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The Springfield Tests

1846--1905-6

A STUDY IN THE

Three R's



The Springfield Tests 1846--1905-6

A STUDY IN

The Three R's

.. .. BY

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TO THE
PUBLIC

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TO THE PUBLIC:

REALIZING THE DEEP PUBLIC INTEREST IN THE RECENT CHANGES IN THE METHODS AND COURSES OF PUBLIC SCHOOL EDUCATION, AND FEELING THE NEED OF INTELLIGENTLY FORMED OPINIONS REGARDING SUCH MATTERS, THE PUBLISHERS PRESENT THIS BOOKLET, AT A PRICE WHICH ONLY PARTIALLY COVERS THE COST, AS A CONTRIBUTION TO THE CAUSE OF EDUCATION.

MILES C. HOLDEN

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Since the publication of the first edition Mr. Riley has been elected Superintendent of Schools for Holyoke, Mass.

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Preface

ON November 12, 1905, the *Springfield Republican* printed an article on the "Schools of Sixty Years Ago," contributed by the writer. It gave a comparison of the results of examinations in spelling and arithmetic of 1846 and 1905 as well as the words and questions of the old tests. The article was copied by the *New York School Journal* of December second and later by most of the educational papers of the country. In three or four months the tests had been tried in hundreds of places and many of the dailies in our leading cities had commented editorially or otherwise; while innumerable letters had been received from school committees, superintendents and principals.

These indications of widespread interest have induced the writer to make use of the remaining tests,—geography and penmanship,—for comparison with present day work, to analyze more thoroughly the work of the pupils of 1846, and to put the whole into a more permanent form.

In publishing this matter, the only desire is to place within reach of everybody interested, some definite and tangible evidence bearing upon that much discussed subject,—the three R's. The changes made in the curricula of the public schools during the past half century have led many people to assume that the branches so strongly emphasized in earlier times, are being neglected today, and that the work in the so-called fundamental studies was better years ago than it is now. As Mr. George H. Martin, Secretary of the Massachusetts State Board of Education, writes in his report of 1905-6: "Many people imagine a golden age somewhere in the past when everybody habitually spelled correctly." He might have added,—when everybody ciphered accurately and read fluently. This feeling,—it can hardly be called an opinion,—has, from time to time, become so strong in some communities and has been so difficult to dissipate because of lack of substantial evidence, that it has often caused the withholding from progressive school committees and superintendents of that support which is so essential to success in any public undertaking. For many years the argument of the

"Three R's" has been a weapon of great power in the hands of all kinds of men, used often but not always from honest motives and too frequently doing incalculable injury to the cause of education. The introduction of new subjects, some of which have been called "fads," into the courses of study, have made it reasonable to suppose that the results in the common branches could not be as good today as they were formerly. Few people, except educators, have considered the possibility of improving the work in any study by decreasing the time and increasing the concentration of the child and the skill of the teacher. Few people have endeavored seriously to find out to what extent such subjects as manual training and drawing, through correlation, "clinch" facts in arithmetic,—or how far spelling is improved by broadening the child's knowledge through a greater variety of reading matter or through such a branch as nature study. Few take the trouble to actually ascertain the facts regarding the amount of hard drill given today in the three R's or to refresh their memories by re-examining their childhood compositions and spelling papers.

It is the privilege of the citizen to criticise; it is no less his duty to examine evidence and arrive at opinions rationally and judicially. An opinion based upon an isolated instance or upon a false assumption may check progress in any line if held by the masses of the people or by a man in authority. If the results of the tests and investigations contained in these pages aid in the formation of intelligent opinions, the writer will feel that the hours spent in their preparation have been spent in service to that most democratic institution in America,—that institution, which, when kept abreast of the times, takes the leading place among the agencies which make for peace and civilization,—the Public School.

JOHN L. RILEY.

Results of Tests

	1846	1905-6
SPELLING—twenty words:		
Number of pupils who took tests . . .	85	245
Average percentage of words correct . .	40.6	51.2
ARITHMETIC—eight examples:		
Number of pupils who took tests . . .	79	245
Average percentage of answers correct .	29.4	65.5
GEOGRAPHY—twelve questions:		
Number pupils who took tests . . .	81	219
Average percentage of answers correct .	40.3	53.4

Spelling and Arithmetic

CAN school children of today spell as well as the children of half a century ago? Is arithmetic taught as effectively now as it was when our fathers and grandfathers were boys? Are we neglecting the three R's? These questions disturb teachers, agitate school boards and sometimes produce violent controversies. The general opinion seems to be that in the "common branches" the modern school is inferior to the school of fifty or sixty years ago. There is only one way of settling in the public mind these ever-recurring questions and that is by giving examinations to pupils of today which were given in the schools of half a century ago, and coolly comparing results. Such test questions, however, with the answers, have seldom been preserved, and, in the absence of such material, critics of the modern schools have made claims for the schools of their boyhood which, for want of satisfactory evidence, have been difficult to refute. A few such papers, however, do exist, and in the interest of education, they should be preserved and consulted frequently in order that we may retain the proper perspective of our school days.

Fifteen or sixteen years ago in the attic of the high school building in Springfield, Massachusetts, several old sets of examination papers were found that had been written in the fall of 1846. These papers consisted of printed questions in geography and arithmetic, with answers written on the printed sheets, and written tests in spelling and penmanship. Mr. Parish, the second principal of the Springfield high school gave these examinations to his pupils, and to him and to Dr. Thomas M. Balliet, who as superintendent of schools preserved them in his safe, is due the fact that today we may look upon the actual work of our worthy parents.

Two of these tests, spelling and arithmetic, were given to about two hundred and fifty ninth grade pupils of our local schools in March, 1905, and the results were carefully compared with the results of the tests of 1846. The questions in arithmetic were reprinted exactly as they appeared in the original papers, and both tests were given under the direction of one principal. The children

of five schools took part in the examination. The papers were sent to the directing principal and he examined and marked according to a uniform standard, the papers of the new and the old tests. Following are the results:—

	1846	1905
SPELLING:		
Number pupils who took test	85	245
Average percent correct	40.6	51.2

ARITHMETIC:

Number pupils who took test	79	245
Average percent correct	29.4	65.5

Below are the words of the spelling test,—a formidable list,—with the results of the examination in 1846 given in two tables:

TABLE I.

	Girls, 32			Boys, 53			Total, 85		
	Times Correct	Times Incorrect	Percent Correct	Times Correct	Times Incorrect	Percent Correct	Times Correct	Times Incorrect	Percent Correct
1 accidental.....	22	10		39	14		61	24	
2 accessible.....	14	18		17	36		31	54	
3 baptism.....	16	16		38	15		54	31	
4 chirography...	10	22		20	33		30	55	
5 characteristic..	14	18		25	28		39	46	
6 deceitfully.....	15	17		25	28		40	45	
7 descendant....	8	24		16	37		24	61	
8 eccentric.....	10	22		29	24		39	46	
9 evanescent....	5	27		12	41		17	68	
10 fierceness.....	13	19		29	24		42	43	
11 feignedly.....	7	25		21	32		28	57	
12 ghastliness.....	7	25		16	37		23	62	
13 gnawed.....	12	20		21	32		33	52	
14 heiress.....	17	15		25	28		42	43	
15 hysterics.....	16	16		24	29		40	45	
16 imbecility.....	16	16		34	19		50	35	
17 inconceivable..	8	24		12	41		20	65	
18 inconvenience..	12	20		20	33		32	53	
19 inefficient.....	8	24		25	28		33	52	
20 irresistible.....	6	26		7	46		13	72	
Total.....	236	404	36.9	455	605	42.9	691	1009	40.6

Oct 2 18 46

No 2. Orthogity
No 1 Accidental 18 Inconvent
2 Assibel = 19 Inconvent
3 Baptism 20 Errustable
4 ^{the} Kingithy 21
5 Chorustie 22
6 Drectifuly 23
7 Decentness 24
8 Excentric 25
9 Evonesent
10 Greenes
11 Fomicaly
12 ~~Glosses~~
13 Nland
14. Aries
15. ~~Threats~~
16. Imbesility
17. Inconserible
18 P
19
20
21

TABLE II.

