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OF THE VARIOUS

Public Officers and Institutions

FOR THE YEAR

1887

VOLUME II.

AUGUSTA:
BURLEIGH & FLYNT, PRINTERS TO THE STATE.
1889.

THIRTY-FOURTH ANNUAL REPORT

OF THE

STATE SUPERINTENDENT

OF

COMMON SCHOOLS.

STATE OF MAINE.

1887

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BURLEIGH & FLYNT, PRINTERS TO THE STATE.
1888.

State of Maine.

EDUCATIONAL DEPARTMENT,
Augusta, Dec. 31, 1887.

To Governor SEBASTIAN S. MARBLE, *and the Honorable Executive Council:*

GENTLEMEN:—In accordance with the requirements of law, I respectfully submit the following Report of the condition, progress and needs of the Public Schools of Maine.

Very respectfully,

Your obedient servant,

N. A. LUCE,

State Supt. of Common Schools.

REPORT.

INTRODUCTORY.

This Report will be briefer than usual. No session of the Legislature occurring this coming winter, such conditions and needs of the schools as can be amended and improved by legislative enactments alone, will properly be eliminated from its discussions. The papers inserted in the appendix deal so fully and wisely with many of the principles and methods of school-room work, as to make it unnecessary to enter generally and largely into consideration of the subjects covered by them. It remains, therefore, only to consider briefly the condition of our several departments of public instruction as shown by the usual statistics relating to the Common, Free High and Normal schools, to consider two or three special topics of special and immediate importance, and to call attention of school officials to such lines of effort as seem to promise improvement in the schools under existing conditions.

COMMON SCHOOLS.

The usual detailed statistics will be found in the appendix, showing the local condition of our common schools. More than usual care has been taken to make these statistics complete and accurate; and less than the usual number of towns have failed to make the returns from which these statistics are derived.

To show as succinctly and definitely as practicable the condition of these schools as a whole, so far as their condition can be represented numerically, the statistics, corrected

to the closest possible approximation to exactness, are collated and grouped in the following

Comparative Summaries.

I. *Scholars and School Attendance.*

	1886-7.	1885-6.
Whole number of scholars in State	212,621	213,571
Decrease 950		
Number of different scholars attending school during the year	145,761	145,317
Increase 444		
Number registered in summer and fall schools	126,019	124,212
Increase 1,807		
Average daily attendance in summer and fall schools	104,694	102,850
Increase 1,844		
Number registered in winter and spring schools	118,662	117,347
Increase 1,315		
Average daily attendance in winter and spring schools	97,950	97,318
Increase 632		
Per cent of whole number attending to whole number in State	.68	.68
Per cent of average daily attendance in summer and fall schools to whole number in State	.49	.48
Increase .01		
Per cent of average daily attendance in winter and spring schools to whole number in State	.46	.45½
Increase .00½		
Per cent of average daily to registered attendance in summer and fall schools	.84	.83
Increase .01		
Per cent of average daily to registered attendance in winter and spring schools	.82½	.82
Increase .00½		

II. *Length of Schools.*

	1886-7.	1885-6.
Average length of summer and fall schools,	11w. 1d.	10w. 0d.
Increase	1w. 1d.	
Average length of winter and spring schools,	11w. 1d.	10w. 4d.
Increase	2d.	
Average length for year	22w. 2d.	20w. 4d.
Increase	1w. 3d.	
Aggregate number of weeks of summer and fall schools	58,425	57,742
Increase	683	
Aggregate number of weeks of winter and spring schools	49,773	51,292
Decrease	1,519	
Aggregate number of weeks for year	108,198	109,034
Decrease	836	

III. *Number and Character of Schools.*

Whole number of different schools	4,759	4,878
Decrease	119	
Whole number graded schools	834	875
Decrease	41	
Whole number of ungraded schools	3,925	4,003
Decrease	78	
Number of ungraded schools having classes in history	2,371	2,433
Decrease	62	
Number of same having classes in Physiology and Hygiene	2,821	2,625
Increase	196	
Number of same having classes in Book-keeping	1,600	1,545
Increase	55	
Number having classes in studies other than those prescribed by law	1,255	1,229
Increase	26	

IV. *Text-Books and Other School Appliances.*

Number of towns reporting schools well supplied with text-books	441	456
Decrease	15	

	1886-7.	1885-6.
Number reporting schools not well supplied	52	38
Increase 14		
Number reporting uniformity in text-books,	389	391
Decrease 2		
Number reporting lack of uniformity.....	104	103
Increase 1		
Number in which there have been changes in text-books during year.....	251	
Number of ungraded schools furnished with globes	450	498
Decrease 48		
Number furnished with wall maps.....	1,464	1,741
Decrease 277		
Number furnished with charts of any sort ..	402	411
Decrease 9		

V. *Teachers.*

Number of male teachers in summer and fall schools	418	420
Decrease 2		
Number in winter and spring schools	1,592	1,640
Decrease 48		
Number of female teachers in summer and fall schools	5,218	5,043
Increase 175		
Number in winter and spring schools	3,059	3,023
Increase 36		
Total number of teachers in summer and fall schools	5,636	5,463
Increase 173		
Total number in winter and spring schools..	4,651	4,663
Decrease 12		
Number of different teachers employed during year.....	7,585	7,596
Decrease 11		
Number who had had previous experience..	6,474	6,431
Increase 43		
Number who had graduated from Normal schools	657	567
Increase 90		

	1886-7.	1885-6.
Average wages of male teachers per month, excluding board	$33.82	$34.15
Decrease $0.33		
Average wages of female teachers per month, excluding board	$16.56	$16.68
Decrease $0.12		

VI. *School Districts and School-Houses.*

Number of towns and plantations having unit or town system	101	92
Increase 9		
Number of school districts in State	3,539	3,628
Decrease 89		
Number of parts of districts	249	275
Decrease 26		
Number of school-houses	4,318	4,320
Decrease 2		
Number of school-houses reported in good condition	3,144	3,237
Decrease 93		
Number built during year	64	69
Decrease 5		
Cost of same	$160,861	$53,143
Increase $107,718		
Estimated value of school property in State,	3,309,017	3,109,745
Increase 199,272		

VII. *School Supervision.*

Number of towns electing supervisors	303	313
Decrease 10		
Number electing school committees	196	186
Increase 10		
Number of school officers who failed to make returns according to law	6	5
Increase 1		
Number of terms of school not visited as required by law	839	950
Decrease 111		
Amount paid by towns for supervision	$32,532	$31,693
Increase $839		

VIII. *Resources and Expenditures.*

	1886-7.	1885-6.
Amounts available from town treasuries	$747,098	$704,164
Increase	$42,934	
Amounts available from State treasury	351,897	342,491
Increase	9,406	
Amounts derived from local funds	26,131	30,310
Decrease	4,179	
Total current school resources	1,125,126	1,076,965
Increase	48,161	
Total current expenditures	1,058,936	1,014,516
Increase	44,420	
Balances unexpended	66,190	62,449
Increase	3,741	
Amounts paid for supervision	32,532	31,693
Increase	839	
Amounts paid for new school-houses	160,861	53,143
Increase	107,718	
Total current and general expenditures	1,252,329	1,099,352
Increase	152,977	
Average current expenditure per scholar on whole number in State	4.99	4.80
Increase	.19	
Average current expenditure per scholar, whole number attending	7.26	6.98
Increase	.28	
Amount of school money voted by towns for ensuing year	677,639	630,596
Increase	47,043	

Analysis of Statistics.

The foregoing statistics indicate the actual condition of the schools for the year, and also their condition as compared with that of the year preceding. They show an actual condition far from the best—the most efficient to which they can and ought to be brought; but they show, nevertheless, that they have made substantial progress toward such condi-

tion. From a careful study of these figures the following conclusions may fairly be deduced:

I. *As to Attendance.*—As shown by the figures, 56,860, or almost one in four of all the persons in the State entitled to their privileges, were not in these schools during the year. Making all necessary deductions for those too young to enter them, for those who had finished their school life by passing in acquirements beyond the ordinary limits of common school instruction, and for those who had passed from them into the higher grades, there is still shown by far too large an army of absentees. It is to be hoped that when the new compulsory law of last winter shall have generally taken effect, this army of absentees will be very considerably diminished.

It will be noticed, however, that with 950 less persons of school age in the State than in the preceding year, there were 444 more in attendance; that the registered attendance in summer and fall terms increased by 1,807, and the average daily attendance by 1,844; and that the registered and average daily attendance upon winter and spring terms increased respectively by the numbers 1,315 and 632. In other words the statistics show improvement in the schools in this matter of attendance in the directions of actual, continuous and regular attendance.

II. *As to Length of Schools.*—In this regard the actual condition shown by the statistics, is not what it should be. Our common schools, to do efficiently the work set for them, should all of them be open for at least 30 weeks in the year. In fact few of them are open so long, and the great majority of them are open for less than the average 21 2-5 weeks. Not till we are rid of that iniquitous product of educational folly and democracy run mad—the school district system—can all of our schools be brought up to full efficiency in the annual amount of schooling which they should offer to every child in the State.

