

The median number of terms made by these 194 children is 9.8 terms for the boys and 10.4 terms for the girls, while the median age for the boys is 13.5 years and for the girls 13.3 years.

It is evident, then, that this group of children is greatly retarded, some of the individuals more than others. Since all of them have been in school seven years, which is long enough to have completed 14 terms, the normal number of terms these children ought to have made can be found by multiplying the normal number, 14, by the number of individuals, and the actual number of terms by the number of individuals; so that 22 boys ought to have made 22 times 14, or 308 terms, while as a matter of fact they actually made 22 times 13, or 286 terms. By this process the following data are secured, which show the number of terms these boys and girls ought to have made and the actual number of terms they made in seven years:

*Number of terms nine groups of boys and girls should have made, and number actually made.*

Boys.		Girls.		Total.	
Normal.	Actual.	Normal.	Actual.	Normal.	Actual.
308	286	336	312	644	598
252	216	252	216	504	432
86	66	266	209	352	275
280	200	266	190	546	390
210	135	126	81	336	216
112	64	112	64	224	128
56	28	28	14	84	42
56	24	14	6	70	30
14	5	14	5	28	10
1,374	1,024	1,414	1,097	2,788	2,121

By dividing the actual number of terms made by the normal number of terms, the following percentages are obtained:

The boys show 74.5 per cent normal progress, or 24.5 per cent retardation.

The girls show 77.5 per cent normal progress, or 22.5 per cent retardation.

Boys and girls show 76.8 per cent normal progress, or 23.2 per cent retardation.

It must be borne in mind that this 23.2 per cent of retardation was made in seven years, or in the time when a child ought to have done the work completely. Some of these children have repeated but one term, others have repeated as many as nine terms. It is safe to say, then, that this group of children will show a much larger percentage of retardation by the time they eventually leave the elementary schools. Nevertheless, the percentage of retardation made by these 194 children, in spite of the fact that there was no compulsory attendance, is sufficient to show that some children do persist in their desire to get on in school, and furthermore, that there are misfits.



TABLE 5.—Age, grade, and progress of nonretarded group—dropped (white).<sup>1</sup>

Ages.	Sex.	Grades in which dropped.											Total.		
		1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A		6B	
6	Boys.....	3													3
	Girls.....	1													1
7	Boys.....	1													1
	Girls.....		1												1
8	Boys.....	6	2	1											9
	Girls.....	3	2	2											6
9	Boys.....	2	1	2	3	5		1							14
	Girls.....		2	1	2	4									9
10	Boys.....	2		1				1							5
	Girls.....	2			2	1		1							5
11	Boys.....	2	1				1		1		1				5
	Girls.....	1	1	1	1	1		1	3	1					10
12	Boys.....				1				1			1	1		4
	Girls.....					1			1	2					4
13	Boys.....					1						1	1		2
	Girls.....						1		3			1		2	7
14	Boys.....	1			1							1	1		4
	Girls.....														1
15	Boys.....									1					1
	Girls.....														
Total	Boys.....	17	4	4	5	6	1	2	1	2	3	3			48
	Girls.....	8	6	3	5	7		2	7	3	1		2		44

<sup>1</sup> There were no pupils over 15 years of age or in grades 7A and 7B.

TABLE 6.—Age, grade, and progress of retarded group—dropped (white).

Ages.	Sex.	Grades in which dropped.											Total.		
		1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A		6B	7A
7	Boys.....	1													1
	Girls.....														
8	Boys.....	3	5												8
	Girls.....	5	3		1										9
9	Boys.....	2	2	2											6
	Girls.....	3	1	3	1	2									10
10	Boys.....	2	1	5	1	2	2								13
	Girls.....	1	3	1	3	6	3								17
11	Boys.....	1	1		2	1	2	3		1					11
	Girls.....	1	3	2	1	3	4								15
12	Boys.....		1	1	3	4	7	3	3	3					25
	Girls.....		1		2	3	1	2	2	5	1	2			19
13	Boys.....	1		2	3	4	4	4	4	8	2				37
	Girls.....				3	2			5	4	1	6	1		22
14	Boys.....		1		1	1	2	3	5	2	11	1	3	2	32
	Girls.....	1		2			2	4	2	6	4	5	5	3	34
15	Boys.....				1	1		2	2	3	1	2	3		15
	Girls.....			1				3	1		2				7
16	Boys.....									1		1			2
	Girls.....					1			1						2
Total	Boys.....	10	11	10	11	13	17	15	14	18	14	9	6	2	150
	Girls.....	11	11	9	8	15	11	13	11	16	8	13	6	3	135

Tables 5 and 6 show that in September, 1906, out of 627 children who were in the 1A grade, 377, or 60.13 per cent, had already left school prior to September, 1913. These children are distributed according to their grade and age when they left school. Of these 377 children, 92, or 24.4 per cent (14.7 per cent of the total group), had not repeated a grade, while 285, or 75.6 per cent (45.6 per cent of the total group), had repeated one or more grades before they left

school. But it would be unfair to any school system to hold it responsible for the children who move to other communities. On Table 7 it is shown that 97 children, or 25.7 per cent of these 377 children who left school, moved out of the city. These 97 children, or 15.5 per cent of the total number (627), will reduce the percentage of children leaving school for causes over which the system has some control from 60.13 per cent to 44.63 per cent. These nonretarded children, according to Table 5, leave school anywhere between the 1A and the 7A grades, and between the ages of 6 and 15 years. The median ages, however, at which these children leave school are 8.7 years for the boys and 9.8 years for the girls. The low median ages seem to indicate that, when children have become accustomed to a school and are making progress, parents hesitate about changing them to other systems.

The retarded group, however, as shown in Table 6, indicates clearly that there are certain grades and certain ages when the children leave school. The median age at which the boys drop out is 12.3 years, and at which the girls drop out is 11.8 years. This fact is surprising. If leaving school is caused by economic reasons, it would naturally be expected that the girls would have a higher median age for leaving school than the boys. That there are more boys leaving the 3A, 3B, 4A, 4B, and 5A grades, and that the median age is near that when boys can go to work is a possible indication that these children make an effort to do the work assigned them by the schools; but, failing in this, they resort to some other activity outside of school. This fact is further indicated in the following data:

*Boys and girls dropped out of the different grades.*

	Boys.	Girls.	Per cent.
Number dropped out of—			
Grade 1A.....	10	11	7.4
1B.....	11	11	7.7
2A.....	10	9	6.7
2B.....	11	8	6.7
3A.....	13	15	9.8
3B.....	17	11	9.8
4A.....	15	13	9.8
4B.....	14	11	8.7
5A.....	18	16	11.9
5B.....	14	8	7.7
6A.....	9	13	7.7
6B.....	6	6	4.3
7A.....	2	3	1.8

In Tables 5 and 6 it was shown that 377 children, or 60.13 per cent of the total number, 627, had left school. Manifestly this is a number far too great not to be profiting by a scheme of education which has been planned for them. But the system can not be held responsible for all of these children leaving school, as stated above. From these

377 children who left the Richmond public schools, the following data, taken from Table 7, are secured:

- 97, or 25.7 per cent, moved out of the city.
- 137, or 45.9 per cent, are employed in or out of the home or are unemployed.
- 45, or 11.9 per cent, are unknown.
- 29, or 7.7 per cent, left the public schools and went to private schools.
- 23, or 6.1 per cent, are dead.
- 6, or 1.6 per cent, are married.

These data are significant. The fact that 25 per cent of the children who were dropped left the system for other communities would indicate the presence of a much larger transient element in the school population enrolled than would be expected in a city where there is a very small foreign population, and where it is generally held that most of the school children will make their homes when they become adults.

TABLE 7.—Showing what has become of the 377 children (white) who dropped out of school.

	Sex.	Total.	Dead.	Married.	Moved from city.	At work.	At home.	Unknown.	Out of work.	Private school.	Public school.
Retarded.....	(Boys....	150	2	.....	29	84	.....	11	4	13	7
	(Girls....	135	.....	3	29	52	13	15	.....	10	13
Nonretarded.....	(Boys....	48	2	.....	22	9	.....	10	1	2	2
	(Girls....	44	.....	3	17	8	2	9	.....	4	1
Total.....	(Boys....	198	4	.....	51	93	.....	21	5	15	9
	(Girls....	179	.....	6	46	60	15	24	.....	14	14

It must be borne in mind that these 377 children did not remain in school seven years. It is quite evident that to this number of dropped children of the entering group will eventually be added a good percentage of the 194 children who were still in school September, 1913. It could hardly be expected that a child who had been in school seven years and had made only five terms, or was retarded nine terms, would remain in school long enough to complete the elementary grades. Since almost 45.9 per cent of those who drop out in seven years, or 22 per cent of the total entering group, go to work, it would seem that there is a strong demand for vocational training to meet the needs of the workers in the industries of this city.<sup>1</sup> This number of children who go to work is further increased by those who are still in school and who will drop out before they complete the elementary school. Retardation and dropping out go hand in hand; 88.5 per cent of those who go to work or 40.6 per cent of those who dropped out and went to work have been retarded, while only 11.5 per cent of those who go to work or 5.3 per cent of those who dropped out and went to work are not retarded.

It is evident, too, that there is an urgent demand, not only for more accurate methods in the recording of a child's school history, but also

<sup>1</sup> See, in this connection, the report of the Richmond survey by the National Society for the Promotion of Industrial Education.

for a permanent and continuing census, if 11.9 per cent of the children who drop out, or 7.2 per cent of those who enter (assuming practically the same happenings to all children as to this group), can leave the schools and no information can be secured of their whereabouts other than that they have dropped out of school. The number of children—7.7 per cent of the dropped or 4.7 per cent of the entering group—leaving the public school and entering private school suggests a failure to progress as desired on the part of the child or parent. This fact is further shown in the 6.1 per cent of the dropped or 3.6 per cent of the entering group who leave school for various reasons (such as failure to get on with the work of the grades, dissatisfaction with the teacher, and the like), either to secure private instruction or not to attend school at all, but after having remained out for several years return to the public schools as new pupils.

There can be no question about the fact that failure to progress is a cause of much of this leaving the public schools for other schools. Of the 29 children who entered private schools, 79.3 per cent were retarded and 20.7 per cent were not retarded, and of the 23 children who left the public schools and later returned as new pupils, 87 per cent were retarded and 13 per cent were not retarded.

It is evident that the new compulsory school law will affect most of these cases and tend to reduce the dropping below a certain age, at least to a very great extent.

#### SUMMARY.

The following points should be noted in connection with the progress of the 627 children who were in the 1A grade in September, 1906:

1. Six children, or less than 1 per cent (0.96 per cent), completed the work of the elementary schools in less than the normal time. All of these children entered the high school.

2. Fifty children, or 7.9 per cent, completed the work of the elementary schools in seven years, or normal time. Of these, 48 children, or 96 per cent, entered the high school. Therefore the total number of children from the 1A grade in September, 1906, who had entered the high school within the normal time is 54, or 8.6 per cent.

3. One hundred and ninety-four children, or 30.94 per cent, were still in the elementary school in September, 1913. The median number of terms made by these children was 9.8 for the boys and 10.8 for the girls, although the median age was for the boys 13.5 years and for the girls 13.3 years. In relation to normal progress these children had made in seven years only 76.8 per cent.

4. Three hundred and seventy-seven children, or 60.13 per cent, had left school. Of this number, 92 (24.4 per cent of 377), or 14.7 per cent of the total number, had made no repetitions before they left school, while 285 (75.6 per cent of 377), or 45.6 per cent of the total number, had repeated before they left.

5. Of those who had dropped out of school, it was found that 25.7 per cent had left the city, 45.9 per cent had gone to work, 7.7 per cent had gone to private schools, 11.9 per cent were unknown, and the remainder had dropped for minor reasons. It was further shown that 88.5 per cent of those who go to work had repeated grades before they left.

## CHAPTER III.

### PROGRESS OF CHILDREN IN THE ELEMENTARY SCHOOLS (NEGRO).

In most of the studies that have been made concerning the progress of children through the schools, colored children have not been separated from the white children; or if they were separated, they were studied under identical conditions with the white children. This is due to the fact that most of these studies have been worked out in school systems where provision for the two races is made in the same school building under identical conditions, and not separated, as in the city of Richmond and other cities throughout the South.

In Richmond, however, there has been an attempt on the part of the school authorities to make the instruction for colored children different from that for white children. In some schools for colored children considerable emphasis is placed on manual work, which consists chiefly of chair caning, basketry, sewing, cooking, and shopwork. In such subjects as geography and history, and, in some cases, civics and hygiene, the subject matter for the two races differs widely. This difference in subject matter becomes even more prominent in the secondary schools. In such subjects as reading, writing, arithmetic, and language the subject matter and standards for the children of the two races are practically the same.

If the 547 Negro children who were in the 1A grade September, 1906, are divided according to their progress, the following distribution into groups will be secured:

*Distribution of 547 Negro children who were in grade 1A in September, 1906.*

Groups.	Boys.	Girls.	Total.
I. Finished group, in normal time.....	3	14	17
II. Unfinished group.....	53	63	116
III. Dropped group:			
With no repetitions.....	46	63	109
With repetitions.....	172	133	305
Total.....	274	273	547

For the purpose of ascertaining the progress made by the children in these different groups, each group has been studied separately and in the order mentioned above.

TABLE 8.—*Age, grade, and progress of finished group (Negro).*

Ages.	Sex.	Finished group in—		Normal group.	
		Normal time.	Less than normal.	In high school.	Not in high school.
12.....	{Boys.....				
	{Girls.....				
13.....	{Boys.....	1			1
	{Girls.....	5		5	
14.....	{Boys.....	1			1
	{Girls.....	5		5	
15.....	{Boys.....	1		1	
	{Girls.....	3		2	1
16.....	{Boys.....				
	{Girls.....				
17.....	{Boys.....				
	{Girls.....	1		1	
Total.....	{Boys.....	3		1	2
	{Girls.....	14		13	1

Table 8 shows that out of a group of 547 colored children who entered or were in the 1A grade in September, 1906, not any were able to complete the course in less than seven years, and only 17, or 3.1 per cent, had finished in seven years, the normal time. Of these 17 children, 14 were girls and 3 were boys. Of the total number who had finished, 1 boy and 13 girls, or 82.3 per cent, entered the high school. Two boys and one girl, or 17.7 per cent, did not enter the high school. Consequently, only 2.6 per cent of the children who were in the 1A grade in September, 1906, entered the high school in the normal time.