<i>Number of pupils who had</i>	<i>Girls</i>	<i>Boys</i>	<i>Total</i>
0 word correct	2	1	3
1 word correct	3	6	9
2 words correct	5	1	6
3 words correct	0	6	6
4 words correct	0	1	1
5 words correct	2	3	5
6 words correct	3	2	5
7 words correct	4	2	6
8 words correct	1	4	5
9 words correct	1	2	3
10 words correct	0	4	4
11 words correct	1	7	8
12 words correct	1	2	3
13 words correct	3	1	4
14 words correct	1	0	1
15 words correct	1	1	2
16 words correct	0	1	1
17 words correct	1	5	6
18 words correct	1	0	1
19 words correct	1	3	4
20 words correct	1	1	2

Of the class of 1846, only 16 of the 85 pupils stood as high as 70 percent in this spelling test, the present "passing" mark in most schools. Three pupils had none spelled correctly; nine had only one right; while 24, or more than one-fourth of the entire class, misspelled 17 or more words. The mistakes were interesting. The 31 who misspelled "baptism" spelled it in 15 different ways, and "heiress" was written by 43 pupils in 22 different ways. The following words, taken from the papers in spelling and geography prove that originality in spelling was not unknown to the children of Mr. Parish's school.

heirress	babtism	Agsta
hurriess	babtisism	Bristle
heirruess	batism	Suffork
heirees	batisim	Midlesex
heirness	baptsim	Esexx
hieress	baptisim	Berkshiere
heress	baptisimn	Eirie
hirress	baptisem	Ontareio
hereis	baptisom	Mane
airress	baptisum	Vamont
airress	baptisemn	Rodiland
airest	baptisim	Connetticut
airresset	baptysm	Cornedicut
airhess	baptisiam	Newjessy
arress	baptiasm	Pencilvany
arris		Mishegan
arriss		Mysurie
aries		Misury
ariest		
areress		
arerest		
eirress		
decietfully	inconviene	fiercness
deceitefully	inconvieneiance	firerceness
deceatfully	inconvenience	firceness
deceatfully	incoeinance	fierseness
deceitfully	inconveinance	fiecness
deceitfully	inconveaneyance	fissness
deceitfully	inconveinance	feiceness
deciotfully	inconveniance	feirceness
decitfully	inconvenience	fearsness
descitfully	inconvenience	feaceness
disceatfully	inconveince	fearceness
dicetfully	inconvenience	fearciness
dissceetfully	inconvenience	ferceness
disceitfully	inconveiniant	fearness
	inconveince	fearcness

Oct. 2nd. 1846

Number two. Orthography

- | | |
|--------------------------|-------------------|
| 1. Accidental | 18. Inconveniance |
| 2. Accessible | 19. Inefficient |
| 3. Baptism | 20. Inistigle |
| 4. Chyography | |
| 5. Charitable | |
| 6. Decitfully | |
| 7. Desendants | |
| 8. Excentric | |
| 9. Evanescent | |
| 10. Fabreness | |
| 11. | |
| 12. Phastiness | |
| 13. Known | |
| 14. Heiness | |
| 15. Hysteria's | |
| 16. Imbeility | |
| 17. Inconscieable | |
| 18. | |
| 19. | |
| 20. | |

Below are the problems in arithmetic:

1. Add together the following numbers: Three thousand and nine, twenty-nine, one, three hundred and one, sixty-one, sixteen, seven hundred, two, nine thousand, nineteen and a half, one and a half.

2. Multiply 10,008 by 8,009.

3. In a town five miles wide and six miles long, how many acres?

4. How many steps of two and a half feet each, will a person take in walking one mile?

5. What is one-third of $175\frac{1}{2}$?

6. A boy bought three dozen oranges for $37\frac{1}{2}$ cts., and sold them for $1\frac{1}{2}$ cts. apiece; what would he have gained if he had sold them for $2\frac{1}{2}$ cts. apiece?

7. There is a certain number $\frac{1}{3}$ of which exceeds $\frac{1}{4}$ of it by 2; what is the number?

8. What is the simple interest of \$1200 for 12 y. 11 m. 29 d.?

In examining these papers, twelve and one-half percent was allowed for each problem when the answer was correct; nothing was credited for method or for partially correct work. The dollar sign was omitted in so many answers that it was decided to deduct nothing for its omission. The omission of a necessary decimal point made an answer incorrect and nothing was allowed even if the work was correct in every other particular. Of course this method of marking was as fair to the pupils of 1846 as to those of 1905 for all papers were marked on the same scale.

The following tables present in a concise form the results of the examination in arithmetic in 1846:

$$\begin{array}{r} 7) \quad 3009 \\ \underline{29} \\ 301 \\ \underline{61} \\ 700 \\ \underline{2} \\ 9000 \\ \underline{192} \\ 12 \\ \underline{12} \\ 13141 \end{array}$$

$$\begin{array}{r} 2) \quad 1005 \\ \underline{5002} \\ 9072 \\ \underline{8064} \\ 8073072 \end{array}$$

$$\begin{array}{r} 3) \quad 1755 \\ \underline{555} \\ 1200 \\ \underline{1200} \\ 0 \end{array}$$

$$\begin{array}{r} 8) \quad 12-11-29 \quad \$1200 \\ \underline{24} \\ 24- \\ \underline{45} \\ 10800 \\ \underline{800} \\ 1200 \\ \underline{10000} \\ 215800 \end{array}$$

$$\begin{array}{r} 3) \quad 5 \\ \underline{6} \\ 30 \\ \underline{60} \\ 1200 \\ \underline{1200} \\ 0 \end{array}$$

$$\begin{array}{r} 4) \quad 7 \text{ not done} \end{array}$$

$$\begin{array}{r} 1) \quad 5009 \\ \underline{1} \\ 301 \\ \underline{61} \\ 700 \\ \underline{2} \\ 9000 \\ \underline{192} \\ 12 \\ \underline{12} \\ 13141 \end{array}$$

$$\begin{array}{r} 2) \quad 1005 \\ \underline{5002} \\ 9072 \\ \underline{8064} \\ 8073072 \end{array}$$

$$\begin{array}{r} 1) \quad \frac{6}{80} \text{ miles} \\ \underline{1500} \\ 9200 \end{array}$$

$$\begin{array}{r} 3) \quad 1252 \\ \underline{3756} \\ 603 \end{array}$$

$$\begin{array}{r} 1) \quad 12 \quad 11 \quad 29 \quad 15582 \quad 1200 \\ \underline{144} \quad \underline{624} \quad \underline{10800} \\ 144 \quad 46 \quad 8800 \\ \underline{778} \quad \underline{939880} \\ 779 \quad \underline{4551890} \end{array}$$

$$1) \quad 5 - \frac{1}{3} \cdot 2$$

I have done all that Jameson told



TABLE III.