But here again it will be noticed that the condition shown is one of improvement. The increase of 1 3-5 weeks in average length, taken in connection with the small decrease in the aggregate length in weeks of all the schools, indicates a reduction in the number of small and short schools, and a consequent increase larger than the average, in the length of those falling below the average in length. There was thus secured also with the general increase in length of all the schools, a nearer approach to that equality in length, the lack of which is characteristic of the district system.

III. *As to Number and Character of Schools.*—The conclusions reached immediately above relating to increase in average length of schools are substantiated by the statistics grouped under the present head. The decrease here shown of 78 in the number of ungraded schools, means the merging of these in others, thus giving those others greater efficiency and adding to their length. The decrease of 41 in the number of graded schools probably indicates a similar merging of these in others, adding in like manner to their efficiency. This process of consolidation was probably more extensive than is shown by the statistics, since it is certain that in our newly settled towns and plantations new schools were established during the year.

This consolidation resulting in larger and more efficient schools, was probably in considerable degree the cause of the higher grade of work done in them, as indicated by the increase in the number of those in which the higher branches, Physiology, Book-keeping, and others not among the statute studies, were taught. It is, however, noticeable that the largest increase in this direction was in the teaching of Physiology and Hygiene, an increase due in part, also, to the special emphasis which our law places upon the importance of that subject.

IV. *As to Text-books and Other School Appliances.*—In the particulars grouped under this head the statistics show conditions, both actual and comparative, far from satisfactory. No improvement is indicated in those conditions of the best

school work, which require that every pupil shall be supplied with necessary text-books; that these shall be uniform in the same school at least; and that every school-room shall be furnished with such appliances as globes, maps, charts, &c., as aids to instruction. Possibly, nay probably, any very greatly and permanently improved condition of affairs in these regards, can hardly be expected under our present system of furnishing text-books and school apparatus.

V. *Teachers.*—The one important factor determining the character of the work done in the schools, a factor more potent than all others combined, is the character of the teachers employed. Hence the comparative condition shown by the group of statistics under this head, should be deemed especially satisfactory. Owing to the fact that for the doing of equally good work, females command far less pay than males, other things being equal an increase in the number of female as compared with male teachers employed, indicates improvement in the character of school work done. For a series of years, to which this is evidently no exception, there have been constant and marked increases in this regard.

Again, permanence in employment of teachers is indicative of improved school work; for, other things being equal, change of teachers means waste of time and force for both teacher and pupils. Here, also, the statistics are in line with those of several preceding years in indicating that there have been more teachers continued in the same school for consecutive terms.

In line with these evidences of improvement in the character of teachers employed, are the increases in the number of those who have acquired skill by previous experience, and of those who have had the benefits of systematic and wise training for their work in our Normal schools.

Taken together, then, notwithstanding the slight decrease shown of less than one per cent in wages paid, this group of statistics evidences substantial improvement in the schools, and improvement in one of the directions most needed and most vital to their efficiency.

But while as regards teachers employed the statistics indicate substantial improvement, there is yet, as indicated by the same statistics, large room for further improvement. While 7,585 are employed to teach 4,759 schools, there is too little permanence of teachers in the schools. While one in seven of these is wholly inexperienced, and presumably without any special preparation, much of the teaching must be crude and inefficient if not worse. While only one in a dozen has been systematically prepared for the work, the schools whose instruction is as wisely planned and ordered as it ought to be, must be largely in the minority. While, finally, teachers are paid such wretchedly meagre salaries as they are, salaries less on the average than are paid to any other class of workers in the State, as is shown by the lately issued Report of Industrial and Labor Statistics, we can hardly expect any radical improvement in the teaching of our common schools.

VI. *School Districts and School-Houses.*—At the annual meetings held within the school year, fifteen towns abolished the school district system. One of these, Phillips, at a subsequent special meeting, voted to rescind such action, though expressly forbidden to do so by the provision of law that, "whenever any town shall have abolished its school districts, such districts shall not be re-established within the three years next thereafter," and, it is reported, has managed its schools illegally during the current year, as if the school districts were still existing. One town, Milo, which had managed its schools for three years under the town system, after refusing by a very large majority to vote at its annual meeting to re-establish its districts, did so vote subsequently at a special meeting. Four plantations which had hitherto had but one district, and so had managed their schools practically under the town system, organized one or more other districts, thus establishing a district system. The net improvement in the condition of the schools, therefore, consequent upon bringing them under more efficient management, is indicated by a gain of nine in the number of towns having the town plan, and as

the immediate result thereof, a reduction of 89 in the number of school districts and of 26 in the number of parts of districts.

The number of school-houses in the State remains practically the same as for the preceding year. The number of these in so-called "good condition" seems to have decreased 93. In view of the fact, however, that the value of school property increased by the sum of $199,272, only $160,861 of which was from the building of new houses, it may be questioned whether the seeming decrease may not be merely the result of difference in opinion between those reporting, as to what ought to be considered "good condition." There was, also, a decrease of five in the number of new school-houses erected, though those this year reported were built at an aggregate increased cost of $107,718.

Taken in their entirety, then, the group of statistics now under consideration point in the same direction as others. They show a good measure of improvement, as large, probably, as is to be expected in any one year, till legislation intervenes and by its fiat hastens the better time to be. They show, too, the need of such intervention. While 1,174 out of 4,318 school-houses are too poor to be esteemed in good condition by local officers, they must be anything but an honor to the communities in which they exist. These poor houses will be found, nine-tenths of them, in towns which are lovingly clinging to the school district system, and are legitimate fruits of that system. Where that system continues to hold its grip, and while it continues, there will always be a large percentage of school-houses unfit for the purposes to which they are devoted.

VII. *School Supervision.*—Next to the proper instruction of the school in importance as a factor in its efficiency, is its fit supervision. Indeed, fit instruction is largely dependent upon fit supervision, especially when, as under the town plan of management, all the functions of supervision are unified and most efficient. The most efficient form of supervision in

towns having the district system, because the most responsible, is that exercised by the supervisor. On the other hand, under the town plan, the school committee with one of its members acting as inspector, gives the best results. If, then, as is probably the case, the increase shown in the number of towns electing committees instead of supervisors, is wholly or in large part in towns which have abolished districts, it indicates a movement in the right direction.

That the supervision for the year was more careful, vigilant and efficient than in the year preceding, is evidenced by a large decrease in the number of terms not visited, and increase in amounts paid for supervision. That it was more intelligent is evidenced by the character of reports made to the towns, copies of which are on file in this department.

VIII. *Resources and Expenditures.*—It will be noticed under this head that the school resources show increases in two of the three sources from which such resources are derived, and a small decrease in the other. The aggregate of this increase is $48,161. The increase in current expenditures which include those for wages and board of teachers, for fuel, for incidental repairs—ten per cent of the whole resources being usable for this purpose—and for other incidental expenses, was $44,420, $3,741 less than the increase in resources. This balance comes over to the resources of the current year. The explanation of this large increase in expenditures without corresponding increase in the aggregate amount of schooling had for the year, or in wages of teachers, is that it must have gone to make up the increase in value of school property over and above that made by the substituting of new for old buildings, which is shown in the statistics relating to school-houses. In other words it must have been expended in repairs. Under the town system these repairs would have been made largely from special appropriations therefor, and this sum of $44,420, or a large part of it, would have gone to increase the length and efficiency of schools.

This illustrates one of the ways in which the district system robs the children of their rights.

The increase of $47,043 in the amount of school money voted by towns for schools for the ensuing year—usable for the current year—is indicative of a popular recognition of their needs, and an evidence of growing interest in their well-being. But I can but believe that popular interest here manifests itself in not the wisest way. While there is undoubtedly need of larger expenditures ultimately, the pressing need of the present is for such management as will utilize our funds to the best advantage—such a change in system as will stop the wicked wastes characteristic of their present management. The raising of more money to be expended through the agency of the school district system, is but making more unequal the inequalities of privilege, and increasing the waste and opportunities for petty stealing, which are inherent in that system. It would be better to put our schools under such conditions that for every dollar spent for them would be realized a dollar's worth of good to every child, before attempting to improve them by taxing ourselves more heavily.

IX. *Summary.*—To state broadly and briefly the results shown in the statistics for the year it may be fairly asserted:

1. That in comparison with those of the preceding year there has been substantial improvement in our common schools, in that more pupils have attended more constantly and regularly for a longer average time; that they have been larger, more equal in length and quality, and of higher grade; that they have been better taught, better housed and under better supervision; and that public opinion has grown in intelligence as to reforms needed, and in interest in their improvement.

2. That their actual condition is yet far from what it should be, and can be made, in that attendance upon them is considerably less than it should be, and is too little constant and regular; that they are too short as a whole, and too unequal in length; that too many of them are too small for profit to

those attending, and are of too low a grade; that they are too much wanting in uniformity and supply of text-books, and are in lamentable need of other helps to instruction; that by far too many of their teachers are wanting in scholarship, and in that skill which comes from experience and special training, and are subject to too frequent change; that in four-fifths of the towns they are under a radically wrong system of management characterized by inquality in privileges conferred and burdens imposed, wasteful of resources, productive of local feuds detrimental to the schools, responsible for poor schoolhouses and poor teachers, and destructive to efficiency in supervision; and that their supervision lacks unity, force, vigilance and, too often, intelligence.