TABLE 9.—*Age, grade, and progress of unfinished group (Negro).*

Ages.	Sex.	Grades, September, 1913.										Total.	
		3A	3B	4A	4B	5A	5B	6A	6B	7A	7B		
12.....	{Boys.....											1	1
	{Girls.....						1		2				3
13.....	{Boys.....			2	2	2	4	3	3	1	3		20
	{Girls.....			1		2	1	3	4	3	2		16
14.....	{Boys.....	1		3	2	6	7	3	2			3	27
	{Girls.....			1	1	6	6	4	2	7	1		28
15.....	{Boys.....			1						2			3
	{Girls.....		2		1	2	4	3	2		1		15
16.....	{Boys.....				2								2
	{Girls.....							1					1
17.....	{Boys.....												
	{Girls.....												
Total.....	{Boys.....	1		6	6	8	11	6	5	3	7		53
	{Girls.....		2	2	2	10	12	11	10	10	4		63

Table 9 gives the distribution by grades and by ages of those children who were in school September, 1913. Of the 547 children who were in the 1A grade in September, 1906, only 116, or 21.3 per cent, were still in the elementary school September, 1913. From this it

is seen that of the 547 Negro children for whom the school system planned, only these 116 children and the 17 children who had finished, or 24.4 per cent, availed themselves of the opportunity for as long a time as seven years. This table further shows that the children who are still in school are scattered from the 7B down to the 3A grades. All of them had been in school seven years, which was the normal time to complete the 14 terms.

- 7 boys and 4 girls had completed 13 terms.
- 3 boys and 10 girls had completed 12 terms.
- 5 boys and 10 girls had completed 11 terms.
- 6 boys and 11 girls had completed 10 terms.
- 11 boys and 12 girls had completed 9 terms.
- 8 boys and 10 girls had completed 8 terms.
- 6 boys and 2 girls had completed 7 terms.
- 6 boys and 2 girls had completed 6 terms.
- 2 girls had completed 5 terms.
- 1 boy had completed 4 terms.

The median number of terms made by these 116 children is 8.4 for the boys and 9.3 for the girls, while the median age for the boys is 13.2 years, and for the girls 14.4 years.

It would seem, then, from these median ages that at least half of these children have remained in the elementary schools as long as was planned for them normally, but they fell far short of accomplishing what was planned for them.

If the amount of actual progress is estimated in relation to normal progress, as was done in case of the progress made by the unfinished group of white children, the following data are secured:

*Number of terms nine groups of boys and girls should have made, and number actually made.*

Boys.		Girls.		Total.	
Normal.	Actual.	Normal.	Actual.	Normal.	Actual.
98	91	56	52	154	143
42	36	140	120	182	156
70	55	140	110	210	165
84	60	154	110	238	170
154	99	168	108	322	207
112	64	140	80	252	144
84	42	28	14	112	56
84	36	28	12	112	48
-----	-----	28	10	28	10
14	4	-----	-----	14	4
742	487	882	616	1,624	1,103

The boys made 65.5 per cent normal progress, or 34.5 per cent retardation.

The girls made 69.8 per cent normal progress, or 30.2 per cent retardation.

Boys and girls made 67.8 per cent normal progress, or 32.2 per cent retardation.

TABLE 10.—Age, grade, and progress, table of nonretarded-dropped group (Negro).

Ages.	Sex.	Grades in which dropped.														Total.	
		1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B		
6.....	Boys.....	1															1
	Girls.....	1															1
7.....	Boys.....	3		1													4
	Girls.....	4															4
8.....	Boys.....	5	3	1													9
	Girls.....	5	2														7
9.....	Boys.....	2	2	1		1											6
	Girls.....	4	4	4	1												13
10.....	Boys.....	2	1	1		1	2	1									8
	Girls.....	3		1	1												5
11.....	Boys.....	1		2		2											3
	Girls.....	1	1	2		1											4
12.....	Boys.....	2	3	2		1			1								5
	Girls.....	2	3			1							1	2			9
13.....	Boys.....	2	1	2	1	1					1	1					6
	Girls.....	2	2	2				1	1				1	1			9
14.....	Boys.....			1	1	2	1	1						2			2
	Girls.....					2		1		1							8
15.....	Boys.....					1											3
	Girls.....	2															1
16.....	Boys.....		1														1
	Girls.....																
17.....	Boys.....												1				1
	Girls.....																
Total.	Boys.....	14	9	6	1	6	3	3	1		1	1	1				46
	Girls.....	24	12	10	3	4		2		1			2	5			63

TABLE 11.—Age, grade, and progress of retarded-dropped group.

Ages.	Sex.	Grades in which dropped.										Total.					
		1A	1B	2A	2B	3A	3B	4A	4B	5A	5B		6A	6B			
8.....	Boys.....	5	5														10
	Girls.....	3															3
9.....	Boys.....	2	2	4	3												11
	Girls.....	2															2
10.....	Boys.....	2	4	1	5	3				1							16
	Girls.....	2	4	2	3	2		1									14
11.....	Boys.....	1	2	6	3	2		2		2							18
	Girls.....	1	1	1	1	4	1	1									10
12.....	Boys.....	1	5	2	8	4		4	2	2		1					29
	Girls.....	1	1	2		4		5		3		1					17
13.....	Boys.....	1	1	1	6	6	9	3	4	3	4						39
	Girls.....		1		3	3	6	4	2	6		1					26
14.....	Boys.....		5		2	2	2	7	6	2	2	3					31
	Girls.....			1	1	6	6	8	7	2	5	1	2				39
15.....	Boys.....				2	1	1			2	1	1					8
	Girls.....					1	3	5		3					1		13
16.....	Boys.....		1	1				1	1	1		1					7
	Girls.....				1			2		2		1	1				7
17.....	Boys.....			1	1	1											3
	Girls.....									1	1						2
Total.	Boys.....	12	25	17	30	19	13	17	16	10	9	4					172
	Girls.....	9	7	6	9	20	18	24	12	15	7	3	3				133

Tables 10 and 11 show that the remaining 414 children, or 75.6 per cent of the 547 children in the 1A grade in September, 1906, had left school prior to June, 1913. Of this number 109 (26.3 per cent of the 414 children), or 19.9 per cent of the total group, had not repeated a grade, while 305 (73.7 per cent of 414 children), or 55.7 per cent of the total group, had repeated one or more grades during the time



they had been in school. In Table 12 it is shown that 78 children, or 18.8 per cent of these 414 children who had left school, had moved out of the city. These 78 children, or 14.2 per cent of the total number, will reduce the percentage of children leaving school from 75.6 per cent to 61.4 per cent.

The nonretarded children who dropped out are scattered all the way from the 1A to the 7A grades, inclusive. A large number—comprising 44.9 per cent of this nonretarded group—leave in the first year. This large percentage of dropping out in the 1A grade can be partly explained by the number of children who move out of the city, which is slightly larger in the first year than in any other, and by the number of children who enter school and remain a few weeks or months and then leave on account of economic conditions, ill health, and the like. Furthermore, there seems to be no one age more than another at which these children leave school. They are scattered from the age of 7 to the age of 15.

The retarded children show more dropping out in certain grades than in others. This is apparent from the following figures:

*Number of retarded children dropping out.*

	Boys.	Girls.	Per cent.
Number dropped out of—			
Grade 1A.....	12	9	6.9
1B.....	25	7	10.5
2A.....	17	6	7.5
2B.....	30	9	12.8
3A.....	19	20	12.8
3B.....	13	18	10.2
4A.....	17	24	13.4
4B.....	16	12	9.2
5A.....	10	15	8.2
5B.....	9	7	5.2
6A.....	4	3	2.3
6B.....		3	1.0

If a child is credited with having made the grade from which it dropped, then the median number of terms made by these 305 children is 4 terms for the boys and 5.8 terms for the girls.

Instead of these retarded children dropping out evenly from the age of 7 years to the age of 15, as was the case with the nonretarded children who dropped out, there is a tendency for them to group themselves around the age of 12 and 13 years. The median ages at which boys and girls of this group drop out are 12 years and 12.8 years, respectively.

From these figures it is seen that at least one-half of the boys and girls remain in school until they are 12 or more years of age, which is the age at which they should be finishing the 6B grade or 12 terms in school, while, as a matter of fact, there are as many boys who completed less than 4 terms as completed more and as many girls who completed less than 5.8 terms as completed more.

TABLE 12.—Showing what became of the 414 children who dropped out of school (Negro).

	Sex.	Total.	Dead.	Married.	Moved from city.	At work.	At home.	Unknown.	Out of work.	Private school.	Public school.
Retarded.....	{Boys.	172	3	.....	31	105	1	27	4	.....	1
	{Girls.	133	1	2	17	66	19	21	2	3	2
Nonretarded.....	{Boys.	46	2	.....	7	23	.....	13	1	.....	.....
	{Girls.	63	2	.....	23	11	5	14	.....	1	7
Total.....	{Boys.	218	5	.....	38	128	1	40	5	.....	1
	{Girls.	196	3	2	40	77	24	35	2	4	9

Since 414 children, or 75.6 per cent of those who were in the 1A grade in September, 1906, had dropped out of school before the expiration of seven years, the question is even more pertinent here than in connection with the white children, What has become of these children? Table 12 gives the following information in connection with these children:

78, or 18.7 per cent, moved out of the city.

237, or 57.3 per cent, are employed in or out of the home or are unemployed.

75, or 18.1 per cent, are unknown.

4, or 1.0 per cent, went to private schools.

10, or 2.4 per cent, left public school and later returned as new pupils.

8, or 2.0 per cent, are dead.

2, or 0.5 per cent, are married.

From an analysis of the above percentages it is evident that the necessity to go to work is a very large factor in causing the Negro children to leave school; practically 57.3 per cent of those who drop out go to work. Only a few children are unemployed. The small number of children leaving to go to private schools, or leaving and later returning as new pupils, indicates a small effort on the part of the Negro children to secure an education if they do not succeed in securing it in the public schools. This situation is no doubt due, in a very large measure, to the limited resources of the Negro families. Furthermore, retardation accompanies dropping out. Of the number of children who leave to go to work, 83.1 per cent, or 47.6 per cent of the total number of children who drop out, are retarded, while 16.9 per cent of the same number, or 9.7 per cent of the total number who drop out, are not retarded.

It is interesting to note, further, that only 18.7 per cent of the Negro children who drop out of school leave the city. The percentage of colored children leaving school concerning whom no information is available argues even more strongly than in the case of the white children for more accurate recording of childrens' school histories and a permanent and continuing school census.

## SUMMARY.

The following points stand out in the progress of the 547 Negro children who were in the 1A grade in September, 1906:

1. No children completed the course in the elementary schools in less than normal time.

2. Seventeen children, or 3.1 per cent, completed the elementary schools in normal time. Of this number, 14 children, or 82.3 per cent, entered the high school. Therefore 2.5 per cent of the total number of children from the 1A grade entered the high school within the normal time.

3. One hundred and sixteen children, or 21.3 per cent, were still in the elementary school in September, 1913. The median number of terms made was 8.4 terms for the boys and 9.3 terms for the girls, although the median age for the boys was 13.2 years and for the girls 14.4 years. In relation to normal progress these children had made in 7 years only 67.8 per cent.

4. Four hundred and fourteen children, or 75.6 per cent, had left school. Of this number, 109 (26.3 per cent of 414 children), or 19.9 per cent of the total group, had not repeated a grade, while 305 (73.7 per cent of 414 children), or 55.7 per cent of the total group, had repeated one or more grades.

5. Of those who dropped out, 18.7 per cent had moved out of the city, 57.3 per cent had gone to work, 18.1 per cent were unknown, and the remainder had dropped for minor causes. It was further shown that of those who had gone to work 83.1 per cent had repeated before they left.

## CHAPTER IV.

### ACCELERATION AND RETARDATION BY GRADES AND AGES.

One of the questions which is raised in connection with children who have skipped a grade or more, or who have been retarded a grade or more, is whether this acceleration or retardation occurs most frequently at certain ages and at certain grades. From the studies which have been made relating to this problem it has been pointed out very clearly that children are retarded at certain ages and in certain grades. This information seems to be in keeping with the complaint often heard from teachers, pupils, and parents alike that the work in certain grades gives the children special trouble. Teachers often complain that certain grades receive many failures in spite of every effort on their part to secure a good percentage of promotion. It is the object of the data presented in this chapter to determine the extent to which this tendency exists in the public schools of Richmond, so far as this group of children is concerned.

TABLE 13.—*Acceleration by grades and ages (white children).*

Terms.	Sex.	Children.	Acceleration by grades.										Acceleration by ages.					Accelerations.	
			Total.	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	9	10	11	12		13
1.....	Boys.....	3				1					1		1					2	3
	Girls.....	2	1										1	1					2
2.....	Boys.....	1			1					1								1	2
	Girls.....																		
Total..	Boys.....	4			1	1			1		1		1				1	1	5
	Girls.....	2	1							1			1	1	1	1		2	2

#### ACCELERATION (WHITE PUPILS).

Since there were but 6 children, or less than 1 per cent (0.96 per cent) of the total number, 627, in the 1A grade in September, 1906, who succeeded in skipping a grade, the problem of acceleration is so small that it is impossible to ascertain from Table 13, which distributes these children by grades and ages, any general tendency as to where and when children skip.

These 6 children succeeded in skipping seven terms, which are scattered from the 2B grade to the 6B grade and from age 9 to age 13, inclusive.

TABLE 14.—Retardation by grades and ages, of unfinished group (white).

Terms re-tarded.	Sex.	Total.	Retardation by grades.												Retardation by ages.								Total number of re-tardations.	
			1A	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	8	9	10	11	12	13	14		15
1	{Boys..	25	6	2	1	2	2	1	2	4	2	5	2	3	3	3	4	3	5	2	2	3	2	25
	{Girls..	24	2	3	1	1	4	1	1	3	1	5	2	2	3	2	2	2	2	2	7	7	4	24
2	{Boys..	15	2	3	3	2	4	2	2	1	2	3	2	3	3	1	3	3	3	6	5	4	1	30
	{Girls..	19	1	3	3	5	4	1	2	9	3	3	2	3	3	2	1	3	5	3	12	6	1	33
3	{Boys..	11	1	3	3	5	2	3	2	5	3	3	1	3	7	1	7	7	4	3	5	3	1	33
	{Girls..	22	8	6	5	8	3	4	4	4	4	4	4	3	13	8	9	9	9	8	7	7	4	66
4	{Boys..	17	2	3	7	7	6	4	7	2	4	3	2	4	9	4	6	1	8	7	11	6	2	48
	{Girls..	18	11	4	5	6	6	5	7	7	4	7	4	7	10	11	10	9	9	11	10	9	1	68
5	{Boys..	18	8	11	10	7	6	12	10	3	5	1	2	2	14	14	14	16	12	12	10	9	2	40
	{Girls..	12	3	2	4	3	3	3	6	5	3	1	3	5	6	5	5	5	5	16	7	3	2	48
6	{Boys..	2	1	1	1	2	1	2	3	3	3	1	1	3	10	10	10	11	11	10	4	1	1	72
	{Girls..	2	1	1	1	1	2	3	3	2	2	1	1	2	6	6	6	5	5	2	2	2	1	40
7	{Boys..	3	1	2	2	3	2	2	3	3	2	2	2	3	1	3	4	3	3	3	3	3	3	12
	{Girls..	4	5	3	3	4	4	2	4	4	4	4	4	4	2	4	4	4	4	4	4	4	4	21
8	{Boys..	2	2	2	3	3	2	2	4	2	2	1	1	2	2	2	2	2	2	2	2	2	2	28
	{Girls..	2	4	1	3	4	4	2	4	4	4	4	4	4	1	4	4	4	4	4	4	4	4	16
Total.	{Boys..	98	44	33	36	35	28	35	26	23	18	14	14	13	37	48	56	42	50	45	35	8	1	335
	{Girls..	96	33	23	20	25	24	21	20	22	22	18	18	10	32	43	36	37	33	50	31	4	4	276

## RETARDATION (WHITE PUPILS).

It was shown in Chapter III that the unfinished group, which consisted of 194 children, had made only 76.8 per cent of normal progress in seven years. Table 14 shows the grades and ages where this retardation took place, as well as the number of times certain individuals were retarded. It is read as follows: Twenty-five boys and 24 girls were each retarded one term, and therefore made a total of 49 retardations; of this number the 1A grade received 6 from the boys and 2 from the girls; 1B grade received 0; 2A grade received 2 from the boys and 3 from the girls, etc., while age 7 received 2 retardations from the boys and 0 from the girls; age 8 received 3 retardations from the boys and 2 retardations from the girls, etc. These 194 children made in the seven years in which they were in school 611 retardations.