PROBLEM	Girls, 29				Boys, 50				Total, 79			
	Times Omitted	Times Correct	Times Incorrect	Percent Correct	Times Omitted	Times Correct	Times Incorrect	Percent Correct	Times Omitted	Times Correct	Times Incorrect	Percent Correct
First.....	0	10	19		0	25	25		0	35	44	
Second.....	0	17	12		1	33	16		1	50	28	
Third.....	9	7	13		16	14	20		25	21	33	
Fourth.....	11	0	18		15	11	24		26	11	42	
Fifth.....	0	8	21		6	20	24		6	28	45	
Sixth.....	10	0	19		16	7	27		26	7	46	
Seventh.....	17	9	3		32	12	6		49	21	9	
Eighth.....	15	3	11		19	10	21		34	13	32	
Total.....	62	54	116	23.3	105	132	163	33	167	186	279	29.4

TABLE IV.

Number who had	Girls	Boys	Total
0 problem correct	8	10	18
1 problem correct	9	8	17
2 problems correct	2	6	8
3 problems correct	2	10	12
4 problems correct	5	5	10
5 problems correct	3	6	9
6 problems correct	0	3	3
7 problems correct	0	2	2
8 problems correct	0	0	0

TABLE V.

Number who had	Girls	Boys	Total
0 problem omitted	10	12	22
1 problem omitted	3	11	14
2 problems omitted	3	9	12
3 problems omitted	4	7	11
4 problems omitted	4	5	9
5 problems omitted	4	2	6
6 problems omitted	1	3	4
7 problems omitted	0	1	1
8 problems omitted	0	0	0

The first two examples, requiring only abstract number work, are of the kind in which the "schools of our fathers" are supposed to have given that incessant drill in which the modern school is said to be lacking. Only 44 percent of the class had the first correct, and even in the second where the only chance for a mistake was in the actual multiplying, 37 percent or more than one-third of the class were wrong. Again in the fifth, another abstract example, for which the drill method should have prepared the pupils, six boys found it too difficult even to try and only 36 percent of the class had it correct. Of 29 girls, not one had the right answer to the fourth or sixth, and only three girls and ten boys worked the interest problem to a successful conclusion.

A striking feature of the work in arithmetic was the variety in the answers as obtained by different pupils. The incorrect answers were often so far from the correct answers as to overwhelm one with the conviction that the children were entirely lacking in power to mentally approximate the results. Answers to the fifth example varied from $5\frac{1}{2}$ to 6312. Below are some of the incorrect answers to the problem in simple interest. Dollar signs, decimal points, and commas are the pupils', the first two conspicuous chiefly by their absence.

2.15.80	93.28	31966 $\frac{2}{3}$
87.58.00	\$93.58	93,580
1860,58	96.86	491040
110,88,05	114.00	892800
	115.08	1908000
	\$179.80	4593600
	449.500	5587200
	475.00	170017400
	638.00	11038980000
	907.92	72 $\frac{1}{2}$
	932.200	
	\$937.80	
	9328.	

In comparing the results in these two tests, it should be remembered that the pupils who took the tests in 1846 were all high school pupils and that the course of study at that time covered only three

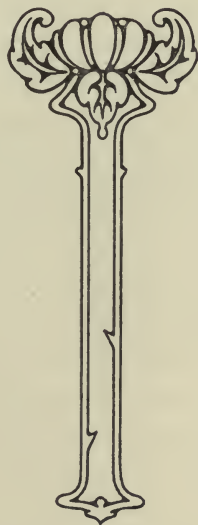
years. Further on in this little book is a chapter devoted to the discussion of the fairness of these tests but one or two questions at least may well be discussed here. Ought not present day ninth grade grammar school pupils be better qualified to solve these examples in arithmetic than these high school pupils? Had not these high school pupils forgotten much of their knowledge of arithmetic? These questions naturally suggest themselves to those who have in mind only the present day course of study; but years ago the grammar school branches were continued in the high school. The first year work in the old high school included work in arithmetic, English grammar, geography, history of the United States and algebra. Twenty-five weeks were given to arithmetic and about half the members of the school took the work. In addition, a ten-weeks' course in mensuration was given during the second year, while a general review was taken in the last half of the senior year.

But the objection may be made that the work in arithmetic in the old high school was probably advanced work, and as such was hardly fitted to prepare these pupils well for abstract work in whole numbers and fractions, simple interest and simple mensuration. Our present course of study for grades eight and nine includes work in square root, bank discount, stocks and bonds, partial payments, mensuration and inventional geometry. It is to be questioned whether the old high school course was more advanced than this. These facts would seemingly justify the opinion that the high school pupils of 1846 brought to this arithmetic test nearly as recent knowledge of the simple operations involved as did the children who tried the same work in 1905.

No such question can be raised regarding the fairness of the test in spelling. It will be conceded at once by every fair-minded person that these high school children were probably better spellers than they were when they were in the highest grammar grade. This would be true as a result of the English work in the high school even if spelling were not particularly emphasized. But spelling was not neglected even in the high school. The principal tells us in one of his early reports that regular spelling exercises, which were rigidly criticised, were required in the high school until the pupils made it obvious that they were no longer necessary. If, as

high school pupils, the children averaged only 40.6 percent in this spelling test, what would have been the extent of their failure had it been given to them as grammar grade pupils?

The results of these two tests seem to indicate that today, children are not only better spellers, but that they reason better in arithmetic and are more accurate in ciphering than children of about the same age half a century ago.



Locational Geography

THERE is a strong feeling among the critics of modern education that place geography or the knowledge of the location of places is being neglected in our present courses of study in elementary schools. Some teachers share this opinion and eminent educators are frequently heard to refer to the schools of years ago as being much more effective in this line than the schools of today. Are these feelings and opinions well founded? Has the "enrichment" of the course in geography in lessening the amount of drill on location, lessened the children's knowledge of location? Opinions unsupported by evidence are hardly to be trusted in discussing such questions. What are the facts?

For the purpose of forming an enlightened opinion on this matter the writer has spent some time in investigating former methods and in examining old text books and papers. Believing that the old geography test of 1846 is a fair example of the work of half a century ago, these questions have recently been given to several ninth grade classes of different buildings in Springfield and results compared. The papers were printed, as in the arithmetic test exactly like the original and all the examining and marking was done by the writer. Most of the questions relate to the United States, and as North America is made the special subject of study in the sixth year of the present school course, pupils of that grade could without doubt show better results in this test than the higher grade pupils to whom it was given. The work of the ninth year in particular has scarcely any connection with the geography of North America and these tests were given to the children near the end of their ninth year in school.

The table below gives the result:

	1846	1906
Number of pupils who took test	81	219
Average percent correct	40.3	53.4

Although neither average is high, the difference, when one considers the number of children involved and the narrow character

of the test, is sufficiently large to lead one to conclude that the work of today in this study is better than it was formerly.

The questions, nearly all of which relate to the United States, follow:

1. What is Latitude?
2. What is Longitude?
3. In what direction does the river St. Lawrence flow?
4. Name the four large lakes between the United States and the British possessions.
5. Name the States bordering on those four lakes, and their capitals.
6. What large bay lies east of Massachusetts?
7. Name the New England States and their capitals.
8. What river is the boundary between South Carolina and Georgia?
9. Name the three large branches of the Mississippi on the west side.
10. What is the largest lake lying wholly in the United States?
11. Name the counties in Massachusetts.
12. Name the largest river in the eastern part of Massachusetts.

In 1846, when this test was originally given, there were only four states bordering on the four great lakes referred to in the fifth question. These states were as follows:—New York, Pennsylvania, Ohio and Michigan,—and their capitals were Albany, Harrisburg, Columbus and Detroit respectively. At that time, also, two of the New England States, Rhode Island and Connecticut, had two capitals each. These facts were kept in mind in marking the old papers.