FREE HIGH SCHOOLS.

The usual detailed statistics of this department of our public school system, will be found as usual in the appendix. They have been summarized and grouped to show actual and comparative condition in the following

COMPARATIVE STATEMENT.

I. *Number and Length.*

	1886-7.	1885-6.
Number of towns in which supported	161	160
Increase 1		
Number supported by towns	93	90
Increase 3		
Number of terms	383	358
Increase 25		
Aggregate number of weeks	4,047	3,868
Increase 179		

II. *Of Attendance.*

Number of pupils registered	11,420	11,174
Increase 246		
Average attendance	10,374	9,403
Increase 971		
Number of common school teachers attending	885	867
Increase 18		

III. *Character of Instruction.*

Number of pupils in reading classes	7,330	7,198
Increase 132		
Number in arithmetic	7,621	7,443
Increase 177		
Number in English grammar	6,234	5,838
Increase 396		
Number in geography	3,502	3,515
Decrease 13		

	1886-7.	1885-6.
Number in U. S. history	2,245	2,154
Increase 91		
Number in natural sciences	4,017	4,102
Decrease 85		
Number in higher mathematics	4,564	4,879
Decrease 315		
Number in book-keeping	2,340	1,929
Increase 411		
Number in ancient languages	2,654	2,358
Increase 296		
Number in modern languages	1,449	1,160
Increase 289		

IV. *Fiscal.*

Whole amount expended	$117,859	$110,247
Increase $7,612		
Amount provided by towns and districts	89,357	84,205
Increase 5,152		
Amount paid from State Treasury	28,502	23,542
Increase 4,960		

Since the detailed statistics from which the above are compiled were tabulated and printed, information has been received that two other towns supported schools of this grade during the year.

Analyzing the statistics as they stand it will be noticed that, while there was an increase of but one in the number of towns in which these schools were supported, there was an increase of 25 in the number of terms, and of 179 in the number of weeks of school. It will be further noticed that the number of pupils attending them was larger by 246, and that the average attendance increased by 971. While these figures do not show the remarkable growth which has been almost annually constant since 1879, they nevertheless show that these schools are losing nothing in their hold upon popular favor.

The statistics showing the character of the work done indicate that, on the whole, it was of higher character than that

in the schools of the preceding year. There seems, indeed, to have been an advance in the character of work done here similar to that indicated in the corresponding statistics of the common schools; and the causes would probably be found to be the same in both cases—pupils instead of dropping out of the schools after reaching a certain stage of advancement or attaining a certain age, have continued in attendance and taken up more advanced work.

The increases in the amounts expended for these schools closely agree with the increase shown in the number of terms. They indicate, therefore, no material change in the character of the teachers employed as measured by wages paid.

The condition as here shown is an advance on that of any year since our high schools were established. They appear to have more than fully recovered from the set-back resulting from their suspension in 1878. Their growth and improvement in character and efficiency, has been constant since 1879 when they were re-established. They are now evidently permanently fixed in our public school system beyond peradventure of further suspension or of abolition. And it is to be hoped, and may be confidently expected, that they will continue to grow steadily in public favor till at last they shall be made compulsory in every town in the State whose population will warrant their maintenance.

NORMAL SCHOOLS.

The condition of our three State Normal Schools at Farmington, Castine and Gorham, as regards attendance and number graduating, is shown in the following table:

School.	Year Ending.	Number Entering	Number Graduating.	Largest Attendance.	
				Number.	Term.
Farmington	June 10, '86	111	31	151	Fall.
Castine	" 3, "	113	18	142	Spring.
Gorham	July 1, "	76	25	105	"
Totals		300	74	398	
Farmington	June 16, '87	113	39	165	Fall.
Castine	" 2, "	107	34	141	Spring.
Gorham	" 23, "	79	37	93	Fall.
Totals		299	110	399	

The condition here shown as to number of students entering and maximum attendance, is practically the same as that of the preceding year. In the two older schools, Farmington and Castine, the attendance was very nearly if not quite up to their full working capacity with the school accommodations as they were. For the Gorham School it should be said that it is organized on the two term, instead of three term plan, on which the others are, and admits pupils but twice instead of three times a year; if, therefore, comparison be instituted between it and the others, this difference in organization should be taken into account.

In the amount of work done as measured by numbers graduating, the three schools stand nearly in line.

The work done in all these schools has been of excellent quality, and superior in some respects to that of former years. As the quality of the material upon which they are to work improves in maturity and capacity, as it does from year to year, it is possible to do more thorough work, especially upon the strictly professional side. The somewhat searching closing public examinations of graduating classes upon this side of their work, which have been practiced for several years, have made it evident that those who complete the course, go out year by year better prepared to do intelligent teaching, instead of routine school-keeping. The classes graduating during the last year appeared to have been especially well trained in this direction.

For more detailed and special information relating to these schools, as also to Madawaska Training School, the Normal Department in Maine Central Institute, and Lee Normal Academy, attention is directed to the following:

Reports of Principals.

State Normal School,
Farmington, Maine, June 16, 1887.

To the Trustees of the Normal Schools.

Gentlemen:—I have the honor to make the following report of the Farmington State Normal School for the year 1886–7:

The attendance both in the total number attending by terms and the number of different pupils registered, is the largest in the history of the school, and is as follows:

Fall term	165
Winter term	138
Spring "	163
Total attendance	466
Number of different pupils	250
" pupils beginning the course	113
" graduates, regular "	39
" connected with adv. "	11
" graduates, " "	7

Owing to inadequate accommodations the work of the year has been difficult, but thanks to the generosity of the last Legislature, we shall have a new building sufficient for our present needs.

The teachers for the year have been Geo. C. Purington, Chas. F. Warner, Hortense M. Merrill, Lillian I. Lincoln, Lutie F. Luques, Harriet P. Young, Marion L. Warner. Special teachers, Ardelle M. Tozier of the graduating class, regular course, and for the spring term Mary E. Eaton of the graduating class, advanced course.

At the close of last year we supposed we should lose Miss Luce, but at my earnest solicitation she consented to remain, as Mrs. Warner, in the model school for another year. She feels that she cannot in justice to herself remain there longer and hence resigns. I wish to take this opportunity to express my high appreciation of the work she has done and my regrets that she can remain in the school no longer.

The graduating classes are growing so large that we very much need another model school. The next graduating class ought to number fifty, and it will be a very difficult task to give all of them the requisite number of lessons in primary work in one school.

Very respectfully submitted.

GEO. C. PURINGTON.

STATE NORMAL SCHOOL,
CASTINE, MAINE, June 2, 1887.

To the Trustees of State Normal Schools.

GENTLEMEN: In accordance with the requirements of law, I respectfully submit the following report of the State Normal School at Castine for the year ending June 2, 1887.

ATTENDANCE.

Number of pupils entering the school during the year 107, 26 young men and 81 young women.

Number graduating 34, 13 young men and 21 young women. Every member of the class has had experience in the public schools of Maine, their experience varying between one and eighteen terms, and averaging forty-nine weeks.

Attendance by Terms:

Fall term,	120—43	young men,	77	young women.
Winter term,	105—24	"	81	"
Spring "	141—49	"	92	"
Totals,	366 116		250	

LIBRARY AND APPARATUS.

Two hundred volumes of worn out text-books have been replaced by new books, and some additions have been made in the number of volumes on hand at the beginning of the year, so that we have now in

General library	575	volumes.
Text-book "	500	"
Reference "	110	"
Professional "	110	"

Worn out maps have been replaced and new maps purchased, and apparatus purchased for the classes in Physiology and Chemistry. The new books used during the year are White's Pedagogy, Raub's School Management, and Greenleaf's New Inductive Arithmetic.

TEACHERS.

The following were elected at the close of last year and have been at work during the year: Roliston Woodbury, Mary E. Hughes, Fred W. Foster, Edward E. Philbrook, Fannie A. Comstock; Mabel Simmons, Training School. Helen F. Emerson was obtained for the spring term, an additional teacher being made necessary by the size of the school and the number of classes.

Miss Haskell who had been in charge of the Training School over four years wishing to leave the State declined a re-election much to the regret of all concerned.

I cannot speak too highly of the faithful work done by those whom you have associated with me in the instruction of the school. I need say nothing to you who know them so well of the perfect harmony which has prevailed and of their loyalty to the school, but it gives me great pleasure to bear testimony to the same.

NEEDS.

The needs of the school are the same as when I made my last report and need not be renewed, except that the furnace has been fixed so we have no trouble in keeping up steam, and three of the blackboards have been re-built.