*Number of retardations received at different ages.*

Ages.	Retardations.	Per cent.	Ages.	Retardations.	Per cent.
7.....	23	3.7	12.....	83	13.6
8.....	69	11.3	13.....	95	15.5
9.....	91	14.9	14.....	66	10.8
10.....	92	15.1	15.....	12	2.0
11.....	79	12.9	16.....	1	.2

Manifestly, then, in this group of children the chances for failure are almost as great at one age as at another between 8 years and 14 years. The chances for failure are slightly greater, however, at the ages of 9, 10, and 13 years.

*Number of retardations received in certain grades.*

Grades.	Retardation.	Per cent.	Grades.	Retardation.	Per cent.
1A.....	77	12.6	4B.....	47	7.7
1B.....	52	8.5	5A.....	43	7.0
2A.....	55	9.2	5B.....	40	6.5
2B.....	65	10.7	6A.....	32	5.2
3A.....	60	9.8	6B.....	16	2.6
3B.....	53	8.7	7A.....	9	1.5
4A.....	59	9.7	7B.....	2	.3

These percentages of retardation can not be taken to indicate the relative difficulty of the several grades to the child, especially after he has passed the 4A grade. The diminishing percentages for grades 4B to 7B, inclusive, are due principally to the fact that fewer children of this group have reached the grades from the 4B grade up than attained the grades below the 4B. Therefore there are fewer chances for retardations to occur in these grades.

However, since all but 7 of the 194 children in this group had passed through the 4A grade, the high percentage in the 1A grade indicates the difficulty which children have in the early years of their school life in adjusting themselves to school conditions. Moreover, some of this retardation in this grade is, no doubt, due to the fact that many of the children who are of very low mentality never get beyond it.

That the children in the public schools of Richmond do encounter difficulty in the 1A grade and that the higher grades present as much and even more difficulty than the lower grades, especially since only a selected group reach these grades, is shown from the following table:

TABLE 14A.—Percentages of promotion by grades from 1911 to 1914.

Grades.	February, 1911.	June, 1911.	February, 1912.	June, 1912.	February, 1913.	June, 1913.	February, 1914.	June, 1914.
1A.....	78.7	79.4	71.7	80.6	73.8	76.8	81.4	80.5
1B.....	82.4	85.2	83.5	89.0	82.1	88.0	85.7	87.1
2A.....	82.5	83.0	85.1	80.8	81.9	82.9	85.8	83.3
2B.....	80.9	85.0	83.1	83.5	81.7	84.2	81.8	85.1
3A.....	80.4	75.4	79.8	80.1	82.0	81.0	81.4	82.8
3B.....	77.6	81.2	81.4	82.6	79.8	84.4	82.2	84.8
4A.....	73.9	79.0	81.6	79.5	81.3	80.1	77.8	80.3
4B.....	75.8	80.3	77.6	80.9	80.7	78.2	79.8	82.0
5A.....	75.9	81.5	75.5	77.8	75.7	76.5	78.1	77.9
5B.....	72.4	71.2	74.8	76.0	77.3	79.7	81.3	81.5
6A.....	74.3	74.1	74.3	73.4	78.6	77.7	80.5	82.1
6B.....	69.6	73.6	72.0	76.4	74.4	77.9	80.4	84.4
7A.....	70.3	72.2	75.5	72.1	76.9	78.7	77.0	81.6
7B.....	77.8	80.2	81.1	86.4	84.8	88.0	86.5	88.8

From these percentages it seems that grades 1A and 4A to 7A, inclusive, are the most difficult, and grades 1B to 3B, inclusive, and 7B are the least difficult.

It is surprising that some of these children had repeated as many as 8 terms in 7 years and were still in school. From an analysis of the number of times the different individuals in this group repeated it is found that—

- 49, or 25.3 per cent, had repeated 1 term.
- 34, or 17.5 per cent, had repeated 2 terms.
- 33, or 17.0 per cent, had repeated 3 terms.
- 29, or 15.0 per cent, had repeated 4 terms.
- 26, or 13.4 per cent, had repeated 5 terms.
- 14, or 7.2 per cent, had repeated 6 terms.
- 7, or 3.6 per cent, had repeated 7 terms.
- 2, or 1.0 per cent, had repeated 8 terms.

The median number of terms of retardation for the boys is 2.9 and for the girls is 2.2. It is evident, then, that many of the children of the group who were still in school September, 1913, had remained there in spite of frequent failures to be promoted.

Table 15 gives some information concerning the retardation made by the 285 children who had left school. These 285 children had made 873 retardations.

TABLE 15.—Retardation by grades and ages of dropped group (white).

Terms.	Sex.	Total.	Retardation by grades.												Retardation by ages.							Total number of re-tarded.			
			1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7	8	9	10	11	12	13		14	15	16
1	Boys.....	36	9	11	2	1	5	2	2	1	2	1	1	1	10	5	10	4	4	5	1	1	1	1	36
	Girls.....	35	10	7	6	6	1	1	1	1	1	3	3	1	10	4	6	6	6	2	4	4	2	2	35
2	Boys.....	28	7	11	10	4	9	8	1	2	2	5	3	1	5	2	2	1	2	5	7	4	2	2	56
	Girls.....	38	19	12	4	9	4	4	5	5	3	3	3	2	17	8	10	10	8	7	1	1	1	1	76
3	Boys.....	20	13	9	9	3	9	5	3	5	2	2	2	1	8	11	10	7	12	5	3	2	2	2	60
	Girls.....	21	10	7	5	8	4	10	6	6	4	4	2	1	6	11	14	9	11	7	3	3	3	3	63
4	Boys.....	34	21	19	20	12	9	3	6	4	2	2	3	3	20	18	22	18	25	25	13	10	3	4	136
	Girls.....	13	7	6	8	8	3	6	4	1	2	3	1	1	4	8	11	5	12	8	4	2	2	2	52
5	Boys.....	15	12	11	14	12	6	7	1	2	3	1	1	1	11	12	11	10	10	10	6	6	2	2	75
	Girls.....	13	17	14	6	9	4	4	2	2	1	3	2	2	10	10	11	10	9	4	7	3	1	1	65
6	Boys.....	10	14	15	9	8	2	4	2	2	1	1	1	1	2	10	13	5	8	3	4	1	1	1	60
	Girls.....	4	2	4	3	4	2	4	1	1	1	1	1	1	1	4	4	4	3	3	4	1	2	2	24
7	Boys.....	5	8	10	5	2	4	1	4	1	1	1	1	1	3	8	8	4	8	4	3	4	3	2	35
	Girls.....	6	0	3	4	5	2	3	7	3	3	3	3	3	3	5	4	7	7	7	7	7	2	2	42
8	Boys.....	2	6	5	2	8	3	7	3	3	1	1	1	1	1	3	3	3	1	2	3	2	2	1	16
	Girls.....	3	5	2	2	4	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	2	1	1	24
9	Boys.....	2	10	7	1	1	1	1	1	1	1	1	1	1	1	4	4	4	4	2	4	3	3	3	18
	Girls.....	150	90	89	74	46	49	31	36	20	17	15	5	2	82	86	67	65	54	29	14	1	1	1	474
Total.....	Boys.....	135	83	74	39	39	44	32	35	21	15	8	8	1	57	62	73	59	46	28	6	6	6	6	399
	Girls.....	135	83	74	39	44	32	35	21	15	8	8	1	1	57	62	73	59	46	28	6	6	6	6	399



*Distribution of 873 retardations by ages.*

Ages.	Retardations.	Per cent.	Ages.	Retardations.	Per cent.
7.....	20	2.3	13.....	100	11.4
8.....	120	13.7	14.....	57	6.5
9.....	144	16.5	15.....	20	2.3
10.....	159	18.2	16.....	2	.2
11.....	126	14.4	17.....	1	.1
12.....	124	14.4			

In this group of children it would seem that the ages 9, 10, 11, and 12 are the ages when a child's chances for failure are relatively high, since a very large proportion of the children of this group remained in school until they were 12 years old. (See Table 6.) The rapid falling off at 14 would indicate that children become discouraged and leave school for work, or are compelled to go to work as soon as they are old enough.

In this group there is even greater variation of retardation than with the unfinished group. Some of these children made as high as 9 repetitions in 7 years. Of these 285 children—

- 71, or 24.9 per cent, repeated 1 term.
- 66, or 23.1 per cent, repeated 2 terms.
- 41, or 14.4 per cent, repeated 3 terms.
- 47, or 16.5 per cent, repeated 4 terms.
- 28, or 9.8 per cent, repeated 5 terms.
- 14, or 4.9 per cent, repeated 6 terms.
- 11, or 3.9 per cent, repeated 7 terms.
- 5, or 1.8 per cent, repeated 8 terms.
- 2, or .7 per cent repeated 9 terms.

The median number for the boys is 2.5, and for the girls 1.8. It would seem then that most of the children did not give up and leave school without an effort to regain the position which they had lost through failure to be promoted, or without trying at least to avoid another failure. The tendency to remain in school in spite of failure is stronger, however, with girls than with boys.

*Distribution of 873 retardations by grades.*

Grades.	Retardations.	Per cent.	Grades.	Retardations.	Per cent.
1A.....	173	19.8	4A.....	71	8.1
1B.....	163	18.7	4B.....	41	4.7
2A.....	113	12.9	5A.....	32	3.8
2B.....	85	9.7	5B.....	23	2.6
3A.....	93	10.6	6A.....	13	1.5
3B.....	63	7.2	6B.....	3	.4

In this group the retardations are most frequent in grades 1A to 3A, inclusive. These high percentages of retardation in the lower grades and low percentages in the higher grades are caused by the fact that the children who are compelled to repeat become discouraged and leave school. Consequently, only a few children ever attain the higher grades. They are not in school to be retarded.



## RETARDATION (COLORED PUPILS.)

That the Negro children do persist in their efforts to make progress and do stay in school in spite of the fact that they are compelled to repeat a grade from time to time is shown from the data in Table 16, which give the retardation by grades and ages of the group of children numbering 116 that were still in school September, 1913. This group of children had in seven years made 487 retardations, which show the following distribution by ages:

*Distribution of 487 retardations by ages.*

Ages.	Retardations.	Per cent.	Ages.	Retardations.	Per cent.
6.....	1	0.2	12.....	70	14.4
7.....	11	2.2	13.....	74	15.2
8.....	49	10.0	14.....	66	13.6
9.....	57	11.7	15.....	17	3.5
10.....	70	14.4	16.....	2	.4
11.....	70	14.4			

It is significant that the percentage of retardation gradually increases from 10 per cent at the age of 8 years to 15.2 per cent at the age of 13 years, and drops off to 13.6 per cent at the age of 14 years. The ages of 10, 11, 12, 13, and 14 receive higher percentages of retardation than any other ages between 7 years and 14 years. The fact that this group of children shows its highest percentage of retardation at the age of 13 years indicates a strong effort on the part of these children to remain in school and to secure an education in spite of failure.

When these same 487 retardations made by the 116 children who were still in school September, 1913, are arranged by grades, the following distribution is obtained:

*Distribution of 487 retardations, by grades.*

Grades.	Retardations.	Per cent.	Grades.	Retardations.	Per cent.
1A.....	47	9.6	4B.....	45	9.2
1B.....	60	12.3	5A.....	28	5.8
2A.....	37	7.6	5B.....	28	5.8
2B.....	47	9.7	6A.....	23	4.7
3A.....	63	12.9	6B.....	8	1.6
3B.....	47	9.7	7A.....	4	.8
4A.....	48	9.9	7B.....	2	.4

With the exception of the 1B and 3A grades, these retardations are evenly distributed from the 1A to the 4B grades, inclusive. Beginning with the 5A grade the percentage of retardation gradually decreases.

When the fact that fewer children have reached these higher grades is taken into consideration, it would seem that one grade presents

about the same difficulty to the Negro child as another. This conclusion seems to be supported also by the percentages of promotion in the Negro schools during the past four years, as shown in the following table:

TABLE 16A.—*Percentages of promotion by grades from 1911 to 1914.*

Grades.	February, 1911.	June, 1911.	February, 1912.	June, 1912.	February, 1913.	June, 1913.	February, 1914.	June, 1914.
1A.....	69.3	68.2	66.7	72.4	61.1	71.3	67.9	74.1
1B.....	65.9	78.6	67.2	75.7	71.3	77.0	74.6	80.6
2A.....	64.4	72.7	69.0	74.8	74.8	73.8	71.1	77.8
2B.....	69.7	72.6	70.3	75.1	66.7	75.0	72.5	76.1
3A.....	70.9	72.4	72.3	74.0	74.0	77.6	77.6	79.8
3B.....	68.5	69.6	70.4	72.7	65.6	71.0	76.3	80.1
4A.....	70.3	67.9	73.3	74.6	69.2	70.1	74.0	72.4
4B.....	73.0	68.5	73.6	74.0	72.2	75.8	80.0	78.6
5A.....	68.0	68.1	69.6	70.4	64.5	72.9	77.1	75.8
5B.....	68.0	68.3	70.4	71.4	73.4	69.0	73.4	74.5
6A.....	60.9	62.4	70.3	66.6	68.1	68.1	71.4	68.7
6B.....	70.8	70.4	73.7	73.3	70.0	79.8	76.4	73.0
7A.....	71.2	75.4	68.6	76.4	75.0	75.0	77.1	72.7
4B.....	67.7	66.2	75.0	81.4	71.4	76.1	82.1	74.5

When an analysis is made of the number of repetitions by the individual children in this group, there is seen in the data below the same effort to make progress in spite of frequent failure. Of these 116 children—

- 11, or 9.5 per cent, had repeated 1 term.
- 16, or 13.8 per cent, had repeated 2 terms.
- 18, or 15.5 per cent, had repeated 3 terms.
- 21, or 18.1 per cent, had repeated 4 terms.
- 18, or 15.5 per cent, had repeated 5 terms.
- 14, or 12.1 per cent, had repeated 6 terms.
- 13, or 11.2 per cent, had repeated 7 terms.
- 4, or 3.4 per cent, had repeated 8 terms.
- 1, or .9 per cent, had repeated 9 terms.