Five percent was allowed for correct answers to each of the first, second, sixth and twelfth questions, ten per cent for correct answers to each of the others. The writer adopted this scale because the sixth and twelfth questions related to one state and called for single-word answers and the first and second were opposites and were generally either both correct or both wrong. Due credit was given for a partial answer, as for example, in the fourth, two and a half percent was allowed for each lake correctly named.

It needs but a glance at this old test to discover that the questions are all tests of the memory; there is not a thought question among them. Names of lakes, names of bays, names of rivers, names of states, names of capitals, names of counties and for variety two definitions! How would the pupils of 1846 have answered the following:—Why does the St. Lawrence River never have floods? Give causes for the difference in climate between England and New England. Why has New York become the greatest commercial center in the United States? Name five cities located at the head of navigation on rivers of the United States emptying into the Atlantic.

This old test is indicative of the geography work of the times. There were three books in use in Springfield in 1846:—*Mitchell's Primary Geography*, used with children as soon as they were able to "spell and read with facility," *Morse's Geography*, used in intermediate grades, and *Mitchell's Geography and Atlas* for grammar grade work.

The primary book contained 83 lessons and 14 maps. In this book, the child was introduced to this subject in 15 lessons of which the following is a sample:—

LESSON 3

Of the Surface of the Earth.

Question. What is the earth?

Answer. One of the planets.

Q. Of what does the surface of the earth consist?

A. Land and water.

Q. How much of the earth's surface consists of land?

A. A quarter, or one-fourth.

Q. How much more water than land is there?

A. Three times more water than land.

Q. What is the chief part of the water on the surface of the earth called?

A. The sea or ocean.

For the purpose of being more easily understood, different parts of the water are called by different names, as you will learn in the next lesson.

Q. Are the waters of the earth salt or fresh?

A. They are salt.

Q. What part of the waters on the earth is fresh?

A. Lakes and rivers have generally fresh water.

Such lessons were probably learned and recited in many schools in question and answer style as this was a method of recitation quite popular in the early days. This catechism work was followed by 61 lessons of which 14 were map studies and 47 were devoted to the history and general description of the continents and countries. These descriptive lessons made little mention of the manners and customs of people,—the side of geography especially emphasized in lower grade work now,—but place geography or the location of places on the maps was given much attention. Children were directed to point out not only rivers, cities and countries of near-by importance, but such places as “Barbary, Egypt, Nubia, Abyssinia, Darfur, Soudan, Senegambia, Guinea, Ethiopia, Cape Colony, Caffraria, Mozambique, Zanguebar, Berbora,” etc. In these 14 lessons the direction, “Point out” is given 146 times followed in each case by from five to 15 names. In those times the books formed principally the courses of study, and we may well conclude that before leaving the primary school, the Springfield child had “pointed out” and named more or less faithfully hundreds of places on the maps. This work was done with children corresponding in age to our second, third and fourth grade pupils.

Morse's Geography used in the middle grades, was a pretentious volume of three or four hundred pages of which about one hundred were devoted to the study of the United States. The first seventeen pages consisted of definitions and explanations supposed to be necessary to an understanding of geography. History and descriptive matter were made prominent. The descriptions, although containing much that was interesting to children, still touched lightly upon those manners and customs which so attract the interest of children today.

Mitchell's Geography and Atlas was one of the best illustrated school books of the time. It was an interesting book of more than three hundred pages which was kept up to date by the plan of its author providing for a revision every five years. The book began with 43 pages of definitions, printed in catechetical style, followed

by 25 pages of map questions. There were whole pages of questions commencing with "What,"—"What sea lies east of Cochin China," etc. If this dose of 68 pages of definitions and map questions was really administered to the youth of the by-gone generation, the school committee were probably not far from the truth regarding its effects on the pupils when they stated in an early report that such a grinding method,—“after having worked its appropriate results on their heads, will be very likely to display its efficacy in their heels.” This book treated the United States in nearly one hundred pages.

These three books, used in Springfield in 1846 below the high school, give us a definite idea regarding the character of the work in this study. It is probable that much of the pupil's time was spent in learning definitions and "locating" places. The old test was such as would naturally follow work in which map-visualizing and word-memorizing were so strongly emphasized. Many people of today, even, would naturally suppose that pupils who were taught according to these drill methods would excel in such a test. The results prove the contrary. As further proof of the failure of the pupils of the olden time to retain geographical facts, the following analysis of the geography test of 1846 is submitted.

RESULTS OF TEST OF 1846

Number of Pupils who took the test, 81.

Number of pupils whose answers were

	<i>Correct</i>	<i>Omitted</i>	<i>Incorrect or Incomplete</i>
First question	27	25	29
Second question	21	30	30
Third question	22	7	52
Fourth question	19	11	51
Fifth question	1	38	42
Sixth question	65	6	10
Seventh question	18	7	56
Eighth question	29	33	19
Ninth question	18	39	24
Tenth question	16	23	42
Eleventh question	2	26	53
Twelfth question	24	23	34

NO. 3. GEOGRAPHY.

- 1 What is Latitude ?
- 2 What is Longitude ?
- 3 In what direction does the river St. Lawrence run ? *east*
- 4 Name the four large lakes between the United States and the British possessions *Great Bear L*
Great Slave L Winipeg L Attabasca L
- 5 Name the States bordering on those four lakes, and their capitals.
- 6 What large Bay lies east of Massachusetts ? *Bay of fundy*
- 7 Name the New England States and their capitals. *Maine new Hampshire*
vermont Connecticut Rhode Island Massachusetts
South Carolina north Carolina Georgia Alabama
- 8 What river is the boundary between South Carolina and Georgia ? *Columbia*
- 9 Name the 3 largest branches of the Mississippi river on the west side. *Levis river*
Clarks river
- 10 What is the largest lake lying wholly in the United States ? *Superior*
- 11 Name the counties in Massachusetts.
- 12 Name the largest river in the eastern part of Massachusetts. *St Lawrence*

Over one-fourth, or 27.6 percent, of the questions remained unanswered. Of the 81 pupils, only one wrote the correct answer to the fifth, and but two to the eleventh. None of the 31 girls had the fifth or the eleventh correct and only one had the right answer to the ninth.

In answering the first and second questions, two-thirds of the pupils failed to distinguish between latitude and longitude. Both were designated as "lines," and longitude was defined on one paper as "the center of the earth."

In the third, the St. Lawrence River was made to flow in every possible direction, the answers being as follows:—

North.....	12	South-east.....	4	N. and S.....	1
North-east.....	22	South-west.....	11	N. E. and S. W....	2
North-west.....	2	East.....	7	No answer.....	7
South.....	9	West.....	4		

The chief difficulty in the fourth seemed to be in locating Lake Michigan, 47 pupils naming it as part of the boundary line between the United States and the British possessions.

In the sixth, the answer was considered correct if Cape Cod Bay or Massachusetts Bay was named. Among the other bays given as answers appeared Narragansett, Delaware, Fundy, Baffin and Biscay.

The seventh should have been easily mastered as these children must have spent hours of drill on this question. Less than one-fourth of the class, however, succeeded. Sixteen states were named as belonging to the New England group, among them North and South Carolina, Georgia and Alabama. Montpelier was named as the capital of three of the New England states, while Rhode Island was given for its capitals,—Providence, Newport, Newburyport, Nantucket and Martha's Vineyard.

Of the 81 pupils, 48 attempted to answer the eighth question. Among their answers appeared Savannah, Mississippi, Columbia, Susquehanna, Apalachicola, Nueces, Red, Delaware, Rocky, St. Lawrence and Alabama.

The ninth and tenth were among the most difficult, 39 pupils, or nearly half the class making no effort to answer the former, while only 16 had the latter correct.