This school was organized twenty years ago. It graduates to-day its nineteenth class. We have obtained data regarding those who have been connected with the school as teachers, and those who have graduated which I make a part of my report. According to the records, 31 have been connected with the school as teachers, all of whom, as far as we can learn, are still living. Four hundred and twenty-three have graduated from the school, counting in the class which graduates to-day; 157 young men and 266 young women; 29 have died; 163 of the 389 of a year's standing and over are still teaching, 124 of them in Maine. The remaining 39 are in ten States and territories, 17 of them being in Massachusetts and 11 in California.

That we might know whether the State gets the service to which it is entitled, each graduate was asked to report the time he had taught in Maine since he entered this school. Three hundred forty-three of the 360 living graduates of one year's standing and over, from whom we heard directly, reported an average of 3.87 years, which is nearly twice the time pledged to the State. As nearly one-third the whole number are still teaching, the record is constantly improving.

We have among our graduates, one city superintendent of schools, one county superintendent of schools, ten clergymen, fourteen physicians, eight lawyers and two dentists.

SUMMARY.

Graduates, men	157	
" women	266	
		423
Living	394	
Deceased	29	
		423
Teaching		197
" in Maine		158
In other professions		34

Respectfully submitted.

R. WOODBURY.

STATE NORMAL SCHOOL,
GORHAM, July 1, 1887.

To the Trustees of State Normal Schools.

MESSRS:—According to custom and your requirements I submit the following report of the State Normal School at Gorham for the year ending July 1, 1887.

Whole number of pupils entering school during the year 79, (seventy nine).

Number graduating during the year 37, (thirty-seven).

Number of different pupils in school during the year 147, (one hundred forty-seven).

Number of teachers in the regular work of the Normal School, 5.

Number of teachers in the regular work of the Model Schools, 2.

Number special teachers, 1.

Pupils in Model Schools, Primary, 31; Intermediate, 39.

BOOKS.

Of general literature, an increase of 86 volumes,	1,629 Vols.
Books of reference	53 "
Text-books	1,092 "
" " for Model Schools	350 "
Apparatus	650 pieces.
Maps, charts, globes, &c	75 "

TEACHERS.

W. J. Corthell, H. M. Estabrook, Bessie A. Read, Grace J. Haynes, Angie M. Brooks; in the Model Department, Jennie M. Colby, Flora Barton; vocal music, W. L. Fitch.

The course of study is as last year, with such minor changes as added experience and careful experiment show to be advisable. The work of the teachers has been very harmonious, in ends, methods, and general plans, and is believed to be fairly efficient. Order, devotion to work, and good degree of earnestness have characterized the pupils.

The suggestion of last year is renewed that the range of the course of study in the three schools, should be made the same, leaving the order of studies to each faculty.

NEEDS.

1. One hundred dollars each year for apparatus for the department of Natural Science.

2. New blackboards.

The school is happy in the anticipation of entering its next year with such sanitary repairs in the school building as shall make it more pleasant, and such changes in the boarding hall as shall secure to pupils residing there a very pleasant home.

Respectfully submitted.

W. J. CORTHELL

MADAWASKA, TRAINING SCHOOL,
FORT KENT, MAINE, July 3, 1887.

To the Honorable Trustees of State Normal School.

GENTLEMEN:—I submit the following report of the Madawaska Training School for the year ending July 3, 1887.

The school year commenced September 14, 1886, and continued forty weeks; twenty-seven of which were held at Fort Kent, in two terms, and thirteen weeks at Grand Isle.

The whole number in attendance at Fort Kent was 50; 38 young women and 12 young men. At Grand Isle, the whole number registered was twenty.

No change has been made in the text-books in use. The studies pursued have been reading (English and French), grammar (English and French), language and composition, arithmetic, geography, book-keeping, penmanship and free-hand drawing, civil government, school laws of Maine, physiology and natural philosophy. At Fort Kent the interest on the part of the pupils was never better. The daily attendance has been good. The deep snows during the whole winter had little effect in keeping pupils out of school.

Miss Nowland was granted leave of absence from Grand Isle, and the school continued under one teacher.

By the erection of the new school building at Fort Kent, the present usefulness of the training school cannot fail of being greatly increased. It is hoped that the present course of study may be examined into to see what changes may profitably be made.

Very respectfully submitted.

VETAL CYR, *Principal.*

MAINE CENTRAL INSTITUTE,
PITTSFIELD, MAINE, December 9, 1887.

To the Trustees of State Normal Schools.

GENTLEMEN:—In accordance with the requirements of law I make the following report of the Normal Department of Maine Central Institute:

The school year now consists of thirty-seven weeks and for the past year began December 13, 1886, and ended November 25, 1887.

At the close of the summer term, Mr. O. H. Drake, who has so efficiently filled the position of principal of this department, severed his connection with the school to enter upon a post graduate course at Yale College. Mr. L. W. Taylor was elected to fill the position made vacant by Mr. Drake's resignation.

The total attendance for the year has been 89 (eighty-nine), number of different pupils 56 (fifty-six), graduates from the regular course 4 (four). There is great need of more and better philosophical apparatus in connection with this department.

Our library which is constantly being improved and enlarged, has recently been made far more valuable by the addition of a fine lot of standard books of reference and these with several sets of cyclopædia are accessible to the students for daily use.

There have been some changes in our text-books. Colburn's Mental Arithmetic has been introduced for general use. Mahan's Mental Philosophy takes the place of Hopkin's Outline Study of Man, Haven's Moral Philosophy takes the place of Fairchild's, Huston's Physical Geography is exchanged for Guyot's, as is also Meservey's Book-Keeping for Nichol's.

L. W. TAYLOR, *Principal.*

LEE NORMAL ACADEMY,
LEE, ME., NOV. 21, 1887.

To Hon. N. A. Luce, State Superintendent of Public Schools.

SIR:—In compliance with your requirements, I herewith submit a report of the condition and progress of Lee Normal Academy for the school year ending Nov. 18, 1887.

The past year gave a much larger attendance than any other year in the history of the school. The highest number registered was 117, while the average number for the year was about 100.

No change of teachers has been made from the last year, but the increasing wants of the school made it necessary to add another teacher to the board of instruction, which was done by the election to the place, of Parker B. Davis of the class of '82.

The teachers have been united in their efforts to do faithful work, making such improvements as circumstances seemed to permit. The teachers during the year, have been: L. H. Moulton, Eleanor L. Moulton, Julia F. Reed, and Parker B. Davis; Penmanship, William H. Wallace and Arthur J. Bradbury; Music, Mabel Burke.

No change of text-books has been made.

During the year the school has furnished a large number of teachers to the common schools in this section of the State, and, in general, they have done good work.

Harmony has prevailed between teachers and pupils and no pains have been spared to effectually carry out the design of the school "to prepare teachers for their professional work."

Very respectfully,

L. H. MOULTON, *Principal*

Fiscal.

While the school year of all these schools under the entire control of the State ends in the early summer, the fiscal year corresponds with that of the State, ending December 31.

For the last fiscal year, in addition to the regular annual appropriations fixed by statutes, the following special appropriations were made:

For enlarging school building at Farmington, $8000; for providing a system of sewerage for boarding-house and school building, and for repairs of boarding-house, &c., at Gorham, $4000; for water-closets and sewerage at Castine, $500.

By vote of the Board of Trustees the expenditure of these special appropriations was put under the immediate and direct supervision of the local members, Messrs. Merrill of Farmington, Hinkley of Gorham and Philbrook of Castine, to whose carefulness and wise management is solely due the eminently satisfactory results secured.

At Farmington, in place of the old wooden L. to the main building, has been erected a building of brick, in dimensions, 75 by 55 feet and of two stories, with slated roof. It is finished throughout—except two rooms—in hard wood; floors of birch and maple, door casings, window casings and dado of native brown ash. On the first floor are the ladies' dressing-room, in size 22 by 23 feet; gentlemen's dressing-room, 22 by 14; model school room, 22 by 36; and two recitation rooms, in dimensions, respectively, 22 by 36 and 19 by 29. On the second floor are the principal's office, 22 by 12; teachers' room and library, 22 by 25; labratory, 22 by 36; and two recitation rooms, 22 by 36 and 19 by 29, respectively. Through the center, on both floors, run corridors seven feet wide, that on the lower floor connecting with a similar corridor through the center of the main building. Special pains have been taken to secure the best of ventilation both in corridors and rooms. In connecting this new part with the main building, the ventilation of the main school-room

has been improved by putting in two fire-places. The general architectural appearance of the whole, while not in the highest degree pleasing, is still much better than was to have been expected. All the work has been done under the constant personal supervision of the resident trustee and the principal of the school, and faithfully done from foundation to finish. In this case the State has received full value for expenditure made.

At Gorham expenditures were made as follows:

For repairs, boarding-house and out-buildings...	$1,739 96
" sanitary improvements of boarding house...	1,662 06
" " " at Normal School building	597 98
	$4,000 00

The repairs of the boarding house and out-buildings include supports for the entire building; new dining hall, rearrangement of kitchen, and of dining room stairs; plastering and papering throughout the building wherever needed and painting as much as the money would allow; new gutters and temporary repairs of the piazzas; general repairs of the two-story outbuilding, including laying entire new floor, the removal of the old privies and the substitute therefor of new earth closets on each floor.