The median number of repetitions for the boys is 4.2 terms and for the girls 3.2 terms, or 3.6 terms for the boys and girls together. Therefore, at least half of these 116 children have made as many as 3.6 terms or more of repetitions in 7 years. Furthermore, 80.9 per cent of these 487 repetitions were in and below the 4B grade, although the age which received the highest percentage of repetition was 13 years, the age at which a child ought normally to be in the seventh year.

TABLE 17.—Retardation by grades and ages, of dropped group (Negro).

Terms.	Sex.	Total.	Retardation by grades.										Retardation by ages.												
			1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7	8	9	10	11	12	13	14	15	16	17
			1.....	(Boys.....	39	9	3	4	1	4	1	1	1	1	2	6	11	4	5	4	7	7	7	7	4
	(Girls.....	36	5	5	4	2	2	5	5	3	3	2	5	6	8	4	4	8	4	5	1	2	2	1	36
2.....	(Boys.....	37	16	7	11	8	5	2	5	3	3	2	2	13	7	11	7	7	7	6	6	8	2	3	74
	(Girls.....	25	4	1	4	10	4	5	3	4	4	4	3	2	2	5	7	7	7	11	6	5	1	1	50
3.....	(Boys.....	34	25	14	11	14	9	7	6	6	6	1	3	8	14	23	19	18	10	10	6	1	1	1	102
	(Girls.....	27	8	13	6	10	13	10	9	4	4	1	1	4	5	12	14	15	16	10	8	1	2	2	81
4.....	(Boys.....	23	18	17	11	10	13	7	7	7	7	2	4	4	4	4	3	3	10	13	8	6	5	1	56
	(Girls.....	14	4	8	9	9	6	7	5	1	1	1	1	1	1	7	10	12	12	9	5	1	1	1	60
5.....	(Boys.....	12	5	19	11	5	7	3	2	2	1	1	1	1	3	4	4	10	9	8	7	5	3	1	50
	(Girls.....	10	12	8	8	4	7	5	2	1	1	1	2	11	4	22	20	18	17	14	8	2	2	2	114
6.....	(Boys.....	19	19	21	19	14	17	7	5	3	1	1	1	4	8	11	8	11	8	9	7	4	2	1	54
	(Girls.....	9	13	9	7	7	5	2	2	2	2	2	1	2	4	3	6	4	3	6	4	3	1	1	28
7.....	(Boys.....	4	8	4	6	4	2	4	2	2	3	3	1	1	1	2	4	3	6	7	8	5	1	1	56
	(Girls.....	8	2	9	9	7	13	7	4	2	2	2	1	1	1	2	5	5	5	4	5	5	3	3	32
8.....	(Boys.....	4	3	9	7	6	4	3	3	3	3	1	2	2	2	3	6	6	2	2	3	3	3	3	24
	(Girls.....	3	3	9	2	1	1	2	1	1	1	1	1	1	1	3	5	5	2	2	3	3	3	3	24
9.....	(Boys.....	1	1	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9
	(Girls.....	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9
Total..	(Boys.....	172	108	114	85	67	61	41	30	21	7	5	12	49	86	91	82	68	48	14	7	1	1	1	541
	(Girls.....	133	67	66	62	51	56	42	34	16	13	6	5	25	47	72	66	57	43	21	2	2	2	2	416

The same information concerning retardation is shown for the group of children who dropped out prior to September, 1913, as was shown for those who were still in school at that time. Table 17 gives the ages and grades where this retardation took place.

The 305 children who had dropped out of school had made 957 retardations, which show the following distribution by ages:

*Distribution of 957 retardations, by ages.*

Ages.	Retardations.	Per cent.	Ages.	Retardations.	Per cent.
7.....	17	1.7	13.....	122	12.8
8.....	74	7.7	14.....	91	9.5
9.....	133	13.9	15.....	35	3.7
10.....	158	16.5	16.....	9	.9
11.....	167	17.5	17.....	3	.3
12.....	148	15.5			

Here again the retardations are found extending over a number of years, but there is a piling up at the ages of 9, 10, 11, 12, and 13. The ages of 10, 11, and 12, however, receive the largest amount of this retardation.

*Distribution of 957 retardations, by grades.*

Grades.	Retardations.	Per cent.	Grades.	Retardations.	Per cent.
1A.....	175	18.3	4A.....	64	6.7
1B.....	180	18.8	4B.....	37	3.8
2A.....	147	15.4	5A.....	20	2.1
2B.....	118	12.3	5B.....	11	1.2
3A.....	117	12.2	6A.....	2	.2
3B.....	83	8.7	6B.....	3	.3

Evidently there are a great many children who repeat frequently and never get above the 3A grade. Failure to progress and leaving school at an early age are evidently the causes of the high percentages of retardation in grades 1A to 3A and of the low percentages of retardation in grades 3B to 6B. It would seem, too, that there is a direct connection between the large number of repetitions in grades 1A, 1B, 2A, 2B, and 3A and the large number of repetitions at the ages of 9, 10, 11, and 12 years.

Of these 305 children who had repeated terms before they dropped out—

- 75, or 26.4 per cent, had repeated 1 term.
- 62, or 20.3 per cent, had repeated 2 terms.
- 61, or 20.0 per cent, had repeated 3 terms.
- 37, or 12.1 per cent, had repeated 4 terms.
- 22, or 7.2 per cent, had repeated 5 terms.
- 28, or 9.2 per cent, had repeated 6 terms.
- 12, or 4.0 per cent, had repeated 7 terms.
- 7, or 2.3 per cent, had repeated 8 terms.
- 1, or 0.3 per cent, had repeated 9 terms.

The median number of terms repeated by the boys is 2.3 terms and for the girls 2.2 terms, or 2.2 terms for the boys and girls together. Furthermore, this group of children does not show such a strong effort to progress in school as the group which was still in school September, 1913. The highest percentage of retardation comes earlier—at the age of 11, instead of 13, and 77 per cent of these repetitions are in or below the 3A grade.

#### SUMMARY.

The following points seem worthy of note:

1. The small number of white children who skipped grades is insufficient to indicate any age or grade at which children are accelerated.
2. The ages at which retardation is relatively high are 9, 10, 11, and 12 for the white children, and 10, 11, 12, and 13 for the Negro children.
3. In general, the higher grades present as much retardation as the lower grades. Exception is found, however, in the 1A grade.
4. In general, the median number of repetitions made by the white children is two terms, and by the Negro children it is from two to four terms.

## CHAPTER V.

### ABSENCE AND ENTRANCE AGE IN RELATION TO PROGRESS THROUGH SCHOOL.

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#### ABSENCE AND PROGRESS THROUGH SCHOOL.

One of the complaints heard most frequently from teachers in school systems where there has been no compulsory school law is that absence is one of the chief factors in causing poor progress on the part of the school children. This complaint has frequently been heard in Richmond. Since there was no authority by which children could be compelled to attend and parents compelled to do their part to keep their children in school, the question of absence has been so serious that much of the time and the energy of the teacher and school administrator have been taken up with it. Teachers were obliged to do a great deal of visiting. Report blanks of various kinds and other devices had to be used to secure the cooperation of the parents, but, in spite of all these precautions, attendance has not been what it should be, and failure, due to absence, has been more pronounced.

The present section comprises an attempt to ascertain the extent to which absence has caused children to fail of promotion. The method of procedure consisted of scoring from the record cards the number of days absent in each term, or four and a half months, which every one of the 627 white children and the 547 Negro children who were in the 1A grade in September, 1906, made during the time they were in school. Units of 10 days were used, which gave the following classification: 0 to 9 days absent, 10 to 19 days absent, 20 to 29 days absent, 30 to 39 days absent, 40 to 49 days absent, and 50 and more days absent. There are, on an average, 90 days to a school term. The data regarding attendance are tabulated separately for the following groups: The accelerated, the normal, the dropped retarded and nonretarded, and the unfinished group.

#### ACCELERATED GROUP (WHITE).

In order to secure an understanding as to the extent to which irregular attendance affects progress, it is necessary to inquire into the amount of absence of those children who had made no failure. It is found that the four boys and two girls who were accelerated had been present 52 terms and 26 terms, respectively, during the time they were in the elementary schools, and that these terms show the following distribution with reference to days absent:



*Terms in which specified number of absences occurred—Accelerated group.*

Days absent.	Boys.		Girls.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	48	92.4	23	88.5	71	92.2
10 to 19.....	2	3.8	2	7.7	4	5.2
20 to 29.....	1	1.9	0	0	1	1.3
30 to 39.....	1	1.9	1	3.8	1	1.3
40 to 49.....	0	0	0	0	0	0
50 or more.....	0	0	0	0	0	0
Total.....	52	100.0	26	100.0	77	100.0

From this it is seen that 92.4 per cent of the terms of attendance made by the boys and 88.5 per cent of the terms of attendance made by the girls showed less than 10 days absent. Only a small percentage of the accelerated children were absent more than 10 days in one term. It should be noted, however, that one boy and one girl each show one term in which they were absent as many as 30 days or more and one boy (probably the same boy) shows one term in which he was absent between 20 and 29 days. Such cases are, however, exceptional rather than normal and occur in connection with the exceptional children.

NORMAL GROUP (WHITE).

The 20 boys and 30 girls composing the group of children who made normal progress show a total attendance of 280 terms and 420 terms, respectively, in the seven years they were in school. These terms show the following distribution with reference to days absent:

*Terms in which specified number of absences occurred—Normal group.*

Days absent.	Boys.		Girls.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	254	90.7	399	95.0	653	93.3
10 to 19.....	25	8.9	20	4.8	45	6.4
20 to 29.....	1	.4	1	.2	2	.3
30 to 39.....	0	.0	0	.0	0	.0
40 to 49.....	0	.0	0	.0	0	.0
50 or more.....	0	.0	0	0	0	.0
Total.....	280	100.0	420	100.0	710	100.0

In this group of children, 90.7 per cent of the terms made by the boys and 95 per cent of the terms made by the girls show an absence of less than 10 days to a term. Only a small percentage of the normal children are absent more than 10 days to a term.

It would seem, then, that a very large majority of the children who have been doing the work of the elementary grades in normal or less than normal time have been absent less than 10 days in one term, or 90 days of school work.

## DROPPED GROUP—NONRETARDED (WHITE).

There were 377 children who dropped out of school before the expiration of seven years. Of this number, 48 boys and 44 girls had made no repetition. An examination of the progress made by these children shows that the boys had been in school 151 terms and the girls had been in school 176 terms. The days absent during these terms are as follows:

*Terms in which specified number of absences occurred—Dropped group—Nonretarded.*

Days absent.	Boys.		Girls.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	116	76.8	134	76.1	250	76.4
10 to 19.....	27	17.9	32	18.2	59	18.0
20 to 29.....	7	4.6	7	4.0	14	4.4
30 to 39.....	1	.7	3	1.7	4	1.2
40 to 49.....	0	.0	0	.0	0	.0
50 or more.....	0	.0	0	.0	0	.0
Total.....	151	100.0	176	100.0	327	100.0

In this group of children, 76.8 per cent of the terms made by the boys and 76.1 per cent of the terms made by the girls show an absence of less than 10 days, while as many as 17.9 per cent of the terms made by the boys and 18.2 per cent of the terms made by the girls show an absence of 10 to 19 days. It would seem then that a great many of these children, while not absent in any one term long enough to cause failure, were, nevertheless, more or less irregular in attendance.

## DROPPED GROUP—RETARDED (WHITE).

Of the 377 children who dropped out of school, 150 boys and 135 girls were retarded. The total attendance of these 150 boys during the time they were in school was 1,418 terms. During 493 of these terms, these boys failed on the work of their grade, and during the remaining 925 terms they were promoted on the work of their grade. When these terms are distributed in relation to days absent, the following data are secured:

*Terms in which specified number of absences occurred—Dropped group—Retarded.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	288	58.5	733	79.3	1,021	72.0
10 to 19.....	87	17.6	154	16.6	241	17.1
20 to 29.....	34	7.0	29	3.1	63	4.5
30 to 39.....	9	1.8	8	.9	17	1.2
40 to 49.....	7	1.4	1	.1	8	.5
50 or more.....	68	13.7	.....	.....	68	4.7
Total.....	493	100.0	925	100.0	1,418	100.0

By this comparison it is seen that during 79.3 per cent of the 925 terms when these boys were promoted on the work of their grade they were absent less than 10 days, and during 16.6 per cent of these same terms they were absent from 10 to 19 days. These percentages of attendance are better than those made by the nonretarded dropped group. But during the terms (493) when these boys failed on the work of the grade their attendance was not nearly so good—only 58.5 per cent of these terms showed less than 10 days absent and 17.6 per cent of these terms showed an absence of 10 to 19 days. The small percentage of terms with less than 10 days absent when promotions did not take place would seem to indicate that an absence of more than 10 days in one term, or 90 days, as a usual thing, has tended to increase a child's chances for failure.

The 135 girls of this group show a total attendance of 1,220 terms while they were in school. During 412 of these terms these girls failed to be promoted, and during the remaining 808 terms they were promoted on the work of their grade. When these terms are distributed according to the number of days absent the following data are secured:

*Terms in which specified number of absences occurred—Dropped group—Retarded.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	221	53.6	600	74.3	821	67.3
10 to 19.....	79	19.2	157	19.4	236	19.3
20 to 29.....	32	7.8	34	4.2	66	5.4
30 to 39.....	19	4.6	17	2.1	36	3.0
40 to 49.....	3	.7	0	.0	3	.2
50 or more.....	58	14.1	0	.0	58	4.8
Total.....	412	100.0	808	100.0	1,220	100.0

The girls show practically the same tendency as the boys. During 74.3 per cent of the 808 terms in which these girls were promoted they were absent less than 10 days, and during 19.4 per cent of these terms they were absent from 10 to 19 days; but during the 412 terms in which they were not promoted on the work of their grade their attendance was lower—only 53.6 per cent of these terms show less than 10 days absent, and 19.2 per cent show from 10 to 19 days absent.

UNFINISHED GROUP (WHITE).

Out of 627 children 194 were still in school in September, 1913. Of this number, 98 boys had spent 331 terms in which they failed to be promoted and 1,103 terms in which they were promoted to another grade, and the 96 girls had spent 276 terms in which they failed to be promoted and 1,141 terms in which they were promoted to another

grade in the seven years they were in school. By distributing these terms in relation to days absent the following comparison is obtained.