Ability to name the counties of Massachusetts was one of the rigid requirements in the old Bay State schools. Pupils were made to repeat the counties in order from Berkshire to Nantucket. In the above test, however, only two named the fourteen counties correctly,—26 wrote no answers whatever, while 19 others wrote the names of four counties or less. This question alone gave the class of 1846 a decided advantage in this comparative test for no effort is made today to have children remember names of so many counties.

The Springfield High School was within a few rods of the Connecticut river in western Massachusetts, yet in answering the last question, 22 pupils named that river as the largest in the *eastern* part of Massachusetts. The Blackstone, Housatonic, Merrimac, Hudson, St. Lawrence and Mississippi were given as answers while one boy guessed "Fall River."

A study of this old test and of the geography text books in use at the time it was given should convince us of the futility of the methods then largely practised of drilling pupils in locating places about which they knew practically nothing. In spite of the numberless hours of drill on the dry bones of geography, children failed to retain the facts of location. The modern school is well equipped with sand tables, globes and wall maps. Location constantly forces itself upon the attention of the child through maps in the history and geography texts. Individual teachers, here and there, may neglect the drill in location as they may neglect any other essential feature of school work, but the modern school aims to teach location not merely by map drill but by arousing an interest in location through books of travel,—through a study of manners and customs and lives of peoples. No amount of dull drill on China,—as so many lines and dots,—will fix the map of China in a child's mind; but a study of the life of the Chinese people in their struggles against nature,—their homes, dress, habits, occupations, recreations, cities and means of communication will not only enlarge and liberalize the child's mind but quite incidentally will fix facts of location,—the object so strenuously aimed at by the old school. It is the human element which was almost entirely omitted from the geography teaching of years ago which makes the study

of mountains and rivers and sea coast worth while. Cape Cod as a barren stretch of sand extending into the Atlantic is uninviting, but for a hundred years it has worried and destroyed our vessels and held the attention of our law makers. Its study is clothed with life when, in considering it as a barrier to commerce, we learn about shipwrecks, light-houses, light-ships, life-saving stations and canals.

How much richer is the imagination and life of the child who spends part of his time for seven or eight years of his elementary school course in reading Jane Andrews' "Each and All" and "Seven Little Sisters," Carroll's "Around the World," Chaplin's "Little Folks of Other Lands," Kirby's "Aunt Martha's Corner Cupboard," Schwatka's "Children of the Cold" and Carpenter's travels in the various countries,—than the child's whose precious youth is spent in memorizing barren and unemotional facts and in fixing in his mind relative positions of unimportant places. A student of the old time methods is not surprised when he finds evidence proving that intelligent adults of half a century ago criticised their own schools severely. In one of the many intelligently critical reports of the Springfield School Committee of years ago dissatisfaction is expressed because "the hard names of obscure and distant places, rivers, mountains, or other objects, perhaps in another hemisphere, are required to be committed, together with dry details of facts concerning governments, commerce, etc., etc., which for the most part are unintelligible to the child."



Penmanship

THE Springfield pupils of 1846 wrote a selection of poetry as a test in penmanship. These papers of about eighty children are preserved in the old volume before mentioned. The selection follows:—

“Culture’s hand
Has scattered verdure o’er the land,
And smiles and fragrance rule serene,
Where barren wild usurped the scene.
And such is man—a soil which breeds
The sweetest flowers, or vilest weeds;
Flowers lovely as the morning’s light,
Weeds deadly as the aconite;
Just as his heart is trained to bear
The poisonous weed, or flow’ret fair.”

This selection was written in ink of questionable quality on ruled paper some of which is of a light blue tint. The papers, not only of this set but of the other three sets, are in a good state of preservation, but the ink in some cases is somewhat faded.

In this booklet will be found three pages of reduced reproductions of these “specimen penmanship” papers, the work of six pupils of the class of 1846. These are presented as evidences of poor work in this subject. Many of the old papers testify to the slow, laborious effort expended in their production. This crabbed writing, quite common in the old school, has been practically eliminated through the modern counting method and supervision. Some of the papers are excellent. The percentage of exceedingly poor ones, however, is very much larger than would be found in a set written by pupils of today. There are unquestionably fewer failures in writing under our supervised system than there were formerly: there is also, of course, greater uniformity, which is not a bad thing if the style is satisfactory. An individual style develops very easily and quickly under pressure of much writing, and such penmanship continues a “good hand” if facility in movement, and ability to produce fundamental lines have been acquired.

Culture's hand
 has scattered verdure over the land; ^{And smiles and fragrance}
 Where barren wild usurped the scene. ^{And such is man - a soil which}
 The sweetest flowers, or vilest weeds.
 Flowers lovely as the morning's light.
 Weeds, deadly as the acornite;
 Just as his heart is trained to bear
 The poisonous weed, or flower, yet fair.

Culture's hand
 Has scattered verdure over the land;
 And smiles and fragrance rule serene;
 Where barren wild usurped the scene.
 And such is man - a soil which breeds
 The sweetest flowers, or vilest weed;
 Flowers lovely as the morning's light;
 Weeds deadly as the acornite;
 Just as his heart is trained to bear
 The poisonous weed, or flower, yet fair.

Cultures hand
 Has scattered verdure Over the land,
 And smiles and fragrance rule serene,
 Where barren wild usurped the scene.
 Can such is man - a soil which breeds
 The sweetest flowers, or vilest weeds,
 Flowers lovely as the morning light,
 Weeds deadly as the aconite
 Just as his heart is trained to bear
 The poisonous weed, or flower fair

Cultures Hand
 Has scattered verdure o'er the land;
 And smiles and fragrance rule serene
 Where barren wild usurped the scene.
 Can such is man - a soil which breeds
 The sweetest flowers, or vilest weeds;
 Flowers lovely as the morning's light;
 Weeds deadly as the aconite;
 Just as his heart is trained to bear
 The poisonous weed or flower fair

Culture's hand
 Has scatterd verdure o'er the land;
 And smiles and fragrance rule serene;
 Where barren wild usurped the scene.
 And such is man — a soil which breeds
 The sweetest flowers or vilest weed;
 Flowers lovely as the morning's light;
 Weeds deadly as the acornite;
 Just as his heart is trained to bear
 The poisonous weed, or floweret fair.

Culture's hand
 Has scattered verdure o'er the land;
 And smiles and fragrance rule serene,
 Where barren wild usurped the scene.
 And such is man — a soil which breeds
 The sweetest flowers, or vilest weeds;
 Flowers lovely as the morning's light,
 Weeds deadly as the acornite;
 Just as his heart is trained to bear
 The poisonous weed, or floweret fair.

It would, of course, be impossible in such a small publication as this, to reproduce a sufficient number of whole papers of penmanship to enable the reader to compare the work of two large classes of pupils. In order that such a comparison may be made, however, as will enable the reader to form a fair opinion regarding penmanship, the following plan has been carried out. The work of 24 girls of 1846 is exhibited on page 34. On the opposite page is the work of 24 girls of the ninth grade of 1906. The fac-similes of 1846 were formed by photographing 24 papers and taking the first line from the first paper, the second line from the second paper, etc., omitting only such papers as could not be reproduced. The papers in the old volume are arranged alphabetically and, in these exhibits, the papers were photographed as they happened to come. The originals of the fac-similes of 1906 were formed by each girl writing one line of the stanza on "half letter" paper, the first girl writing the first line, the second girl the second line, etc., according to the regular seating arrangement of the class. The two pages of exhibits of boys' writing were obtained in a similar way. These exhibits speak for themselves.