The sanitary improvements of the boarding house, in which the recommendations of the State Board of Health have been fully carried out, include the sub-soil drainage and general cleansing of the cellar; the plumbing of the bath room, kitchen and wash room; and the sewerage, for which it was necessary to lay pipes to a cess-pool nearly a quarter of a mile distant.

The sanitary improvements of the Normal building, made also in accordance with the recommendations of the State Board of Health, include the removal of the old urinals and water-closets, and the substitution therefor of an enameled urinal, and eight water-closets, provided with the Weeden Short Hopper and traps.

These expenditures have been as faithfully and wisely made as those at Farmington, and the results secured are equally creditable to those having them in charge. The sanitary improvements were imperatively needed; and now that they are made, those who were acquainted with the condition of affairs before they were made, may well feel that a great danger to the well being of the school and to the credit of the State, has been happily averted. Not less were needed the repairs and renovation made in the boarding house to render it a fit home for those who occupy it. It is now clean, and tasty, and cheerful, which could not be said of it in its former condition.

For the work to be done at Castine the trustees asked for $800, and the appropriation made was for $500. This was found wholly inadequate for the purposes for which asked. As it would have been waste of money to have done a part of the work contemplated and not the whole, a part of the appropriation has been applied to other needed repairs and improvements, and the rest reserved for other like uses hereafter.

As showing succinctly the Normal School resources and expenditures for the year, I submit the following:

Fiscal Statement.

RESOURCES.

Regular annual appropriation	$19,000 00
Appropriation for Madawaska Training School	1,300 00
Special appropriation for Farmington	8,000 00
" " " Gorham	4,000 00
" " " Castine	500 00
	$32,800 00

EXPENDITURES.

For salaries, Normal Schools	$17,270 32
" " Madawaska Training School	1,175 00

For repairs and improvements, special	$12,500 00
" " " incidental.....	114 94
" fuel	1,054 64
" diplomas.....	59 00
" incidental expenses..... ...	237 90
" balance, M. T. S. carried to new year	125 00
" " N. S. " " " "	263 20
	$32,800 00

EDUCATIONAL ASSOCIATIONS.

State Pedagogical Society.

At the date of this report this society is holding the final session of its regular annual meeting in Augusta. While, owing to the inopportune visit of a "cold wave" of special severity, the attendance has not been so large as was anticipated, the meeting has, nevertheless, been one of special interest and profit.

The work of the meeting has been conducted under the following:

PROGRAMME.

Thursday Evening, December 29th, 7.30 P. M.

1. Organization.
2. Welcome—Extended by Judge W. P. Whitehouse.
3. President's Address—Mission of the Teacher.
4. Report on Language,
   Prof. Henry L. Chapman, Bowdoin College.
   Discussion—Opened by State Supt. N. A. Luce, Augusta.

Friday, December 30th, 9 A. M.

1. Paper—(40 minutes) Scientific Temperance Instruction, with Illustrative Experiments, C. F. Warner, Farmington.
   Discussion—Opened by Chas. R. Crandall, M. D., Portland.
2. Report on History—(20 minutes)
   Prin. Geo. C. Purington, Farmington.
   Discussion—Opened by Prof. A. W. Small, Colby University.
3. Paper—(20 minutes) Our Grammar School Arithmetic,
   C. A. Byram, Prin. Grammar School, Bangor.
   Discussion—Opened by
   I. M. Norcross, Prin. Grammar School, Lewiston.

2 P. M.

1. Paper—(20 minutes) The Aim of Our Primary Schools,
   Miss M. L. E. Shaw, Lewiston.
   Discussion—Opened by Supt. W. W. Stetson, Auburn.

2. Report on Professional Reading, Prin. W. J. Corthell, Gorham.
   Discussion—Opened by A. L. Lane, Waterville.
3. Paper—(20 minutes) What and How Much Science Teaching in Common School, Prof. F. L. Harvey, State College.
   Discussion—by
   H. M. Estabrooke, Gorham, and A. R. Sweetser, Bucksport.
4. Paper—(20 minutes) Educational Science in Teaching Music, Prof. A. E. Holt, Boston.
   Exercises in Singing by Pupils of Augusta Grammar School, conducted by Miss L. Estelle Parke, Augusta.

FRIDAY EVENING, 7.30 P. M.

Lecture—Expression as a Means of Culture,
C. W. Emerson, M. D., President of the Monroe College of Oratory, Boston.

SATURDAY, DECEMBER 31, 9 A. M.

1. Paper—(20 minutes) Value, Amount and Character of Instruction in Modern Languages in High Schools, H. E. Cole, Prin. High School, Bath.
   Discussion—Opened by
   G. A. Stuart, Prin. High School, Gardiner.
2. Paper—(20 minutes) Educational Advantages of the Study of Latin, W. R. Whittle, Prin. High School, Ellsworth.
   Discussion—Opened by J. M. Hill, Prin. High School, Bangor.
3. Paper—(20 minutes) Place and Work of Seminary in Our System of Education, J. H. Parsons, Prin. Maine Central Institute.
   Discussion—Opened by
   Rev. E. M. Smith, Pres. Me. Wesleyan Seminary.
4. Report on Civics, L. G. Jordan, Prin. High School, Lewiston.
   Discussion—Opened by Supt. Thomas Tash, Portland.
   Reports of committees, and unfinished business.

Arrangements have been made whereby the formal papers presented at this meeting may be published in full in the appendix to this report. Though they will occupy considerable space, their value as contributions to current educational literature, and their practical suggestiveness, would seem to warrant the bringing of them thus widely to the attention of school officers and teachers.

County Associations.

These agencies for improving our schools by improving their teachers, are in one sense State institutions, since they are organizations formed under provisions of statute, are supported by a State appropriation, and teachers have by law the right to suspend their schools under proper restrictions during their meetings and attend them without forfeiture of pay during such attendance. They are, nevertheless, wholly voluntary organizations, managed by the teachers themselves under a general supervision of the State Superintendent, who are expected to conduct their meetings for their own mutual benefit. They are organizations, in short, for mutual help through free discussion by working teachers, of timely topics touching the work of the schools.

There are now nineteen of these associations in the State alive and active, one new one having been organized during the year. Twenty-two meetings have been held within the year, in fourteen counties, each of two days, nineteen of which I have attended through all their sessions. Nearly 2000 teachers have been in attendance, some of the meetings having had an attendance of nearly 200.

The interest and zeal with which teachers have taken hold of the work of these meetings, the intelligence and thoughtfulness they have shown in the papers presented and discussions held, and the enthusiasm awakened, have surpassed those of any previous year in their history.

To indicate the general scope of the work done by these associations in their annual fall meetings, I subjoin the general program from which their special programs have been made up.

General Programme and Syllabus of Subjects

FOR

MEETINGS OF CO. EDUCATIONAL ASSOCIATIONS.

FALL OF 1887.

I. TEMPERANCE INSTRUCTION: 1, Reports of Teachers—(1) of work done; (2) of methods employed; (3) of difficulties met; (4) of results attained.

2. Discussion of reports.

II. TEACHING EXERCISES IN READING, ARITHMETIC, LANGUAGE AND GEOGRAPHY: (1) Classes chosen from members, or from pupils in town; (2) Brief statement, oral or written, of purposes of the exercise; (3) Exercise given; (4) General discussion and criticisms of the exercise.

III. PROFESSIONAL READING: (1) Reports of Supervisors of; (2) Reports of members; (3) Discussion of future plans.

IV. QUERIES—DISCUSSION OF: (1) What can teachers do to increase school attendance? (2) How can school rooms, as we find them, be best ventilated? (3) How shall English grammar be taught in order best to train pupils to speak and write correctly? (4) What results other than knowledge of the suject are to be sought in teaching arithmetic? (5) What oral lessons in science can be given in mixed schools, and how and when given? (6) How can small pupils in mixed schools be kept busy?

V. ESSAYS—SUBJECTS: (1) Characteristics of the good teacher. (2) Teaching by example. (3) Character the best result of education. (4) Place and influence of the teacher in society. (5) How shall the teacher grow in efficiency.

MISCELLANEOUS TOPICS.

Temperance Instruction.

The Legislature of 1885 enacted a law that the proper school authorities should make provision "for instructing all pupils in all schools, supported by public money, or under State control, in physiology and hygiene, with special reference to the effects of alcoholic drinks, stimulants and narcotics upon the human system;" and that no certificate should be granted to any person to teach in the public schools of this State after the fourth day of July in that year, who had not "passed a satisfactory examination in physiology and hygiene, with special reference to the effects of alcoholic drinks, stimulants and narcotics upon the human system." If it be true that what it is desirable to have appear in the life of a people should be made a part of that preparation for life which it is the purpose of the public school to give, no more important work has been imposed upon our schools than that contemplated in this law. To attend to its wise and proper enforcement has, therefore, been and is the official and moral duty of all school officers, and the private and moral duty of all good citizens. In reporting the condition of our public schools for the second school year in which this law has been operative, it can but be proper to inquire particularly to what extent it has been enforced, and to make such suggestions as to its future enforcement, as experience has proved to be desirable.