*Terms in which specified number of absences occurred—Unfinished group of boys.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	240	72.5	997	90.4	1,237	86.3
10 to 19.....	40	12.2	96	8.7	136	9.5
20 to 29.....	19	5.7	7	.6	26	1.8
30 to 39.....	4	1.2	2	.2	6	.4
40 to 49.....	0	.0	1	.1	1	.1
50 or more.....	28	8.4	0	.0	28	1.9
Total.....	331	100.0	1,103	100.0	1,434	100.0

*Terms in which specified number of absences occurred—Unfinished group of girls.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	179	64.9	1,007	88.2	1,186	83.6
10 to 19.....	50	18.1	121	10.6	171	12.1
20 to 29.....	14	5.1	10	.9	24	1.7
30 to 39.....	2	.7	3	.3	5	.4
40 to 49.....	0	.0	0	.0	0	.0
50 or more.....	31	11.2	0	.0	31	2.2
Total.....	276	100.0	1,141	100.0	1,417	100.0

During 90.4 per cent of the 1,103 terms in which these 98 boys were promoted to another grade they were absent less than 10 days; and during 8.7 per cent of these same terms they were absent from 10 to 19 days to a term; but during 72.5 per cent of the 331 terms in which these boys failed to be promoted they were absent less than 10 days, and during 12.2 per cent of these same terms they were absent from 10 to 19 days to a term. Likewise the 96 girls show 88.2 per cent of the terms in which they were promoted with less than 10 days absent and 10.6 per cent of these same terms with 10 to 19 days absent to a term. During 64.9 per cent of the terms in which these same girls failed to be promoted they were absent less than 10 days, and during 18.1 per cent of these terms they were absent from 10 to 19 days to a term.

TABLE 18.—Percentage of terms with specified number of days absent, during which the children (white) in the different groups repeated or did not repeat the work of the grade.

Groups.	Number of children.		Total terms made.		Percentage of terms, with specified number of days absent.														
	Boys.	Girls.	Boys.	Girls.	0-9 days.		10-19 days.		20-29 days.		30-39 days.		40-49 days.		50 and more days.		Total.		
					Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.
I. Finished in— Less than normal time.....	4	2	52	26	92.4	88.5	3.8	7.7	1.9	3.8	1.9	1.9						100	100
	20	30	280	420	90.7	95.0	8.9	4.8	.4	.2								100	100
II. Unfinished: Terms not repeated.....	98	96	1,103	1,141	90.4	88.2	8.7	10.6	6	.9	.2	0.3	0.1					100	100
	98	96	331	276	72.5	64.9	12.2	18.1	5.7	5.1	1.2	1.2			8.4	11.2		100	100
III. Dropped—No terms repeated.....	48	44	151	176	76.8	76.1	17.9	18.2	4.6	4.0	.7	1.7						100	100
	150	135	925	808	79.3	74.3	16.6	19.4	3.1	4.2	.9	2.1	.1					100	100
IV. Dropped: Terms not repeated.....	150	135	493	412	58.5	53.6	17.6	19.2	7.0	7.8	1.8	4.6	1.4		13.7	14.1		100	100

That the number of days absent is closely related to retardation is further shown in Table 18, where the percentage of terms showing less than 10 days absent in the accelerated, the normal, the unfinished, and dropped nonretarded groups is much greater than is the percentage of terms with less than 10 days absent which were made by children of the unfinished and dropped groups while they were repeating grades. For example, the 150 boys who dropped out were in school 925 terms in which they were promoted to another grade. In 79.3 per cent of these terms the boys of this group were absent less than 10 days. These same boys were in school 493 terms in which they failed to be promoted. In 58.5 per cent of these terms they were absent less than 10 days to a term. The same is true of the unfinished group of 98 boys, who show that 90.4 per cent of the terms in which they were promoted fall under 10 days absent, while only 72.5 per cent of the terms in which the same children failed to be promoted are under 10 days absent. It would seem, then, that absence has been a direct cause of much of the retardation made by the boys and girls who have repeated before they dropped out of school, and also of the retardation made by the boys and girls who were still in school in September, 1913.

#### RETARDATION OF NEGRO CHILDREN.

In estimating the retardation made by the negro children the same method is employed that was used in estimating the retardation made by the white children. It would naturally be expected to find more absence among these children, on account of economic reasons, ill health, etc. In many cases, however, the excellent record of attendance made by these children is significant.

#### NORMAL GROUP (NEGRO).

Out of 547 children, 17 had made normal progress. Of these 17 children there were 3 boys and 14 girls who had been in school 52 terms and 196 terms, respectively. By distributing these terms in relation to days absent the following data are secured:

*Terms in which specified number of absences occurred—Normal group.*

Days absent.	Boys.		Girls.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	51	98.07	188	95.9	239	96.4
10 to 19.....	1	1.93	7	3.6	8	3.2
20 to 29.....	0	.00	1	.5	1	.4
30 to 39.....	0	.00	0	.0	0	.0
40 to 49.....	0	.00	0	.0	0	.0
50 or more.....	0	.00	0	.0	0	.0
Total.....	52	100.0	196	100.0	248	100.0

During 95.9 per cent of the 196 terms made by the girls and 98 per cent of the 52 terms made by the boys, there was an absence of less than 10 days to a term. Manifestly, then, the negro children who completed the work of the elementary grades in normal time were very regular in attendance.

DROPPED—NONRETARDED (NEGRO).

Of the 414 children who had dropped out, 109 had made no repetitions. The 46 boys and 63 girls comprising this group were in school 128 terms and 176 terms, respectively, which show the following distribution in relation to days absent.

*Terms in which specified number of absences occurred—Dropped group—Nonretarded.*

Days absent.	Boys.		Girls.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	115	89.9	165	93.8	280	92.0
10 to 19.....	11	8.6	10	5.7	21	7.0
20 to 29.....	2	1.5	1	.5	3	1.0
30 to 39.....	0	.0	0	.0	0	.0
40 to 49.....	0	.0	0	.0	0	.0
50 or more.....	0	.0	0	.0	0	.0
Total.....	128	100.0	176	100.0	304	100.0

Therefore 93.8 per cent of the terms made by the girls and 89.9 per cent of the terms made by the boys show an absence of less than 10 days to a term, while only 5.7 per cent of the terms made by the girls and 8.6 per cent of the terms made by the boys show an absence of 10 to 19 days to a term. It would seem, then, that poor attendance was not a strong factor in influencing these children to leave school.

DROPPED—RETARDED (NEGRO.)

Of the 414 children who dropped out, 305 showed failure of promotion at some time or another. In this number there were 172 boys who had been in school 541 terms in which they were not promoted and 742 terms in which they were promoted to another grade; and there were 133 girls who had been in school 407 terms in which they were not promoted and 683 terms in which they were promoted. By distributing these terms in relation to days absent the following data are secured.

*Terms in which specified number of absences occurred—Dropped group of boys—Retarded.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	429	79.5	703	94.8	1,132	88.3
10 to 19.....	37	6.7	37	4.9	74	5.8
20 to 29.....	10	1.8	2	.3	12	.9
30 to 39.....	1	.2	0	.0	1	.1
40 to 49.....	0	.0	0	.0	0	.0
50 or more.....	64	11.8	0	.0	64	4.9
Total.....	541	100.0	742	100.0	1,283	100.0

*Terms in which specified number of absences occurred—Dropped group of girls—Retarded.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	322	79.1	648	94.9	970	89.0
10 to 19.....	30	7.3	33	4.8	63	5.8
20 to 29.....	4	1.0	2	.3	6	.5
30 to 39.....	1	.3	0	.0	1	.1
40 to 49.....	1	.3	0	.0	1	.1
50 or more.....	49	12.0	0	.0	49	4.5
Total.....	407	100.0	683	100.0	1,090	100.0

These 172 boys show that they were absent less than 10 days to a term in 94.8 per cent of the total number of terms (742) in which they were promoted and in 79.5 of the total number of terms (541) in which they were not promoted on the work of their grade. Likewise the girls show that they were absent less than 10 days to a term in 94.9 per cent of the terms in which they were promoted and in 79.1 per cent of the terms in which they were not promoted on the work of their grade.

#### UNFINISHED GROUP (NEGRO).

There were 116 children in school September, 1913, out of the 547 who were in the 1A grade September, 1906. Of this number, there were 53 boys who had been in school 244 terms in which they were not promoted and 540 terms in which they were promoted, and there were 63 girls who had been in school 243 terms in which they were not promoted and 669 terms in which they were promoted on the work of their grade. These terms are distributed in relation to days absent as follows:



*Terms in which specified number of absences occurred—Unfinished group of boys.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	227	93.0	532	98.5	759	96.9
10 to 19.....	5	2.1	7	1.3	12	1.5
20 to 29.....	1	.4	1	.2	2	.3
30 to 39.....	1	.4	0	.0	1	.4
40 to 49.....	0	.0	0	.0	0	.0
50 or more.....	10	4.1	0	.0	10	1.2
<b>Total.....</b>	<b>244</b>	<b>100.0</b>	<b>540</b>	<b>100.0</b>	<b>784</b>	<b>100.0</b>

*Terms in which specified number of absences occurred—Unfinished group of girls.*

Days absent.	Terms without promotions.		Terms with promotions.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
0 to 9.....	222	91.4	664	99.3	886	97.2
10 to 19.....	11	4.5	4	.6	15	1.6
20 to 29.....	1	.4	1	.1	2	.2
30 to 39.....	0	.0	0	.0	0	.0
40 to 49.....	0	.0	0	.0	0	.0
50 or more.....	9	3.7	0	.0	9	1.0
<b>Total.....</b>	<b>243</b>	<b>100.0</b>	<b>669</b>	<b>100.0</b>	<b>912</b>	<b>100.0</b>

These children show better attendance than those that dropped out. During the total number of terms in which these boys were promoted they were absent less than 10 days to a term in 98.5 per cent of the terms and from 10 to 19 days to a term in 1.3 per cent of the terms; during the total number of terms in which they were not promoted they were absent less than 10 days to a term in 93 per cent of the terms and from 10 to 19 days to a term in 2.1 per cent of the terms. Likewise the girls show that during the total number of terms in which they were promoted they were absent less than 10 days to a term in 99.3 per cent of the terms and from 10 to 19 days to a term in less than 1 per cent (0.6 per cent) of the terms; but during the total number of terms in which they were not promoted they were absent less than 10 days to a term in 91.4 per cent of the terms and from 10 to 19 days to a term in 4.5 per cent of the terms.

TABLE 19.—Percentage of terms with specified number of days absent during which the children (Negro) in the different groups repeated or did not repeat the work of the grade.

Groups.	Number of children.		Total terms made.		Percentage of terms with specified number of days absent.														
	Boys.	Girls.	Boys.	Girls.	0-9 days.		10-19 days.		20-29 days.		30-39 days.		40-49 days.		50 and more days.		Total.		
					Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	
I. Finished in normal time.....	3	14	52	196	98.1	95.9	3.6	0.5										100	100
II. Unfinished: Terms not repeated.....	53	63	540	669	98.5	99.3	1.3	0.2	0.6	0.1								100	100
Terms repeated.....	53	63	244	243	93.0	91.4	4.5	.4	2.1	.4	0.4							100	100
III. Dropped—no terms repeated.....	46	63	128	176	89.9	93.8	5.7	1.5	8.6	.5								100	100
IV. Dropped: Terms not repeated.....	172	133	742	683	94.8	94.9	4.8	.3	4.9	.3								100	100
Terms repeated.....	172	133	541	407	79.5	79.1	7.3	1.0	6.7	1.8	.2	0.3	0.3	0.3	11.8	12.0		100	100

Table 19 shows how a very large majority of the children who were absent less than 10 days to a term were the ones who made normal progress. It shows also that during the terms in which they were not promoted they were absent more than 10 days to a term in a very great many cases. From these results there can be no question about the fact that much of the retardation occurring in this group of children might have been prevented if they had been in school. Their absence is connected directly with their failure.

#### ENTRANCE AGES AND PROGRESS THROUGH SCHOOL.

Where there has been no compulsory school law, it is quite evident that the age at which children entered school will vary more than where they have been required to enter at a certain age. Since there has been considerable retardation in this group of children, it seems worth while to inquire the age at which they have entered school and to inquire further as to whether late entrance goes along with retardation.

TABLE 20.—Ages at which children (white) of different groups entered school.

Groups.	Total.		Median age.		6		7		8		9		10		11		12		13		14		Total.			
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.		
Dropped-retarded.....	150	135	6.8	6.7	12	13	81	74	28	33	20	9	6	5	1	1	2	1	.....	.....	.....	.....	.....	.....	150	135
Dropped-nonretarded..	48	44	6.9	7.8	4	3	22	18	10	12	4	3	4	6	2	2	1	.....	.....	.....	.....	.....	.....	48	44	
Unfinished and finished	122	128	6.5	6.3	26	41	75	77	20	10	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	122	128	
Total.....	320	307	.....	.....	42	57	178	169	58	55	24	12	11	11	3	2	3	1	.....	.....	.....	.....	.....	320	307	

TABLE 21.—Ages at which children (Negro) of different groups entered school.

Groups.	Total.		Median age.		6		7		8		9		10		11		12		13		14		15		Total.		
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	
Dropped-retarded.....	172	133	7.4	7.4	14	10	55	34	40	38	29	29	18	16	8	2	6	3	1	.....	.....	.....	.....	.....	.....	172	133
Dropped-nonretarded..	46	63	7.7	8.4	2	4	13	10	12	15	4	5	4	9	6	1	8	.....	.....	.....	.....	.....	.....	.....	.....	46	63
Unfinished and finished	56	77	6.2	6.4	23	24	25	35	5	16	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	56	77
Total.....	274	273	.....	.....	39	38	93	79	57	69	36	35	22	25	17	9	7	11	1	4	1	1	1	2	274	273	

Tables 20 and 21 give the information for the white and colored children separated into dropped-retarded, dropped-nonretarded, and unfinished and finished groups. The tables are read as follows: On Table 20 there are 150 boys and 135 girls who had repeated grades before they dropped out. Of this number 12 boys and 13 girls entered at 6 years, 81 boys and 74 girls entered at 7 years, 28 boys and 33 girls entered at 8 years, etc. The median age at which the boys entered was 6.8 years, and the median age at which the girls entered was 6.7 years.

From the information on these tables it seems that, considered as groups, the children who dropped out of school show a wider range in the age of entrance to school than do the children who finished in normal or in less than normal time or who were still in school. This difference is sufficiently large to warrant the conclusion that late entrance to school increases the probability of dropping out before the completion of the work of the elementary schools.