Anybody who would examine the eighty or more sheets of specimen penmanship of the class of 1846 would be almost willing to accept the statement of the School Committee of Springfield in their report of 1853, that, "* * there are but few in our schools who attain excellence in this beautiful accomplishment, or even a moderate degree of skill." Engraved copies and penmanship supervisors came to the rescue later. During the past ten or fifteen years, people's ideas regarding penmanship have been quite unsettled, owing to the agitation over the slant and vertical systems, and changes have followed one another rapidly in most communities. The ninth grade children whose writing is exhibited in these pages had been taught three different styles in their nine years of school. In the primary grades, they wrote the slant; then, for five or six years, the vertical was practiced; finally, about a year before they wrote the lines exhibited here, they changed to the semi-slant. These changes have resulted, probably, in lowering somewhat the character of the writing of the present-day school children, but, in spite of this, the results, as a whole, seem decidedly superior to those attained under old-time methods.

Has scattered verdure over the land;
And smiles and fragrance rule serene,
Where barren wild usurped the scene.
And such as man—a soil which breeds
The sweetest flowers, or vilest weeds:
Flowers lovely as the morning's light,
Weeds deadly as the acorn;
Just as his heart is trained to bear
The poisonous weed, or floweret fair.
Has scattered verdure over the land;
And smiles and fragrance rule serene,
Where barren wilds usurped the scene
And such as man—a soil which breeds
The sweetest flowers or vilest weeds
Flowers lovely as the morning's light,
Weeds deadly as the acorn:
Just as his heart is trained to bear
The poisonous weed, or floweret fair.
Has scattered verdure over the land,
And smiles and fragrance rule serene.
Where barren wild usurped the scene
And such is man—a soil which breeds
The sweetest flowers, or vilest weeds
Flowers lovely as the morning's light,

Has scattered verdure o'er the land;
And smiles and fragrance rule serene,
Where barren wild usurped the scene.
And such is man - a soil which breeds
The sweetest flowers, or vilest weeds;
Flowers lovely as the morning's light.
Weeds deadly as the aconite,
Just as his heart is trained to bear
The poisonous weed, or flow'ret fair.

Has scattered verdure o'er the land;
And smiles and fragrance rule serene.
Where barren wild usurped the scene.
And such is man - a soil which breeds
The sweetest flowers, or vilest weeds,
Flowers lovely as the morning's light.
Weeds deadly as the aconite;
Just as his heart is trained to bear
The poisonous weed, or flow'ret fair.

Has scattered verdure o'er the land;
And smiles and fragrance rule serene,
Where barren wild usurped the scene.
And such is man - a soil which breeds
The sweetest flowers, or vilest weeds;
Flowers lovely as the morning's light,

Has scattered verdure o'er the land;
And smiles and fragrance rule serene,
Where barren weed usurped the scene.

And such is man — a soil which breeds
The sweetest flowers, or vilest weeds,
Flowers lovely as the morning's light,
Weeds deadly as the acornite:
Just as his heart is trained to bear
The poisonous weed or flower's fair

Has scattered verdure o'er the land,
and smiles and fragrance rule serene,
Where barren weed usurped the scene
And such is man — a soil which breeds
The sweetest flowers, or vilest weeds;

Flowers lovely as the morning's light,
Weeds deadly as the ^{aconite} ~~agassite~~;
Just as his heart is trained to bear
The poisonous weed, or flower's fair.

Has scattered verdure o'er the land,
And smiles and fragrance rule serene,

And smiles and fragrance rule serene,
Where barren wild usurped the scene
And such is man - a soil which breeds
The sweetest flowers, or vilest weeds,
Flowers lovely as the morning's light,
Weeds deadly as the aconite;
Just as his heart is trained to bear

Has scattered verdure o'er the land
And smiles and fragrance rule supreme
Where barren wild usurped the scene
And such is man - a soil which breeds
The sweetest flowers, or the vilest weeds
Flowers lovely as the morning's light,
Weeds deadly as the aconite;
Just as his heart is trained to bear

Has scattered verdure o'er the land,
And smiles and fragrance rule serene,
Where barren wild usurped the scene.
And such is man - a soil which breeds
The sweetest flowers, or vilest weeds;
Flowers lovely as the morning's light,
Weeds deadly as the aconite;
Just as the heart is trained to bear
The poisonous weed, or flower fit fair

Successful Careers of Pupils of 1846

TRACING the after lives of the pupils of the class of 1846 reveals much of value to parents and teachers. Some members of the class are still living in Springfield. They have furnished much valuable information for this booklet regarding conditions in the old schools, and have made it possible to trace the careers of some of their classmates. One of the Springfield citizens has been mayor of the city; another is a leading business man. Both were successful in the tests and both are most estimable citizens. A girl who attempted only four of the eight examples and had them all wrong, became an honored member of the Springfield school board. A boy, who missed nineteen of the twenty words and who solved only three of the eight examples correctly, became president of a bank, and for years was one of Springfield's foremost citizens. Business success came to him partly as a result of sterling honesty; and sympathy, charity and broad helpfulness characterized his life. At his death, his city paid unusual honor to his memory. Another boy who had but two examples correct and misspelled nine words rose to the head of a bank in a large city in a neighboring state. Still another boy, who could not do a single example and who could spell but six words correctly, became mayor of a western city.

There is more to life than spelling and arithmetic, and school room estimates of children are often narrow and unjust. Qualities of character which cannot be measured by a spelling test nor by school standards are determining factors in life's work. In recent years, child study, with its fruits,—sympathy, charity, optimism,—has done much to break up the rigidity of our judgments of children and to make the paths of the receptive, diffident, backward, and wayward children happier and more hopeful. Through experience and maturity is acquired, slowly, the wisdom to look "into the Endless Promise" of childhood and see

"Good lying hid from all eternity."

Oct 2nd 1846

No 2 Orthography

- | | |
|-------------------|-------------------|
| 1. Accidental | 18. Inconvenience |
| 2. Accessible | 19. Inefficient |
| 3. Baptism | 20. Irresistable |
| 4. Chirography | 21. |
| 5. Characteristic | |
| 6. Deceitfully | |
| 7. Descendent | |
| 8. Eccentric | |
| 9. Evanescent | |
| 10. Ferociness | |
| 11. Designedly | |
| 12. Ghostliness | |
| 13. Enamed | |
| 14. Heiress | |
| 15. Hysterics | |
| 16. Imbecility | |
| 17. Inconceivable | |
| 18. | |
| 19. | |
| 20. | |
| 21. | |

Oct 2nd 1846
 No 2 Orthography

- | | | |
|-------------------|---------------|------------------|
| 1. Accidental | 18 | 18 Inconvenience |
| 2. Accesable | 1 | 19 Impudence |
| 3. Baptisom | | 20 Irresistible |
| 4. Biogrophy | | |
| 5. Directivatio | | |
| 6. Deceatfully | | |
| 7. Decendence | | |
| 8. Excrentic | | |
| 9. Evannasant | | |
| 10. Greecness | | |
| 11. Stained by | | |
| 12. Gattleness | | |
| 13. Lawd | | |
| 14. Heirs | | |
| 15. Histricks | | |
| 16. Imbecility | | |
| 17. Inconceivable | | |
| 18. | | |
| 19. | | |
| 20. | | |
| 21. | | |

THE BOY WHO MADE THESE MISTAKES BECAME A VERY
 SUCCESSFUL BUSINESS MAN

Oct 2d 1846
 No 2 Orthography

- | | | |
|-----|---------------|---------------|
| 1. | Accidental | Inconsequence |
| 2. | Accessible | Inefficient |
| 3. | Baptism | Irresistible |
| 4. | Chography | |
| 5. | Calistobolis | |
| 6. | Deceitfully | |
| 7. | Decendant | |
| 8. | Concentric | |
| 9. | Cravescent | |
| 10. | Ferocness | |
| 11. | Fainidly | |
| 12. | Satthness | |
| 13. | Flawed | |
| 14. | Heased | |
| 15. | Histerics | |
| 16. | Imbecility | |
| 17. | Inconceivable | |
| 18. | Inconsequence | |
| 19. | | |
| 20. | | |
| 21. | | |

Conditions in the Old Schools

ARE these comparisons fair? Were not the schools conducted in such a manner in 1846 as to make a fair comparison impossible today? Was not the school year shorter than it is now? Were not the high school pupils younger than the present ninth grade children? Should not these tests have been given to pupils of the eighth or possibly the seventh grade? These questions can be answered only by giving some facts about the schools of 1846.