If there are those, as undoubtedly there are, who have expected that, as the result of this law, all pupils in all public schools would be at once given the instruction contemplated by its letter and spirit, such persons have built their expectations not upon an intelligent understanding of existing school conditions. Intelligent educators knew that such result was impracticable.

To a large majority of our teachers the subject matter of the instruction required, was practically unknown ground, and ground which could not be sufficiently thoroughly explored in the time allowed by the law. To make such instruction practicable, moreover, to teach "all pupils in all schools," was a demand for methods of instruction of which a large majority knew nothing. These teachers could assign lessons from text-books and ask the set questions connected with such lessons, but the law demanded more than this. Children who can not read understandingly, can not be taught from text-books such subjects as were here required. And so in all mixed schools, and in all primary grades, there was demanded oral instruction, work requiring an exactness in knowledge of the subject taught, powers of analysis and systematic statement, and a fund of illustrative teaching power, if any efficient work was to be done, superior to that required in text-book teaching. To suppose that teachers who had never seen an oral lesson given, who had never even heard of such a thing, and who knew nothing or next to nothing of what must be so taught, could enter efficiently upon such work at once, was absurd.

But lack of qualified teachers was not the only obstacle to immediate general and efficient execution of the law. Physiology and hygiene had for many years been among the statute studies of the common schools, and text-books upon the subject were to be found in some 1,400 of the more advanced ungraded, and in all of the highest grades of the graded schools. Few of these treated the subject with that "special reference to the effects of alcoholic drinks, stimulants and narcotics," which the new law emphasized and demanded. Text-books had, therefore, to be changed in almost every town in which the subject had been taught, and new text-books introduced in all the other towns in the State. Had it been the policy of the State to furnish text-books free, as is done in Massachusetts, this general change and introduction would not have been so much of a hindrance to the securing of immediate instruction in the required subject. As it was, school

officers were harrassed by book-agents, and perplexed to choose among a multiplicity of books; and when selection had been made, and introduction into the schools began, they were met with anything but votes of thanks from the parents who had to purchase. Indeed, in not a few instances, parents would not supply their children with the books; and in some schools the best that could be done in the beginning was to put a book into the hands of the teacher to be read, at stated intervals, to that class of pupils who ought to have studied it, the reading to be followed by questions upon what had been read.

Again there were found some people, and communities even, prejudiced to the extent of full opposition to having the subject taught at all in the schools. Among these were those who think that the ability to read, write and cypher, includes all that is of value in an education; those who believe that the quack nostrums peddled at the corner grocery, are panaceas for all the ills to which flesh is heir; those who put greater confidence in the jargon of the pretended spirit of an Indian speaking through a clairvoyant's lips, than in the most thoroughly educated physician; and those who, afflicted with the latest of modern crazes,—christian scientists, mind curers, *et id genus omne*—would cure a compound fracture by miraculous healing or by making the patient believe he had no limbs to be fractured.

All of these obstacles in the way of a general and efficient carrying out of the letter and spirit of the law, were foreseen by intelligent educators, and they have been working as wisely as they might to overcome them. In the work of local, county and State meetings of teachers, the *what* and *how* of temperance instruction have been made specially prominent, and teachers have shown themselves earnest to learn how to do the most efficient work in this branch. So too, school officers in the matter of changing and introducing text-books, have exercised a wise conservatism that has done much to disarm opposition. By not forcing books upon

pupils, but waiting till an interest in the study had been awakened such that the child's own influence could be brought to bear upon the unwilling parent, books have found their way into the hands in which they properly belong, and classes have been easily formed. And the results of instruction going through the pupil into the family, the practical knowledge gained in the school and carried into the home, have naturally done something to disarm the prejudice of ignorance. So the teaching of this subject in the schools, instead of taking on a forced and unhealthy growth, is in a natural and healthy way taking its proper place among the other subjects of instruction.

But more definitely stated, what has been done in this regard in the past two years during which the law has been in operation? To this question only an approximate answer is practicable.

During the year before the law took effect, there were 1,388 ungraded schools in which there were classes in physiology and hygiene. During the second year following its enactment, the school year of which this is the report, there were 2,821 such schools. In the State this same year there were 3,925 ungraded schools and, therefore, 1,104 in which such classes were not taught. But these figures are for schools only in which there were classes studying the subject in text-books, and there are, according to the best information attainable, in the neighborhood of 1,000 ungraded schools in the State so small and backward that the formation of such classes is impracticable. Besides these ungraded schools, there were in the State during the year herein reported, 834 graded schools. In the highest grade of these almost without exception the subject was taught from the text-book as part of the regular course. In the next lower grade, ordinarily the grammar school, it was taught in similar manner, though not so generally, from text-books of a lower grade. There were, moreover, at least 125 different free high schools not included in graded systems, and in these almost generally the subject

was taught in the same way. It would seem, therefore, that so far as text-book instruction is concerned, larger results have been attained than were to have been anticipated.

As regards the extent to which the subject has been taught orally in primary grades, to the less advanced pupils in mixed schools in which text-book classes have been formed, and to all pupils in the smaller and more backward ungraded schools, the data are less easily obtainable. Something of evidence however is at hand. In every county association meeting held during the past fall, which I have attended, and in which nearly 2000 teachers have been met, this subject has been under consideration, generally having the prominent place on the program of exercises. In all those meetings a "showing of hands" was had with the following results: (1) In answer to the question, "How many have taught physiology and hygiene with special reference to the effects of stimulants and narcotics upon the human system in some form during the year?" the showing was almost unanimous, less than one hundred out of the 2,000 indicating that they had not taught it. Of these a considerable number stated that it had been taught by other teachers in the grade in which they were employed. (2) To the question, "How many have taught from text-books only?" a minority responded, as also to the question, "How many have taught orally only?" (3) To the question, "How many have taught both from text-books and orally?" at least seventy-five per cent. responded. Were the facts thus obtained indicative of what has been done by all teachers in the State, we might conclude that temperance instruction in some form was practically universal in all our schools. But allowance must be made for the fact that the teachers whose evidence is here adduced, were generally of the better class. Comparatively few of them were from the small and backward schools. The poor apology for a teacher, who "keeps school" for two to three dollars a week, is rarely found attending teachers' meetings.

The foregoing facts give no indication of the efficiency of the instruction given. Probably as a rule it stands somewhat

below that given in other branches which have been longer and more generally taught. In this regard the character of the teacher, his or her interest in the subject, and tact and skill in statement and illustration of facts and principles, have made it in some schools a subject of intense interest to the pupils, in others one to which little or no interest has attached.

From a careful analysis of all the information at hand, in fine, the following conclusion would seem to be fairly deducible: That instruction in some form in this subject nearly equal in quality to that given in other subjects, is now given in almost or quite all of our better schools, graded and ungraded, and in many of the poorer, to such extent that between eighty and ninety per cent of "all pupils in all schools supported by public money," are getting some practical and useful knowledge of the subject. The results thus reached in two years, it would seem, ought to be satisfactory to every reasonable friend of the law, and full of encouragement to work for better future results.

What, now, in the light of experience should be our aims as regards the scope and methods of temperance teaching in the future? The end of such instruction should evidently be such a fore-arming of the child that he will be able successfully to resist all temptations to the forming of intemperate habits whether in the use of stimulants or narcotics. The law whose results have just been considered, looks to such fore-arming by giving him knowledge solely of the effects of such habits upon his physical system. Is knowledge alone an all-efficient means of salvation in this as in any other direction? All human experience negatives such an assumption. Conscience, feeling, and will must take hold of knowledge and mould it into fixed purpose as an element of character, before it becomes a potent saving agency. Is the knowledge required by this law all that is necessary as a basis for the fixed purpose which shall make for his salvation from the drink habit? There is other knowledge upon which conscience, and feeling, and will, will take as strong if not stronger hold, and which will at least broaden and make firmer the

basis upon which purpose must be built. Such is a knowledge of the social, economic and moral evils—the suffering in ruined homes, the poverty and crime that grow out of intemperance. We need, then, to broaden the scope of our instruction beyond the requirements of the law of 1885. A proper interpretation of that law will allow this, if it be considered as but emphasizing and specializing that far older provision of law which requires that all teachers "shall use their best endeavors to impress on the minds of the children and youth commited to their care and instruction, the principles of * * * sobriety, industry, and frugality; chastity, moderation, and temperance; * * * * and to lead those under their care, as their ages and capacities admit, into a particular understanding of the tendency of such virtues to preserve and perfect a republican constitution, secure the blessing of liberty, and promote their future happiness; and the tendency of the opposite vices, to slavery, degradation, and ruin."

Upon the effects, then, of stimulants and narcotics upon the human system as a foundation, should be built a system of temperance instruction so broad as to include a knowledge of all the evils that follow their habitual use, and by such methods as will so call into lively activity the consciences and feelings of our pupils that there will grow up in them as a part of their characters, an indomitable purpose to forever abstain from the first steps in the path that leads down to "slavery, degradation and ruin."