In summarizing the results of this inquiry into the effect which a child's attendance and the age at which he enters school have had on his progress through school the following points should be noticed:

1. Children in the white schools showed an absence of less than 10 days in 76 per cent to 92 per cent of the terms in which they were promoted. During the terms in which they were not promoted they showed an absence of less than 10 days in only 58 per cent to 72 per cent of the terms.

2. Children in the Negro schools showed an absence of less than 10 days in 89 per cent to 98 per cent of the terms in which they were promoted. During the terms in which they were not promoted they showed an absence of less than 10 days in only 79 per cent to 93 per cent of the terms.

3. The children who dropped out of school include a very large majority of those who entered school late. In general the chances for normal progress favor those who entered about 7 years of age—the normal entrance age.

Such, then, is the progress which the children in the Richmond public schools have been making in the past seven years, supposing the results to be practically the same from year to year. The information in the previous chapters represents the output which the Richmond public school system as a business concern has been yielding.

If the application of scientific measurements is made to these conditions, what results will such measurements show? Can tests be employed to show that many of these children who were compelled to repeat a grade or more could have done more advanced work if they had been given a chance? The answer to such problems will be the aim of the chapters which follow.

## CHAPTER VI.

### APPLICATION OF MENTAL TESTS IN DETERMINING THE PLACEMENT OF CHILDREN.

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In the former chapters it was shown that absence was connected not only with failure of children to be promoted, but also with their dropping out. It was further shown, however, that the children who remained in school and who had repeated at some time or another in the grades had done so in spite of the fact that progress had been against them. Their tendency to remain in school would indicate that their desire to get on is strong enough to give the school system a basis for successful operation with these children. If children do persist in the grades in spite of the fact that they are compelled to repeat a grade from time to time, the question is forced upon us, Does not the subject matter have something to do with the poor progress of these children?

It is customary for teachers and school officials in the grading and promotion of children to be guided by age and achievement in the subject matter of the grade. The basis for the selection of this material is too often from the adult's standpoint; consequently the question can be raised as to whether this standard which the school sets up is not wrong. Does it take into consideration the wide range of individual differences? Does it offer activities broad enough to meet the varying needs of the children who enter the public schools? Are there many children in the public schools held back when they have the mentality to advance? It would seem, then, that inquiry into this particular problem would be pertinent. In the second place the standard chronological age set by the different public-school systems does not tell very much. Individual differences in mentality are so great that the average age of a grade is of little value. Consequently a more scientific means of determining the placement of a child when he enters the public schools seems necessary, if we are to value properly the abilities of children.

In recent years a wider use has been made of various tests to determine general mentality. Among the most important ones used are the Binet-Simon tests, the De Sanctis tests, the Opposite tests, the Association tests, and the like. The test that seems to lend itself most successfully to practical purposes is the Binet-Simon test, which has been used from time to time for administrative purposes, such

as the detection of low-grade mentality in the public schools in order that such children may be removed from the regular class and placed in special classes. There can be no question about the fact that, while this test has its defects, it is probably the most serviceable test for administrative procedure in use at the present time. More extended use of this test and others is being made by permanent psychological departments in the larger city school systems. Psychologists are employing this test in the hands of skillful examiners to determine the mentality of children entering the public schools, and thereby to determine their placement in the grades.

In the past the tendency has been to measure a child's ability by his chronological age. For example, a boy 10 years old might be found in the 2B grade when, as a matter of fact, he ought to be in the 4A or 4B grade. There are many such children who are held back on the supposition that they are unable to do the work in a more advanced grade, and yet actual experience has proved that when many of these children are given a trial in a more advanced grade they can do as well as the children who have been regularly promoted. ✓

The material for this study has been taken from the cumulative record cards of 743 white children who made up the total enrollment of grades 1A to 5A, inclusive, in three schools in September, 1913. With the exception of one school, it can be said that a very large majority of these children come from the average home, so that the group which has been selected for study can in no way be called a selected group.

The plan has been to study the actual progress made by these children during the time they have been in school. After this information had been secured, it was compared with the results from the Binet-Simon tests that had been used to test the mentality of these children. The information concerning the progress of these children as it was found on the cumulative record cards is presented first.

TABLE 22.—Distribution of 743 children by grades and terms in school.

Grade.	Sex.	Students in school.																Total.
		1 term.	2 terms.	3 terms.	4 terms.	5 terms.	6 terms.	7 terms.	8 terms.	9 terms.	10 terms.	11 terms.	12 terms.	13 terms.	14 terms.	15 terms.	16 terms.	
1A.	{Boys.	14	3	1														18
	{Girls.	9	1															10
1B.	{Boys.	45	6	8	3	2	3											68
	{Girls.	41	6	6	1	2	1			1								57
2A.	{Boys.		17	25	6	4	1											54
	{Girls.		16	20	5	6												48
2B.	{Boys.		24	11	11	11	10	1	1	1	1	1	1	1	1	1	1	62
	{Girls.		1	24	8	3	3	1	1	1	1	2	2	2	2	2	2	45
3A.	{Boys.			3	10	10	7	1	3	1	1	1	1	1	1	1	1	46
	{Girls.			3	2	15	8	6	5	3	3	1	2	1	1	1	1	46
3B.	{Boys.				2	17	8	6	5	2	2	1	2	2	2	2	2	43
	{Girls.					17	8	5	2	2	2	2	2	2	2	2	2	32
4A.	{Boys.					1	7	10	7	8	3	2	3	3	3	3	3	39
	{Girls.					1	8	16	8	2	2	1	1	1	1	1	1	38
4B.	{Boys.						10	6	7	4	4	4	4	4	4	4	4	32
	{Girls.						18	18	18	8	8	8	8	8	8	8	8	37
5A.	{Boys.																	37
	{Girls.									13	6	7	4	3	3	3	3	32
Total.	{Boys.	59	27	58	32	50	36	33	34	27	12	17	7	5	5	5	5	398
	{Girls.	50	24	58	25	50	25	42	19	19	13	6	6	6	6	6	6	345



Table 22 shows the great amount of more than normal time taken by 743 children in grades 1A to 5A, inclusive, of the three schools to make their present grades. The table is arranged by terms in school on the top horizontal line and by grades with boys and girls separate on the vertical line to the left. It is read as follows: 1A grade had in it 18 boys and 10 girls, all of whom have consumed more than the normal time therein. Of this number 14 boys and 9 girls are in their second term, 3 boys and 1 girl are in their third term, and 1 boy is in his fourth term.

The chief significance of this table is shown by the small number of students who have consumed the normal time in attaining their present grades in comparison with the large number of students who have spent a much longer time than normal to do the same work. This fact is shown, for example, by the distribution of the 68 boys and 57 girls in the 1B grade. Of this number only 45 boys and 41 girls, or about two-thirds, have made the grade in 2 terms, or the normal time, while 6 boys and 6 girls have taken 3 terms, 8 boys and 6 girls have taken 4 terms, 3 boys and 1 girl have taken 5 terms, 2 boys and 2 girls have taken 6 terms, 3 boys and 1 girl have taken 7 terms, and 1 boy has taken 10 terms.

It will be observed, too, that the proportion of children doing the work of the grades in normal time actually decreases the higher they advance through the grades, owing to the fact that the children in the upper grades have been in school longer and have had more opportunity to be retarded. The number of terms more than normal made by individual children, however, increases. In the 4B grade, for example, out of 32 boys and 37 girls, 10 boys and 18 girls—about one-third of the boys and about one-half of the girls—have attained that grade in 8 terms or normal time, while 6 boys and 2 girls have spent 9 terms, 7 boys and 8 girls have spent 10 terms, 4 boys and 3 girls have spent 11 terms, 4 boys and 1 girl have spent 12 terms, 1 boy and 2 girls have spent 13 terms, 1 girl has spent 14 terms, 1 girl 15 terms, and 1 girl 16 terms—8 terms or 4 years more than normal time.

The question naturally arises, Why is it that such a large number of boys and girls require a much longer time to do the grade work than they are expected to consume? Two possible answers to this question might be suggested in the form of questions which were raised at the beginning of this chapter. First, could it be possible that the standard set by the school system is wrong, even for the normal child, and second, is the subject matter selected suitable to reach the widely varying needs of the individuals who come into the school system?

Information which relates to these problems will be presented in other tables of this chapter.

TABLE 23.—*Distribution of 743 children by grade and terms in school, showing the extent of slow, normal, and rapid progress.*

Grade.	Sex.	Terms less than normal.				Normal to-tal.	Terms more than normal.								Total number of children.		
		3	2	1	To-tal.		To-tal.	1	2	3	4	5	6	7		8	
1A.....	Boys.....					18	14	3	1								18
	Girls.....					10	9	1									10
1B.....	Boys.....					45	23	6	8	3	2	3				1	68
	Girls.....					41	16	6	6	1	2	1					57
2A.....	Boys.....					17	37	25	6	4	1					1	54
	Girls.....					16	32	20	5	6		1					48
2B.....	Boys.....		1	1		24	37	11	11	10	1	1	1	1	1		62
	Girls.....			1	1	29	15	8	3	3	1						45
3A.....	Boys.....					10	35	17	7	6	2	1			2		45
	Girls.....			3	3	10	33	21	7	1	3	1					46
3B.....	Boys.....		2	2		15	26	8	6	5	3		1	2	1		43
	Girls.....					17	15	6	5	2	2						32
4A.....	Boys.....			1	1	7	31	10	7	8	3	2					39
	Girls.....		1	1	2	8	28	16	3	2	1	1	3	2			38
4B.....	Boys.....					10	22	6	7	4	4	1					32
	Girls.....					18	19	2	8	3	1	2					32
5A.....	Boys.....					13	24	6	3	7	4	3	1	1	1		37
	Girls.....					9	23	6	9	4	1	2		1			37
Total..	Boys.....			4	4	141	253	103	58	48	20	11	3	6	4		398
	Girls.....		1	5	6	148	191	94	47	22	11	8	4	4	1		345
Percent..	Boys.....			1.1	1.1	35.4	63.5	25.9	14.5	12.1	5.0	2.8	.7	1.5	1.0		
	Girls.....		.3	1.5	1.8	42.9	55.3	27.2	13.6	6.3	3.2	2.3	1.2	1.2	.3		
Total..			.1	1.2	1.3	38.8	59.9	26.6	14.2	9.4	4.2	2.6	.9	1.3	.7		

Table 23 shows the same number of children—743—grouped according to “less than normal,” “normal,” and “more than normal” progress, in terms of totals and individuals as well as percentages. This table is read as follows: The figures along the top horizontal line represent terms in school, and the figures along the perpendicular line on the left represent grades, with boys and girls separated. None of the 18 boys and 10 girls in the 1A grade have made their grade in less than normal time, or in normal time. Of this number, 14 boys and 9 girls have been in school 1 term more than the normal time, 3 boys and 1 girl 2 terms more than normal time, and 1 boy 3 terms more than normal time. In the 3B grade, out of 43 boys and 32 girls, 2 boys have made their grade in 1 term less than normal time, 15 boys and 17 girls have made their grade in normal time, while 26 boys and 15 girls have taken more than normal time. Of these 26 boys and 15 girls, 8 boys and 6 girls have taken 1 term more than normal time, 6 boys and 5 girls have taken 2 terms more, 5 boys and 2 girls have taken 3 terms more, 3 boys and 2 girls have taken 4 terms more, 1 boy has taken 6 terms more, 2 boys have taken 7 terms more, and 1 boy has taken 8 terms more than normal time.

The fact that every child in the 1A grade has taken more than normal time to secure his present standing calls for an explanation. This situation would give this grade 100 per cent retardation. Such a condition was brought about by the fact that these records were taken after the promotions and reorganization had been made in

January, at the end of the first half session. The entire group of 743 children comprised only those who were in school when the mental tests were made, which was in October, November, and December. In two schools all of the children in the 1A grade were promoted at the end of the first session, and in the third school all of the children in the 1A grade except 18 boys and 10 girls. Since the children entering after the first mental tests had been made were not tested and therefore not included in this study, there remained only these 28 children out of the 743 children who were in the 1A grade when their records were made, which was in April, 1914.

When these results are worked over into percentages, it is found that the number of children making their present standing is as follows:

*Percentages of children making their present standing.*

	More than normal time.			Less than normal time.			Normal time.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
<b>Total.....</b>	63.5	55.3	59.9	1.1	1.8	1.3	35.4	42.8	38.8
1 term.....	25.9	27.2	26.6	1.1	1.5	1.2	.....	.....	.....
2 terms.....	14.5	13.6	14.2	.....	0.3	0.1	.....	.....	.....
3 terms.....	12.1	6.3	9.4	.....	.....	.....	.....	.....	.....
4 terms.....	5.0	3.2	4.2	.....	.....	.....	.....	.....	.....
5 terms.....	2.8	2.3	2.6	.....	.....	.....	.....	.....	.....
6 terms.....	0.7	1.2	0.9	.....	.....	.....	.....	.....	.....
7 terms.....	1.5	1.2	1.3	.....	.....	.....	.....	.....	.....
8 terms.....	1.0	0.3	0.7	.....	.....	.....	.....	.....	.....

From these percentages it is seen that, of these 743 children, 38.8 per cent have progressed normally since they have been in school, 1.3 per cent have progressed more rapidly than the normal time, while 59.9 per cent have taken more than the normal time to reach their present grade. It is significant also that 26.6 per cent of these 743 children have repeated 1 term, and 14.2 per cent have repeated 2 terms.

Furthermore, for every 2 children who have made normal progress, 3 children have made less than normal progress, and for every child who has made more than normal progress, practically 30 children have made normal progress, and 44 children have made less than normal progress.

TABLE 24.—Number of repeaters (444) among 743 children in grades 1A to 5A, and of repetitions made by them in specified grades.