The Springfield high school in 1846 was located on State street, on the site of the present court house. The building was of brick, and two stories high, with an entrance on State street. It must have been about 80 or 90 feet long and 50 or 60 feet wide. There was a house between it and Elm street, and a lane connected the two streets west of the school. The high school was organized in 1841 for the center district of the town. Rev. Samuel Lawton was its first principal, and was succeeded in 1844 by Ariel Parish. Near the close of Mr. Lawton's term the building was remodeled,—a two-story addition being built on the State street end. This addition provided recitation rooms on each floor, and it was surmounted by a bell tower. On the first floor of the building were two rooms; one, on the east side, occupied by primary pupils, the other, on the west side, used for intermediate classes. On the second floor were the grammar and high schools. The furniture on this floor consisted of painted pine desks roughly finished. These desks and their supports were entirely of wood, and were made to accommodate pupils singly. The double desks with iron supports were just coming into use and were installed in the new building on Court street, which was opened a few years later. There was a raised platform, two steps in height, in the south end of the room, which had to be crossed by children in passing from the main room to the recitation rooms. The principal's desk stood near the center of the raised platform. While Mr. Parish was principal the whole second floor in the older part of the building was all one room. As the room was three or four times as large as one

of our schoolrooms, there was no difficulty in conducting several recitations at the same time.

In 1846, the high school was in fair condition. It consisted of about one hundred pupils, who were considered well fitted for high school work. Mr. Parish, the principal, tells us in his report that one and one-half years before, "a second male teacher was employed, who took off a large class of the younger and most backward pupils." The foreign, non-English speaking element, which makes instruction so difficult in many of the schools today, was entirely lacking, as is shown by the list of family names of the class of 1846 printed below:

Aitcheson	Ennis	Kendall	Smith
Allen	Emmons	Kittredge	Spooner
Barnes	Edwards	Lee	Stevens
Bliss	Eldredge	Lombard	Savage
Bush	Freeman	Moore	Safford
Bartlett	Ferre	Morris	Stebbins
Belden	Folsom	Mosely	Simpson
Bowles	Fitch	Nettleton	Sikes
Blair	Glover	Norcott	Taylor
Brackett	Goodman	Parks	Todd
Bradley	Grover	Phipps	Trask
Bryant	Graves	Peabody	Tiffany
Bemis	Gardner	Parker	Ward
Colton	Hallett	Robinson	Washburn
Clark	Hatfield	Rowland	Wilcox
Chapin	Hastings	Ross	Wright
Church	Harris	Reynolds	Whittlesey
Devine	Hills	Sanderson	Wallace
Dwight	Hunt		Ware
Daniels	Jones		
Day			

The school year was longer than it is now. The report of the school committee for the year 1846 tells us that the school year commenced on the Monday after "Thanksgiving week" and consisted of four terms of eleven weeks each,—a total of 44 weeks of actual school work. Children attended school six hours a day,

from 9.00 o'clock to 12.00, and from 1.30 to 4.30. During the summer term school began at 8.00 o'clock and lasted until 5.00, the two sessions being each three hours in length, with an interval of three hours between. Our school year is approximately 1,000 hours in length,—40 weeks of 25 hours each. In 1846 schools were in session about 1320 hours,—44 weeks of 30 hours each. The child who attended school three years then spent as many hours in school as one who attends four years now.

The work had been supervised, and Springfield schools were even then among the best. Springfield was the first town in Massachusetts to appoint a man as superintendent of schools who was not already on the school board. Samuel S. Green began his work as superintendent of schools in October, 1840, six years before these tests were given. He held two meetings of teachers each week, one in the north part of the town and one in the south. The result of his work was epitomized by Horace Mann in a letter to the Springfield committee early in 1842. The letter, after referring to a recent visit by Mr. Mann to seven of Springfield's schools, says: "I am sure your schools have made more progress within the last 18 months than during the three previous years." Francis Dwight, editor of the *New York District School Journal*, who had been for many years well acquainted with Springfield schools and who had recently visited a number of them, wrote about the same time in the highest terms of the "evidences of vigorous and true advancement." This pioneer work in expert supervision was indicative of the earnest, aggressive manner in which the Springfield school board attacked the problem of common school education, and it placed the public schools of the town among the best in the state.

The average age at which pupils entered the high school was about as high as it is today. In 1846, of the 3,351 pupils enrolled in Springfield, 166 were over 16 years of age. As many as 60 or 70 of these must have been in the high school; this would leave in the grammar schools about 100, or three percent of the total number enrolled. In 1905, of the 9,576 pupils enrolled below the high school, only 238, or less than $2\frac{1}{2}$ percent, were over $15\frac{1}{2}$ years of age. In 1846 there were 53 children under four years of age attending school; in 1905, excluding kindergartens, there were only twenty-

four children under five years. These figures prove that in 1846 larger proportions of the children enrolled below the high school were under five years of age and over sixteen than is true at the present time. We would conclude also that as the high school course covered three years the average age of the pupils of the old high school would be about the same as that of the pupils who are doing the work of the first two years in the high school today.

The course of study in 1846 was quite definite. Reading, writing, arithmetic, geography and spelling were about all the branches taught below the high school. Spelling was strongly emphasized, as the following extracts from the course of study and high school principal's report show:—

“No one shall be advanced to the second class (third year primary) who cannot spell with ease and propriety the words in ‘My First School Book.’”

“No one to be advanced to the first class (fourth year primary) who cannot spell words easily in the first fifty pages of the Spelling Book.”

“Accuracy in spelling and excellence in reading are deemed of the first importance.”

“Ability to spell correctly is deemed highly important, as lying at the foundation of all requirements, without which no person can be accurate or intelligible as a scholar, or ever safe from exposure to great mortification in after life.”

“Regular exercises are required in this branch (in the high school), which are rigidly criticised until the pupils make it obvious that they are no longer necessary.”

How many of the 1,320 hours were given to drill in spelling it would be difficult to tell. With Springfield at one end of the state declaring that ability to spell lay “at the foundation of all requirements,” and that “no person could be intelligible as a scholar” without it; and Cambridge at the other end urging the use of the spelling book as a book which in the day of the fathers was “ever acknowledged ‘the only sure guide to the English tongue,’ ” we may reasonably conclude that not only in Springfield, but throughout the state, spelling was given the place of prominence. These facts and statistics seem to prove that Springfield's schools were such in

1846 that those who took the tests originally had many advantages over the ninth grade pupils, to whom the tests were given in 1905-06. English was spoken in all the homes; the school year was one-third longer than it is now; six years before the tests were given a superintendent had begun his expert work; there were few studies, hence more time could be given to each; the high school was well established, as it had been in existence five years under two able principals; the young and backward children had been taken out of the high school nearly two years before; and, finally, the average age of the pupils was higher than that of the present ninth grade.