The methods which should be employed in making such a course of instruction efficient, should be such as to appeal strongly to the perceptions, the imagination, the conscience, and the will of the pupil. Such methods will demand that:

1. The teacher should be intensely in earnest, and hence thoroughly a believer in the importance of what is taught. Real earnestness, enthusiasm and faith in one's work, are especially contagious in the school. Pupils are strongly inclined to accept things at the value which the teacher places upon them; and in the work of the school they unconsciously

measure that value by the earnestness and enthusiasm which the teacher manifests. Nor should it be difficult for any one fit to teach to become thoroughly alive to the importance of this work, and full of enthusiasm and faith in it.

2. The teacher should be full of a knowledge of the subject; not alone a knowledge of the facts to be impressed upon the minds of the pupils, but of such additional facts, and such incidents, anecdotes, and pat illustrations as will serve to give life, force and interest to those facts. These incidents, anecdotes and illustrations, however, should never be such as to connect with the personal experiences of the pupils, especially when relating to the social and moral side of the subject.

3. Instruction in all classes should have much of the oral in it, and should be as much objective in form as practicable. It should never, however, take the form of lectures to, but rather of conversation with, pupils, drawing out their own knowledge, thoughts and opinions, and supplementing these by such additional statements, corrections and illustrations as may be needed. With pupils who cannot intelligently read the text-book on the subject used in the school, the instruction should be wholly oral. In teaching the physiological and hygienic side of the subject, whether from text-book or orally, simple experiments like those outlined in the papers by Messrs. Estabrooke and Warner in the appendix, should be largely employed.

4. There should be a set time and place in the school program for this instruction, as much so as for that in any other subject. The very fact of giving it such place will emphasize its importance in the minds of pupils. Moreover, the mind unconsciously takes on a condition of receptivity for instruction regularly recurring, and hence profits by it more than when coming at unexpected times. How frequently these set times should recur, will depend somewhat upon the other work of the school. The subject should have its fair share of time with others. Wherever the conditions will allow, the instruction should be given daily.

In conclusion I would most earnestly urge upon school officers and teachers the importance of this part of our public school work. If in any of the schools little or nothing has been efficiently done in this direction, let measures be taken at once to do such work. Where a good beginning has been made, let the work be pushed on to higher efficiency. If the schools of our State can be made to send out into active life men and women who shall believe thoroughly, what science and all human experience join in teaching, that the drink habit and narcotism are sins—sins against the body because destructive of its health, sins against the moral nature because they blunt and deaden the keenness of moral perception, sins against the State because they are productive of poverty and crime,—and who, because so believing, shall abhor even the first steps that lead to these sins, they will have done a work whose worth no dollars can measure. To help toward such a work is the high and holy privilege of all who have to do with the schools, and let us deem it such.

Compulsory School Attendance.

In 1875 an act was passed requiring the attendance at school, either public or private, of every child between the ages of nine and fifteen years, for at least twelve weeks in each year, unless excused from such attendance by the officers of the town for physical or mental disability, or because of living more than a mile and a half by the shortest travelled road from any school. The penalty affixed to non-attendance as thus required was a fine not to exceed five dollars. The duty of enforcing this act was imposed upon school committees and supervisors. I am not aware that the provisions of this act were ever anywhere enforced. I know that its enforcement was generally found to be impracticable, whenever any supervisor who sought to enforce it in some aggravated case of absenteeism, came to the question of ways and means. In view of the defective character of this law, therefore, the last Legislature enacted the following substitute:

An Act to compel children under fifteen years of age to attend the public schools.

Be it enacted by the Senate and House of Representatives in Legislature assembled, as follows:

SECTION 1. Every person having under his control a child between the ages of eight and fifteen years, shall annually cause such child to attend, for at least sixteen weeks, some public school, which time shall be divided, so far as the arrangement of school terms will allow, into two terms each of eight consecutive weeks, and for every neglect of such duty, the person offending shall forfeit a sum not exceeding twenty-five dollars to the treasurer of the city or town for the use of the public schools in such city or town; but if such child has been otherwise furnished for a like period of time with the means of education, equal to that taught in the common schools of the State, or if his physical or mental condition is such as to prevent attendance at school or application to study, such penalty shall not be incurred.

SECT. 2. Children living remote from any public school in the town in which they reside may be allowed to attend the public schools in an adjoining town under such regulations and on such terms as the school committees of said towns agree upon and prescribe, and the school committee of the town in which such children reside shall pay the sum agreed upon out of the appropriations of money raised in said town for school purposes.

SECT. 3. Cities and towns shall annually elect one or more persons, to be designated truant officers, who shall inquire into all cases of neglect of the duty prescribed in section one, and ascertain the reasons therefor, and such truant officers or any one of them, shall, when so directed by the school committee or supervisor in writing, prosecute in the name of the city or town any person liable to the penalty provided in said section.

SECT. 4. Every city or town neglecting to elect truant officers, and truant officers neglecting to prosecute when directed, as required by law, shall forfeit not less than ten nor more than fifty dollars to the use of the public schools in the city or town neglecting as aforesaid, or to the use of the public schools in the city or town where such truant officer resides.

SECT. 5. The municipal officers shall fix the compensation of the truant officers elected as prescribed in section three.

SECT. 6. Every boy between the ages of ten and fifteen years who refuses to attend school as required in section one and who may be found wandering about the streets or public places of any city or town during the school hours of the school day, while the school of which he is legally a scholar is in session, on complaint of the truant officers as provided in section three, shall be committed to the State Reform School; *provided, however*, that it shall be the duty of every truant officer previous to making complaint under this section, to notify the truant or absentee from school, also the person having him under control, of the offence committed and the penalty therefor, and if the truant officer can obtain satisfactory pledges that the child will conform to section one of this act, he shall forbear to prosecute so long as such pledges are faithfully kept.

SECT. 7. Police or municipal courts and trial justices shall have jurisdiction of the offences described in sections one, three, four and six.

This act was approved February 15th. Unfortunately the enacting section, which was in the bill as reported from the Committee of Education, was stricken out during its passage through the House, and it did not, therefore, become law till April 16, thirty days after the adjournment of the legislative session. As at that time every town in the State had held its annual meeting, the law has been inoperative during the year, save in the few towns which, at special meetings held after the above date, elected the truant officers required by its provisions.

The provisions of this act are not to be confounded with those of another passed at the same session, relating to the employment of children in manufactories, without annually attending school. This, while in perfect harmony with that, applies everywhere and to all children of the ages named.

It is expected that, as the result of the general enforcement of these new provisions of law, the attendance upon our public schools will be very considerably increased. Indeed, evidence is not wanting that the schools have already felt the effects of the law, even where no steps have been taken for its enforcement. Whether or not its effects shall be as marked as is to

be desired, will depend in large measure upon the wise choice of truant officers, and in large measure, also, upon the hearty co-operation of these officers and school committees and supervisors. In order to secure such co-operation I make the following suggestions:

1. That when more than one truant officer is elected, such officers and the school committee shall divide the town into sections, giving to each truant officer charge of the execution of the law in one of these sections.

2. That, as soon as the school census for the year is completed, school committees make duplicate lists of all children between the ages of eight and fifteen, resident in each school district, one copy of which shall be furnished to the truant officer in whose section such district is embraced, and the other to the teacher or teachers of the school.

3. That every teacher be instructed to make duplicate returns, at the end of the first three days of every term, of the names of all pupils between such ages who have not been enrolled as attending the school under his or her charge, one copy to the school committee and the other to the truant officer in whose section the school lies.

4. The truant officer on receipt of such return, should at once visit the homes of all children named therein, ascertain the reason for their non-attendance and other essential facts relating thereto, and report the same to the school committee.

5. If the reasons for the non-attendance of any child assigned by parents or guardians, as reported by the truant officer, be such as are recognized in the law as valid, they should notify the teacher of the school in which such child belongs, of such fact, and the teacher should make note thereof by writing "excused" against the child's name. If such reasons are not so valid, they should direct the truant officer to notify the parent or guardian to send such child to school, and to inform him of the penalty incurred by failure so to do.

6. At the end of each term in any district, the teacher should be required to make returns again to the truant officer

of the names of such children coming under the requirements of the law, as have not attended school during such term for eight consecutive weeks; and if the terms of school in such district are so arranged that within the school year there can not be subsequent compliance of such children with the requirements of law, the truant officer should report such names to the school committee and ask their directions as to prosecution of the persons having such children under control.

7. The ultimate efficiency of any law depends largely upon the promptness and vigor of its execution in the beginning. Such will prove especially the case in this matter. Those whom the law is intended to reach, once having felt its grip, will hardly need any further admonitions as to their duty in the premises. Finally, therefore, promptness and vigor should characterize the action of truant officers and school committees in this first year of its general execution. Let there be no temporizing, no compromising with offenders this year, and offenders will be few next year.

Courses of Study for Ungraded Schools.