Grade.	Sex.	Number of children who repeated.								Total number children.	Per cent of repetitions.	Number of repetitions by grades.						Total number repetitions.	
		One term.	Two terms.	Three terms.	Four terms.	Five terms.	Six terms.	Seven terms.	Eight terms.			1A.	1B.	2A.	2B.	3A.	3B.		4A.
1A.	{Boys.....	14	3	1							18	100	23						23
	{Girls.....	9	1								10	100	11						11
1B.	{Boys.....	6	8	3	2	3					68	33.8	52	10					62
	{Girls.....	6	6	1	2	1		1			57	16	24	10					34
2A.	{Boys.....	25	6	4	1						54	37	34	16	11				61
	{Girls.....	20	5	6		1					48	32	26	17	10				53
2B.	{Boys.....	11	11	10	1	1		1			62	37	30	31	19	13			93
	{Girls.....	17	3	3	1	1					45	15	10	4	10	3			27
3A.	{Boys.....	17	7	6	2	1		2			45	35	23	13	18	14	8		76
	{Girls.....	21	1	1	3	1					48	33	17	11	13	4			55
3B.	{Boys.....	8	6	5	2	3		2			43	26	15	17	16	10	12	5	75
	{Girls.....	6	5	2	2	2		1			32	15	10	5					50
4A.	{Boys.....	10	7	8	3	2		1			39	31	17	12	14	11	17	1	77
	{Girls.....	16	2	2	1	1		3			38	28	14	7	10	12	13	8	69
4B.	{Boys.....	6	7	4	1	1		1			32	22	9	6	4	8	7	5	62
	{Girls.....	2	3	3	1	2		1			37	19	7	6	10	6	15	8	70
5A.	{Boys.....	6	9	7	4	3		1			37	24	9	6	10	10	10	8	15
	{Girls.....	6	9	4	1	2		1			32	23	11	2	10	12	3	6	57
Total	{Boys.....	103	58	48	20	11	3	6	4		398	64.4	212	111	92	66	54	26	590
	{Girls.....	94	47	22	11	8	4	4	1		345	55.5	127	68	60	46	51	20	398

Table 24 shows the extent to which these 444 children of the total number, 743, had repeated and the grades in which the repetition occurred; also what percentage the number of children who had repeated in each grade was of the total number in these grades. This table is read as follows:

The 18 boys and 10 girls in the 1A grade who had repeated have made, since they entered school, 34 repetitions, all of which were of course in the 1A grade. The 26 boys and 15 girls in the 3B grade who had repeated have made 105 repetitions since they entered school. Of these 105 repetitions, 25 were in the 1A grade, 22 were in the 1B grade, 23 were in the 2A grade, 10 were in the 2B grade, 19 were in the 3A grade, and 6 were in the 3B grade. These repetitions occur most frequently in the 1A, 1B, and 2A grades. It is seen, then, that these 444 children made 988 repetitions, or an average of 2.2 repetitions per child. Therefore 59.9 per cent of the total enrollment in grades 1A to 5A of three schools show an average repetition of 2.2 terms.

These data are significant also in showing that children do persist in school in spite of the fact that they are compelled to repeat again and again. With the exception of the 1A grade, which presents an abnormal situation, the highest percentage of repetition is kept up from the 2A grade through the 5A grade. It is seen, further, that the children in the higher grades do not make all their repetitions in the first two or three grades, but that these repetitions continue as long as these children remain in school.

By way of summary, then, it is found in connection with these 743 children that, in relation to terms in school, 1.3 per cent had made more than normal progress, 38.8 per cent had made normal progress, and 59.9 per cent had made less than normal progress.

The prevailing custom among superintendents and other administrative officers has been to classify children on the basis of their chronological ages as follows: Those who are younger than the age set for their grade are called under age or accelerated; those who are of the same age as the age set for their grade are called normal; and those who are older than the age set for their grade are called over age or retarded. The percentage of over-age children has been used as indicative of the amount of retardation in a school system. If all children entered at the same age, the percentage of over-age children would represent the amount of retardation. But, since there has been no compulsory school law in the city of Richmond, all children have not entered at the same age, nor have they progressed at the same rate. Consequently a child who entered at 9 years, when the regular age is 7 years, might have made two grades in one year and would therefore be accelerated for the time he has been in school and would

also very likely have more than normal ability, but he would still be a year over age and therefore retarded, if the total number of years over age meant total retardation.

Therefore, since the percentage of children who are too old for their grade, according to the standard set by the Richmond school system, has been used to indicate the progress of children through the grades, the next step is to ascertain what percentage of these 743 children are above the grades in which they are working.









The percentage of these 743 children who are over age is shown in Tables 25, 26, and 27.

These tables distribute this group of children by grades and chronological ages. In this distribution, however, the boys and girls who have not repeated at any time since they have been in school are kept separate from those who have repeated. Likewise the boys and girls who have skipped a grade are kept to themselves. Table 25 gives this distribution for the 10 children who have skipped. Table 26 gives the distribution for the 289 children who have not repeated, and Table 27 gives the distribution for the 444 who have repeated at some time or another. Of these 743 children, 48 per cent were of normal age, 16 per cent were under age or accelerated, and 36 per cent were over age or retarded. If the percentages of normal-age, under-age, and over-age children in the groups of children who had repeated and those who had not repeated are compared, the following results are secured:

*Percentages of repeaters and nonrepeaters, according to age.*

	Of normal age.	Under age.	Over age.
Repeaters.....	41.2	6.8	52.0
Nonrepeaters.....	57.4	29.7	12.9

From an analysis of these figures it is seen that the percentage of normal-age children increases from 41.2 per cent among those who had repeated to 57.4 per cent among those who had not repeated; that the percentage of under-age children increases from 6.8 per cent among those who had repeated to 29.7 per cent among those who had not repeated; and that the percentage of over-age children decreases from 52 per cent among those who had repeated to 12.9 per cent among those who had not repeated.

Clearly, then, the largest percentage of under-age or accelerated children is chiefly among those who do not repeat, and the largest percentage of over-age children is chiefly among those who have repeated. It would seem that failure to proceed normally in the grades is a very strong factor in causing the large percentage of over-age children in this group; and, further, that this large percentage of over-age children is a strong index of the amount of repetition, although not absolute.

A further comparison of these percentages reveals the following:

*Percentages of repeaters and nonrepeaters, by age and terms.*

	Per cent over age.		Per cent under age.		Per cent of normal age.	
	Repeaters.	Nonrepeaters.	Repeaters.	Nonrepeaters.	Repeaters.	Nonrepeaters.
Total.....	52.0	12.9	6.8	29.7	41.2	57.4
1 term.....	30.5	11.2	6.8			
2 terms.....	13.1	1.1				
3 terms.....	5.9	.3				
4 terms.....	2.3	.3				
5 terms.....	.2					

From these data it would seem that a high percentage of over-age children and of repetition are closely connected. As a usual thing, children are too old for their grade for the reason that they have been compelled to repeat from time to time.

In summarizing the information from the cumulative record cards of these 743 children, the following comparison can be made which shows what is actually taking place in relation to the chronological age and the progress of these children for the time they have been in school: Per cent making normal progress, 38.8; per cent making more than normal progress, 1.3; per cent making less than normal progress, 59.9. Per cent of normal age, 48; per cent under age, 16; per cent over age, 36.

From these data it is quite evident that there is a large number of children in grades 1A to 5A of these three schools who are much below the grades in which they ought to be. They have been in school long enough and are old enough to be further advanced. Wherein lies the trouble? Is it with the low mentality of these children or with the school system? There is a feeling on the part of many teachers that, until children have covered all the work of a certain grade, it is impossible for them to succeed in a higher grade even though the experience of these children may be broad enough for more advanced work. From time to time, however, there have been experiments made which indicate that such children, when given an opportunity, can do the work of the higher grades as well as many of those who have been regularly promoted.

In order to ascertain whether many of these 743 children, as well as other children in the public schools of Richmond who are over age and who have taken more than normal time to reach their present grade, have the mentality to do work in advance of the grade in which they are working, an investigation of the mentality of these children was planned. It was decided to use the Binet-Simon test

for this purpose. The procedure in this investigation consisted of an examination of these same 743 children in grades 1A to 5A of the three white schools; later a selected group was examined.

The Binet-Simon test measures a child's mentality in relation to its chronological age, thereby establishing its mental age. By means of a graded set of questions, it is possible to tell whether a child has as much or more ability in relation to certain traits than the average child for his age. If a child can answer all of the questions—or their equivalent—and no more, which are answered by the average of a large number of normal children of the same chronological age, he is called "at age;" if he can not answer these questions or a sufficient number of other questions to balance those missed, he is called "under age;" or if he can answer all of these questions and other questions intended for older children, he is called "over age."

Children are further divided according to their mental ages as follows: All children whose mental ages are the same as their chronological ages or whose mental ages are 1 year above or 1 year below their chronological ages are called "normal;" children whose mental ages are 2 years or more above their chronological ages are called "precocious;" children whose mental ages are 2 years and 3 years below their chronological ages are called "retarded;" and children whose mental ages are 4 years or more below their chronological ages are called "mentally deficient." The last two groups, namely, the "retarded" and the "mentally deficient," including those 2 years, 3 years, 4 years and more mentally below the chronological ages, are also classified as "backward."

This test is arranged to count by years and fifths of years. For example, a child may be  $7^1$ ,  $7^2$ ,  $7^3$ ,  $7^4$ , or 8 years mentally, which means that he has the ability to do the work of a normal child  $7\frac{1}{5}$  years,  $7\frac{2}{5}$  years, etc., of age, while this same child may be 9 years old chronologically; he would, therefore, be  $1\frac{2}{5}$  years,  $1\frac{3}{5}$  years (written  $1^4$ ,  $1^3$ , etc.) mentally below his chronological age.











The results of this test used to examine these 743 children are given in Tables 28, 29, and 30 in terms of mental and chronological ages. The units used for scoring the chronological ages are half years; the units used for scoring the mental ages are slightly different. For example, children are divided into groups as follows: 7 years to 7<sup>2</sup> years, which would include all those children who are 7 years mentally, 7<sup>1</sup> years mentally, and 7<sup>2</sup> years mentally; the next unit is 7<sup>3</sup> to 7<sup>4</sup>. It is seen, then, that one unit contains three-fifths, while the next contains only two-fifths. This was the best simple classification into half years which the Binet-Simon tests offered. The total percentages, however, are in whole-year units instead of half-year units, as it was thought the results in such percentages would be of more service for comparison. The totals for the accelerated group were not put into percentages on account of the small number of individuals.

By combining the totals of the three groups of children—those who are accelerated, those who have repeated, and those who have not repeated—the following percentages are secured: At age, 39.2 per cent; over age, 19.6 per cent; under age, 41.2 per cent.

By a comparison of the percentages of the children who are of normal age, under age or accelerated, and over age or retarded, according to their chronological ages, with the percentages of the same children who are at age, over age, and under age, according to their mental ages, the following data are secured: Chronological ages—Normal, 48 per cent; accelerated, 16 per cent; retarded, 36 per cent. Mental ages—At age, 39.2 per cent; over age, 19.6 per cent; under age, 41.2 per cent.

From an analysis of these data it is seen that the percentage of children who are of normal age chronologically is larger than the percentage of children testing at age mentally. Furthermore, 16 per cent of these children are under age or accelerated on the chronological-age basis, while in relation to their mental ages, 19.6 per cent are over age or capable of doing more advanced work; likewise, 36 per cent of these children are over age or retarded on the chronological-age basis, while in relation to their mental ages, 41.2 per cent are under age. Manifestly, then, if the Binet-Simon test is a reliable criterion, a large number of these children are misplaced on the chronological-age basis. Some are capable of doing more advanced work and are not placed high enough, while there are others who can not do the work where they are placed. They ought to be in special classes.

If these 743 children are divided according to normal, precocious, retarded, and deficient mentality, the following classification is secured: Precocious, 1.7 per cent; normal, 81.8 per cent; retarded, 13.7 per cent; mentally deficient, 2.8 per cent.

By comparing the percentages of children at age, over age, and under age mentally who have repeated or not repeated a grade, it is seen, too, that the group which has repeated is the one which has received the higher percentage of children under age, and the group which has not repeated received the higher percentage of children over age. This comparison is as follows:

*Percentage of repeaters and nonrepeaters, according to age.*

	Per cent over age.		Per cent under age.		Per cent at age.	
	Repeaters.	Nonrepeaters.	Repeaters.	Nonrepeaters.	Repeaters.	Nonrepeaters.
Total.....	57.2	16.6	7.7	37.7	35.1	45.7
1 year.....	32.4	13.1	7.5	33.2		
2 years.....	14.2	2.8	.2	4.5		
3 years.....	6.3	.7				
4 years.....	2.7					
5 years.....	1.4					
6 years.....						
7 years.....	.2					

It is seen from these percentages that 57.2 per cent of those who repeated are under age as opposed to 16.6 per cent under age for the nonrepeaters, and that 7.7 per cent of the repeaters are over age as opposed to 37.7 per cent over age for the nonrepeaters. The difference between the percentages of children at age for the two groups is not so large.

These facts describe the conditions in this group of children with reference to their mental ages in terms of under-age, over-age, and at-age mentality, or in terms of precocious, normal, retarded, and deficient mentality; and with reference to their chronological ages in terms of normal, accelerated, and retarded progress.

Therefore a very large percentage of the children who are mentally over age have not repeated, and a very large percentage of children who are mentally under age have repeated at some time or another.







In order to show that many of the children who are chronologically over age are also mentally over age, this group of children is distributed by grade and by mental age as established by the Binet-Simon test. This distribution is kept separate for those who are accelerated (Table 31), those who have not repeated (Table 32), and those who have repeated (Table 33).

In most city school systems, it is the practice to count two years to a grade in estimating the percentage of over-age children, but in the Richmond school system the custom has been to count one year to a grade. This basis necessarily makes the percentage of over-age children much larger than if two years had been used.

Therefore, for a child to be rightly placed in a grade his mental age ought to be the same as the normal chronological age of that grade. This does not mean, however, that this child is as far advanced as he ought to be according to his chronological age. For example, on Table 32 are shown 45 boys and 41 girls in the 1B grade. The normal chronological age for a child in this grade is 7 years. The distribution shows that 1 girl tests 6 years old mentally and is therefore under age; 32 boys and 28 girls test 7 years old and are therefore normally placed, and 13 boys and 11 girls test 8 years old, or one year ahead, and 1 girl tests 9 years old, or two years ahead, and are therefore over age.

On this basis, then, it is found that in this group of children 56.2 per cent are normally placed according to their mentality; 19.1 per cent are under age, and therefore below their grade mentally; 24.7 per cent are over age, and therefore above their grade mentally.

On the basis of chronological age and grade, it was shown that 48 per cent are of normal age; 16 per cent are under age or accelerated; 36 per cent are over age or retarded.

According to their mental ages, 56.2 per cent of these children are properly placed; while, according to their chronological age, 64 per cent are properly placed if the 16 per cent of children who are under age is counted with the normal group. On the basis of mental age, 19.1 per cent of these children are mentally below their grade. Therefore, 43.8 per cent of these children are not normally placed on the basis of mental age, while on the basis of chronological age 36 per cent are too old for their grade.

By distributing these percentages of children who test at age, under age, and over age into two groups, one containing the repeaters, the other the nonrepeaters, it can be shown whether one group receives a larger percentage of normal, under age, or over age mentally than the other. The results of this distribution are as follows:

*Distribution of repeaters and nonrepeaters according to age.*

	Per cent over age.		Per cent under age.		Per cent at age.	
	Repeaters.	Nonrepeaters.	Repeaters.	Nonrepeaters.	Repeaters.	Nonrepeaters.
Total.....	17.2	21.9	30.6	15.5	52.2	62.6
One term.....	15.0	21.5	29.0	15.2		
Two terms.....	2.2	.4	1.6	.3		

The significant points to be noted about this comparison are, first, the group that repeated receives a smaller percentage of children who are over age or high mentally and at age or normal mentally than the group which did not repeat; second, the group that did not repeat receives a much smaller percentage of children who are under age or low mentally than the group that repeated. It is evident, then, that the children who repeat make up a great majority of the cases that are very low in mentality. Furthermore, there is a large percentage of children who are repeaters and nonrepeaters who could do work beyond the grade in which they are now working.