Yet with all these advantages, and compared only in the few branches on which all the hours were spent and in which the old schools were supposed to excel, the children of today proved decidedly more efficient. Does this not seem to indicate that there was something wrong in the old-time methods? The critics of today were children in the schools whose methods and results they praise. Were they capable of forming a correct judgment of the character of the work? What did the adults,—the members of school committees,—of that generation think of the schools which they supported and in which their children were being educated? There is plenty of evidence in the Springfield reports bearing upon this question. As early as 1840, the school committee expressed themselves as follows:—

“There are prominent faults in which spelling, English grammar, arithmetic and geography, are taught in many of our schools.”

SPELLING: “*Discharging at a class whole columns of words, with the meaning of which, they are as familiar as they would be with so many terms selected from the Hebrew or Sanscrit, is certainly not a very fascinating mode of teaching pupils the orthography of our language.*”

ARITHMETIC AND GRAMMAR: “*Taxing their memories with the rules of grammar and arithmetic, whilst they know nothing of their true import or application*”—is condemned.

READING: “The most superficial inspection of our schools, is sufficient to disclose in this particular, not only a multitude of faults, but a *whole system of fundamental error*. Indeed it may

be doubted whether its intrinsic importance has been in any due degree felt by the mass of those to whom the management of these schools has been submitted. Had it been, our schools in this particular, would be already undergoing a radical reform, and the equanimity of the committee or visitors would no longer be disturbed by the *senseless jingle of sentences as a substitute for reading.*"

PENMANSHIP: (In Report of 1853): " * * there are but few in our schools who attain excellence in this beautiful accomplishment, or even a moderate degree of skill."

Yet Springfield's schools were admittedly among the best in the state, then as now. Are not such statements, made by the adults then in control of the old schools, more reliable than the present-day laudation of the same schools by people who saw only through the eyes of childhood?

Somewhat astonishing in view of the criticism of modern methods of teaching and of so-called "fads," are the recommendations made by the Springfield school committee in 1840.

"For an exercise in spelling, let the words be *selected from some paragraph that has been read*. Let their *meaning* also be understood; and then let them be *written* out by each scholar in the class. This will afford exercise for the mind. Not only will the ear be employed, but the *eye*; to which *latter sense spelling is really addressed*. Instead of one, two of the organs of sense will be engaged, of which, that of sight is always more conducive to distinct and lasting impressions on the mind." This is in substance the modern method of teaching spelling! Again in 1853, in order to improve the penmanship, the committee suggested as "one way of meeting the difficulty" that a "professional teacher of penmanship" be connected with the department. In the same report was the suggestion that drawing lessons should be given in the high school and upper grammar grades by a special teacher. Thus was foreshadowed our present supervised system!

But what must have seemed to their fellow citizens a really revolutionary idea was promulgated by the committee in that famous report of 1840, to which reference has been made before,—a report which does credit alike to the critical judgment and the

constructive intelligence of the five men who adopted it. To quote at length:—

“ * * the committee would respectfully suggest the propriety of an appropriation for the purchase of apparatus to be used by the Superintendent in familiar lectures on the subjects of Chemistry, Natural Philosophy, and Astronomy. Many of the sublime doctrines of these sciences might thus be stated and illustrated, and *brought down to the comprehension of the older classes of pupils* in our schools. It would *awaken their curiosity*, furnish topics for contemplation, and *impart an impulse* that might result, on the part of many of them, in high attainments in these branches of knowledge. If ‘fragrance after showers is sweet’ to them, might it not be equally grateful to know by the aid of some optical apparatus, how the bow is formed, which ‘spans the cloud in the day of rain;’ and how the red colorings and purple tinges of evening are penciled on the clouds and on the sky, as the sun sinks away from their sight? Would not a good telescope and microscope reveal wonders even to their young gaze, and give them a more impressive sense of the greatness and glory of that God, in whose universe they live, and to whose judgment bar they are accountable?”

Sciences brought down to the comprehension of the older classes of pupils to impart an impulse!

Here were men,—compelled under the law to visit the schools once a month,—who were not satisfied with the oral spelling bees, the memory grinds, the “senseless” reading, the heart-breaking machine-making methods, the narrow course which failed to open up the mind of the child or to make strong and lasting impressions and plant ideals at the root of character. Here were men of vision; men who saw clearly the broader and deeper mission of the public school; men who reached bravely for the soul in education. It is the seriousness, intelligence, and brave ambitious spirit of men like these in control of the educational interests of many communities, that, in a half century, have brought their vision to a realization in systems of schools of which richness of material in the course of study and excellence of supervision are the corner stones. From

the earliest days, under the watchfulness of committees as intelligent as any in the country, this community of Springfield, almost ideal in its location and citizenship, has pushed steadily onward in developing its public schools,—molding, perfecting, broadening;—a wise experimenter, an intelligent pioneer. Today, as in the time of Horace Mann, its schools stand for what educators believe to be the best ideas in education, and for this reason it offers as fitting an opportunity as any place in the country to bring to a decisive test the new and old ideas in public school work.

Whatever may be said regarding the schools of half a century ago, either in praise or criticism,—and much can be said in praise,—these old test papers present indisputable evidence of their inferiority as compared with the schools of the present day. Those who are thoroughly familiar with the modern school readily see why the work in the common branches is better today than it could have been years ago. Superior text-books, maps and general equipment;—higher educational qualifications and better professional training for teachers;—compulsory supervision; improvements in methods of instruction in spelling, arithmetic, geography and reading; smaller classes, although much is yet to be desired in this particular;—all tend to bring about better results. The benefits of a richer reading course alone can hardly be estimated. In 1846, excluding the text-books in geography, history and physiology, eleven different books were read below the high school,—about one a year; children now read 73, or about eight each year, in taking the same course. The taste for reading is today stimulated and directed and from the amount and quality of the reading matter, the child acquires a larger vocabulary and learns to spell many new words unconsciously. Children are not only receiving much solid and more sensible and skilful instruction in the three R's, but their homes are being elevated, their lives broadened and enriched, and their usefulness and capacity for enjoyment increased as never before. The old school, in its meagerness, starved the imagination and emotions, and its harsh discipline suppressed and warped

activities. Even a superficial reading of the old records and reports prove that the intelligent people of those times were cognizant of its defects and struggled to remedy them. The leading educators of today are probably fully as cognizant of the defects of the modern school and are struggling with equal sincerity and earnestness for better things.

THE three R's,—reading, 'riting, and 'rithmetic,—are not being neglected in the present day schools, but the public school system has passed irrevocably beyond the stage where its only office was to impart a little skill in these branches. It has entered upon its broader work of preparing the youth of America to live intelligently, to understand and appreciate the inheritance of freedom which is theirs, and to grasp the great truth that mankind are one. The changes and improvements in the course of study necessitated by this enlarging of the function of the school will continue; and, as there will always be conservatives in the world,—the "Three R's," in a slightly modified form in different generations, will ever be a live question. In politics, religion, science,—in every branch of human progress, the old established ideas will continue to have hosts of defenders. Every new idea in public education must prove its right to public support. The survival of the fittest is a law here as elsewhere. An idea which is only ephemeral in character,—which lacks the resistant power to withstand public investigation and criticism,—has no place in practical, virile education. But ideas which have their roots in the best thought of half a century,—like many of our so-called fads,—are entitled to something more than thoughtless criticism. However highly may be regarded the schools of our childhood, intelligent people will never allow childhood's exaggerated and distorted notions to exercise too great an influence in shaping their opinions as adults. Lowell may not have had the three R's in mind when he wrote the following, but nothing could be more applicable than his much-quoted lines:—

"Therefore think not the Past is wise alone
For yesterday knows nothing of the Best."

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