By studying the individual records of children who are over age and at age mentally and chronologically and picking out those who are both over age mentally and chronologically and who are at age chronologically, but over age mentally, the following facts are secured:

1. Out of 743 children, 268 are over age chronologically. Of these 268 children who are over age chronologically, 209, or 78.3 per cent, are over age mentally.

2. Out of 743 children, 344 are normal chronologically. Of these 344 children who are normal chronologically, 100, or 29 per cent, are over age mentally.

The most significant points about these figures are, first, the large percentage of chronologically over-age children who are also mentally over age; and second, the large percentage of mentally over-age children in the chronologically over-age group in relation to the percentage of mentally over-age children in the chronologically normal-age group. According to the test, 309 children, or 41.5 per cent of the 743 children, show ability in advance of that required to do the work they are now doing.

In summarizing, then, the following points should be noted:

1. Of these 743 children, 1.3 per cent have made more than normal progress, 38.8 per cent have made normal progress, and 59.9 per cent have made less than normal progress.

2. Of these 743 children, on the basis of chronological age, 48 per cent are of normal age, 16 per cent are under age, and 36 per cent are over age. Furthermore, 52 per

cent of the children who repeat as opposed to 12.9 per cent of those who do not repeat are over age, and 6.8 per cent of those who repeat as opposed to 29.7 per cent of those who do not repeat are under age.

3. The Binet-Simon scale will measure the amount of retardation in a group. Of the children who have repeated a grade, 57.2 per cent are under age, while only 16.6 per cent of the nonrepeaters are under age. High percentages of children who are mentally over age go with those who have not repeated, and high percentages of children who are mentally under age go with those who have repeated.

4. According to the Binet-Simon scale, 43.8 per cent of these 743 children test mentally above or below the normal age for their grade, and are, therefore, not normally placed on the basis of 1 year to a grade. It can not be concluded on this basis, however, that all of these children are so misplaced as to be unable to do fair work, but it will be shown later that a large number of them can be better placed so as to secure more satisfactory results from their work.



## CHAPTER VII.

### FURTHER APPLICATION OF MENTAL TESTS FOR THE PLACEMENT OF CHILDREN AND THE RESULTS.

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After the examination into the mentality of the entire enrollment of grades 1A to 5A in three schools, it was decided to examine those children who, according to their chronological age, were too old for the grade in which they were working, in order that they might be placed in special classes or, at least, be given some kind of special instruction. Consequently, all of the children in the white schools of the city who were a year behind their grade chronologically or who had made frequent repetitions were tested with the Binet-Simon scale. This procedure resulted in the examination of a group of 887 children selected from grades 1A to 6A, inclusive, of the different schools. It would hardly be expected to find in this group a large percentage of children who are mentally over age. These children were selected because they were chronologically over age and therefore retarded from the standpoint of age. It would be supposed, too, that they would be limited in experience and that this deficiency would be shown by the tests. The actual results from the tests, however, seem to warrant a different conclusion.



Table 34 gives the distribution of these 887 children by grade and chronological age. The percentage of children under age or accelerated, over age or retarded, and at normal age is as follows:

*Distribution of 887 children by grade and chronological age.*

	Per cent over age.	Per cent under age.	Per cent normal age.
Total.....	89.7	1.0	9.3
1 term.....	30.7	1.0	.....
2 terms.....	32.1	.....	.....
3 terms.....	17.5	.....	.....
4 terms.....	7.5	.....	.....
5 terms.....	1.7	.....	.....
6 terms.....	.1	.....	.....
7 terms.....	.1	.....	.....

Manifestly, then, a large majority of these 887 children are too old for the grades in which they are working and therefore retarded according to their chronological age. The 1 per cent of children who are under age or accelerated and the 9.3 per cent of children who are of normal age are those who had repeated grades. Entrance to school at an early age or entrance to a grade in advance of what they ought to have entered makes this condition possible.

If these over-age children are rightly placed, they ought to test mentally the same as the normal chronological age for the grade in which they are working. This group of children will also contain a certain number of children who are very low in mentality and therefore under age mentally. In fact, it might be expected that there would be a large number of children who test under age or low mentally, since there is a tendency sometimes to advance slow children who are greatly over age for their grade to work which they are really not prepared to do. What they need is a different kind of work rather than more advanced work of the same kind. If many of these children test over age or high mentally, it would seem that the grading of the school system has wrongly estimated their ability.



Table 35 gives the distribution of the same selected group of 887 white children according to their grade and mental age established by the Binet-Simon mental test. The percentage of children testing under age, over age, and at age, according to the grades in which they were working, is as follows:

*Percentage of children testing under age, over age, and normal.*

	Per cent over age.	Per cent under age.	Per cent at age.
Total.....	47.5	12.0	40.5
One term.....	37.0	10.9	.....
Two terms.....	8.9	1.1	.....
Three terms.....	1.6	.....	.....

It is not surprising to find 12 per cent of these 887 children testing under age or low mentally. In fact, when the basis for the selection of these children is taken into consideration, it is surprising that there is not a larger percentage of children in this group with very low mentality. But it would seem natural to expect that more than 40.5 per cent of these children would test normal. The most significant fact about these figures, however, is that 47.5 per cent test over age or high mentally. From experience, it would seem that the largest number of these children would test under age or low mentally.

Therefore there is a large number of these 887 children who are over age chronologically and who also test high mentally.

By actual count it is found that—

1. In this selected group of 887 children, 795 are chronologically over age. Of these 795 children, 373 children, or 46.7 per cent (42 per cent of the total number, 887), are also mentally over age.

2. Of these 887 children, 82 children are chronologically at age. Of these 82 children, 17, or 21.1 per cent (1.9 per cent of the total number, 887), are also mentally over age.

Therefore, in this group of 887 children who were selected because they were over age chronologically or had repeated frequently, 390, or 43.9 per cent, are over age mentally, and also either over age or at age chronologically.

It is quite clear, then, that a large number of boys and girls in both groups which have been studied are misplaced according to the mental test employed. If this test is an efficient means for determining where children ought to be, those children who test a year or more ahead ought to be advanced, while those who test a year or more behind ought to be given individual instruction through coaching or in special classes.

The value of special classes, where individual instruction can be given to the child who has fallen behind his grade through illness,

poor attendance, late entrance, and the like, has already been demonstrated. In a similar manner, the class for the child who is deficient in mentality has proved its worth for up-to-date school systems. Furthermore, the Binet-Simon test has been used with much success to select the children who have been placed in such classes. Can this test be employed to indicate where children who test ahead of their grade or high mentally ought to be placed? A test of the validity of placing children according to mental tests would be found in actually accomplishing this performance.

For the purpose of ascertaining whether or not children can be advanced as indicated by the Binet-Simon scale, the principal of each school was given a typewritten sheet containing the names, the chronological ages, and the mental ages of all the children tested in his school. Along with this list was given a tabulation of the mental ages of the children by grades which showed those whose mental ages were above the normal chronological age of their grade, those whose mental ages were the same as the normal chronological age of their grade, and those whose mental ages were below the normal chronological age for their grade.

On the basis of this information, each principal was asked to go over the list with his teachers and wherever possible give those children who tested ahead (usually a year or more) of their grade a trial in the next grade. As a result of this experiment, 2 schools in which all of the children were tested and 2 schools in which only a selected group was tested succeeded in advancing children in accordance with the results of the mental test. Since there were 13 schools in which children were tested, it might be expected that if 4 schools could do this much, others ought to be able to do the same. Several causes, however, prevented. In the first place there were only 3 schools in which all the children were tested. In the other 10 schools only a selected group of children was tested. These children, as before stated, were selected because they were a year or more over age chronologically or because they had made frequent repetitions. Consequently, the chances for children to test ahead in such a group were fewer. Moreover, because these children constituted a retarded group, there was, to some extent, a feeling that they could not do more advanced work, and, therefore, it was not worth while to give them a chance. In the second place these results, in a number of cases, were put in the hands of the principal too near the end of the term, so that a trial in the grade above was practically impossible.

The results from this experiment in the 4 schools in which children were advanced according to their ability, as indicated by the Binet-Simon test, are presented below, showing the number of children advanced and the grades which they skipped:

*Children advanced—Grades skipped.*

Grades skipped.	Boys.	Girls.	Total.
1B grade.....	9	6	15
2A grade.....	2	1	3
2B grade.....	3	3	6
3A grade.....	1	4	5
3B grade.....	3	5	8
4A grade.....	3	5	8
4B grade.....	4	5	9
5A grade.....	4	2	6
Total.....	29	31	60

Of these 60 children, 30 children, or 50 per cent, were too old for their grade, both mentally and chronologically.

In addition to these children who were advanced without any special instruction, 55 children out of a group of 78 children who were placed in special classes in which they received individual instruction succeeded in skipping a grade in one term, or four and one-half months. The ages and grades at which these children skipped are as follows:

*Grades skipped by 55 children.*

Grades skipped.	Ages, in years.					
	7	8	9	10	11	12
1B.....	9	6				
2A.....		2		1		
2B.....		1	3	2	1	
3A.....			1	2	1	
3B.....			1	2	6	
4A.....				3	3	
4B.....					4	
5A.....					6	1
Total.....	9	9	5	10	21	1

In addition to these 55 children who succeeded in skipping grades by means of individual instruction, there were two children who skipped two grades each—the 3A and 3B grades—in the same term.

While it is true that the number of children who have skipped grades is small, nevertheless this number serves to indicate what strong possibilities there are in such work where school authorities and teachers give more time and study to the widely varying needs and capacities of the children who come under their charge. There seems to be no question that, if the Binet-Simon test is a fair and accurate criterion of a child's mental achievement as well as of his mental capacity, as the results of this study seem to indicate, many of the children in the two groups which have been studied are being held back when they have the ability to advance more rapidly.

The results from the four schools where children were permitted to advance gradually, as indicated by the test, seem to warrant the conclusion, first, that the Binet-Simon test can be followed as a guide to a child's ability, and second, that a large percentage of children—much larger than was thought by principals and teachers—can not only be advanced to a higher grade and meet the requirements of that grade, but also maintain as high a standard as in the grade below and as high a standard as a great number of those who are normally promoted.

#### CONCLUSION.

It is evident, then, that in the city of Richmond a very small percentage of school children have been completing their work in the time planned for them. Furthermore, a very large percentage of children have been leaving school long before the completion of the work of the elementary grades. It appears, therefore, that the school system as a business concern receives a different output from that for which it plans.

Furthermore, it is evident that the chronological age as a basis for determining the grading of pupils needs to be supplemented by the mental age. There are many children in the schools to-day who are able to do work in advance of what they are doing, and they should be permitted to do it.

For the purpose of determining the mental ages of children so that they can be properly placed in the grades, mental tests can be used to great advantage. The tests that are now available need to be supplemented by other tests, so that a greater degree of accuracy can be secured. In the near future tests for efficiency are destined to acquire a more prominent place in administering school systems than at present. Definite standards and tests are needed in order that output be made commensurate with expenditure.



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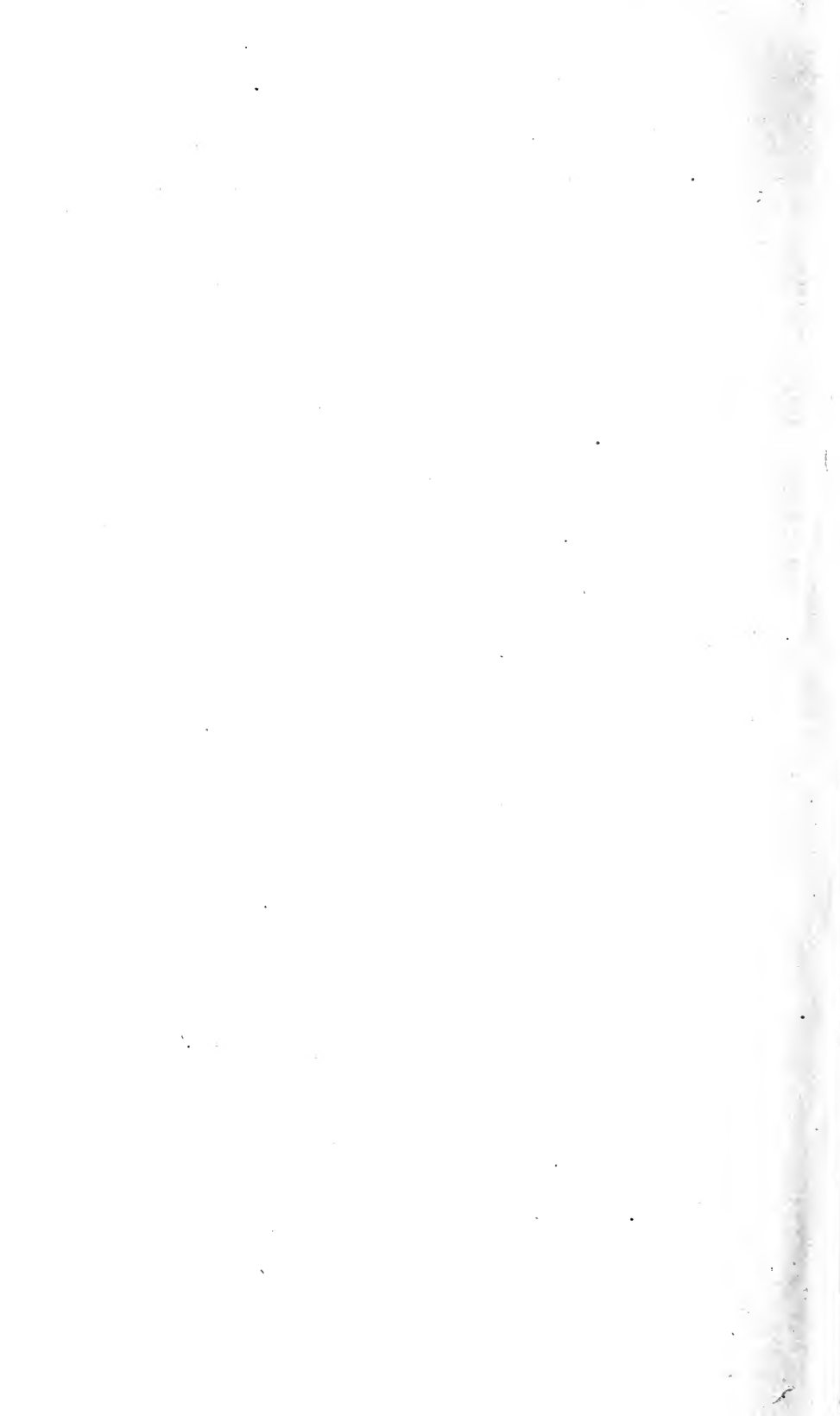
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## VITA

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