No one carefully and intelligently studying the condition and needs of our ungraded schools, can fail to notice the waste of time and effort, both of teachers and pupils, which characterizes their instruction, and results from want of systematic and orderly plans of work. In the order in which subjects are taught, there is little heed taken to adaptation to the pupil's mental status, and in methods of teaching quite as little. There is no recognition of the order in which his mental faculties unfold naturally; indeed, little recognition of the fact that he has other faculties than memory. And so he is found trying to master the principles of arithmetical science, or of technical grammar, while the faculties required to grasp and comprehend those principles, are infantile in power, and he is perforce compelled to hold in memory simply the words in which these principles are formulated, getting neither mental

growth in the process, nor real knowledge as the result. Nor in the hap-hazard work done are the consecutive steps taken once and for all. With constant change of teachers from term to term, there is constant going over and over again work done in previous terms that ought to have been done once and for all in those terms. Out of this grows a habit of superficial work, of half doing what should be well and thoroughly done.

The superiority of the graded to the ungraded school lies chiefly in the fact that its work is done in accordance with a plan which is, or ought to be, based upon the laws governing mental activity and growth; and that, in the carrying out of such plan, the work of each term and year is a finality. It maps out for the pupil a well and wisely chosen path, sets mile-stones along the way by which to mark his progress, and places before him a definite end to be reached in the form of graduation. In short, the graded is superior to the ungraded school chiefly because of its definite course of study. But there is nothing in the inherent nature of the ungraded, or, to use a better term, the mixed school, standing as an insuperable obstacle to the mapping out of its work in a similar way, and to the fixing of a definite ending of that work in graduation. Given a system of mixed schools of equal length and of proximate equality in the character of instruction, and it is entirely practicable to make out a course of study for those schools. Given a system of such schools of varying lengths and considerably differing character of instruction, and only a partial course is practicable. In short, under the town system of school management, the work of the mixed schools can be as definitely outlined in a complete course of study, as can the work of graded schools. Under the district plan, with its wide disparity in length of schools in different sections, experience has shown that such courses are only partially practicable. In both cases it is practicable to fix a limit to the work done, and when pupils have reached that limit, to graduate them in like manner as they graduate from graded schools or seminaries. Experience has further

shown, that in such courses of study complete or partial, and graduation therefrom, in addition to other advantages, is to be found an incentive and spur to good work by pupils in the schools, and by parents for them, of very great value.

An appreciation of the need of this reform in school work has been growing upon those having local charge of our schools in Maine, as in other States. During the current year frequent calls have come from school committees for information and suggestion regarding it. I am glad, therefore, to be able to insert here the course of study planned by Dr. J. O. Webster, Supervisor of Schools in Augusta, for the mixed schools of his city.

COURSE OF STUDIES FOR UNGRADED SCHOOLS.

PRIMER GRADE.

Reading—To be taught from the blackboard, charts, Monroe's Primer, etc.

Spelling—By sounds and letters, the words in the reading lessons.

Numbers—Develop the idea of numbers from 1 to 10, counting with real objects.

Writing—On slates, small letters, short words and sentences.

Oral instruction in language, color, form and size. Calkin's Primary Object lessons will indicate the kind and amount of work to be done under this head.

FIRST READER GRADE.

Reading—Monroe's First Reader and supplementary reading.

Spelling—By sounds and letters, words in reading lessons

Numbers—One to twenty. Teach all the combinations possible, using no number larger than twenty.

Writing—Capitals; copying a part of the reading lesson daily.

Oral Lessons—Language; talks about the five senses, their organs and use.

SECOND READER GRADE.

Reading—Monroe's Second Reader; supplementary reading.

Spelling—Both oral and written; words from reading lessons. Spelling book—Harrington's—Part I, to page 40.

Numbers—Reading and writing numbers to 1,000; Roman numerals to LXX; Colburn's first lessons to page 45.

Writing—Words and sentences from reading lessons. Primary writing, Book No. 1.

Language—Taught orally; lessons from reader.

Oral Instruction—Geography of school yard, points of compass, parallel lines, map of the town

THIRD READER GRADE.

Reading—Monroe's third reader; supplementary reading.

Spelling—Harrington's spelling book; Part 1 to page 65.

Numbers—Colburn's first lessons, completed.

Writing—Primary writing books, Nos. 2 and 3.

FOURTH READER GRADE.

Reading—Monroe's fourth reader; Child's Book of Nature; supplementary reading.

Spelling—Harrington's spelling book; Part 1 completed and Part 2 to page 20.

Arithmetic—Greenleaf's complete arithmetic to page 116 or brief course; Colburn's for mental arithmetic.

Geography—Warren's primary completed and reviewed; map drawing.

Language—How to Speak and Write; oral teaching.

Writing—Books Nos. 1, 2, 3 and 4.

Oral Instruction in physiology and zoology.

FIFTH READER GRADE.

Reading—Monroe's fifth reader; Young People's History of Maine; supplementary.

Spelling—Spelling book completed and reviewed.

Arithmetic—Greenleaf's complete completed, omiting "metric system," "six per cent method" in interest, true discount and present worth, cube root and all of the appendix except government lands, longitude and time and taxes.

Geography—Warren's Brief Course; map drawing.
Grammar—Sill's lessons in English.
History—Higginson's Young Folks' United States.
Physiology and Hygiene—Our Bodies and How we Live.
Writing—Books Nos. 5, 6 and 7.
Book Keeping—Single entry,
Civil Government—U. S. Constitution; oral instruction.

The foregoing course is based upon recognized educational principles, both in order of subjects to be taught and in methods of instruction suggested. In adapting it, therefore, as it would have to be adapted, to the schools of another locality, this order of subjects should be preserved, as should also the methods suggested so far as practicable.

In conclusion, I most earnestly urge upon the school committes and supervisors of all towns which have abolished the district system, that they take steps toward the inauguration of this reform in the work of their schools as soon as practicable; and I suggest that as soon as the reform is decided upon, and a satisfactory course of study arranged, especial attention should be given to searching out in every school as many of the most advanced scholars as can be found competent to complete the course during the year, and that such should be organized into a graduating class; for the early graduation of a class with appropriate public exercises, will do much toward bringing the reform into public favor, and securing parental co-operation in carrying it forward to ultimate and permanent success.

CONCLUSION.

What Can Be Done?

Whatever improvement in the condition of our public schools has been secured in the past, has been secured chiefly, almost wholly, through the efforts of those having them locally in charge. Supervision has been the lever which has lifted them into higher efficiency under the district system; supervision has been the force back of popular action, which has made possible the bringing of them to their best estate under the better town system of management. If school attendance has increased, that increase is largely due directly or indirectly to the school committeeman. If better teachers have been employed, and more permanently employed, his wise advice to agents, or his decided stand against admitting incompetents into the schools, has been the principal factor in securing the result. If greater thoroughness, and less waste of time and force have anywhere been brought into school work, it has been largely due to his intelligent planning of such work and his vigilant insistance upon it. His earnest and sometimes sharp arraignment in his annual report, of districts for failure to provide proper school-houses, has often borne good fruit. His reiterated arguments in their favor have led to the establishing of high schools. And his kindly and wise advise to young teachers showing special aptitude for their work, has sent many a one into our Normal Schools.

But though there has been real and substantial improvement made along all these lines, the limits of needed and practicable improvement have not been reached. Effort of the same kind, more earnest if possible and more persistent, is still needed, and is still certain to bear good fruit. The answer, then, to the question, What can be done? may properly take the form of the following

Recommendations.

1. That school committees and supervisors earnestly endeavor to increase school attendance by the use of all legitimate means, and especially by a prompt and vigorous enforcement of the new compulsory law.

2. That they guard the schools from the admission of unfit teachers by demanding evidence of moral character, and by searching examination not only into their scholastic qualifications, but into their ability to govern and instruct; and that they use their influence to secure the retention of satisfactory teachers in the same schools for a series of terms.

3. That in towns in which the district system has been abolished, they take necessary steps toward the introduction of courses of study in the ungraded schools from which pupils may graduate in like manner as from graded schools.

4. That they use their influence in favor of the abolition of the district system, the adoption of the free text-book plan, and the establishing of Free High Schools.

5. That they urge upon teachers the importance of attending educational meetings, and that they themselves, when practicable, attend and take part in such meetings.

6. That they strongly advise all young teachers who show natural aptitude for the work, to enter upon a course of professional training at one of our Normal Schools.

7. That, in short, they seek to elevate the public schools of their towns by vigilant, earnest, persistent and aggressive action, as leaders in all educational reforms.

APPENDIX.

COMMON SCHOOL STATISTICS,

COMPILED FROM ANNUAL RETURNS OF S. S. COMMITTEES AND FISCAL RETURNS OF MUNICIPAL OFFICERS, FOR THE YEAR ENDING APRIL 1, 1887.

ANDROSCOGGIN COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k.		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k.		Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d.											
Auburn	3205	1426	1157	2816	2229	1765	.35	12		660	24		1320	–	–	32	32			78,000	6	15	49
Durham	380	232	190	241	206	302	.52	8	2	128	11	3	124	11	1	12	9	–	–	4,500	2	4	10
East Livermore	381	227	180	260	220	300	.52	8		56	7	2	52	7	–	7	6	–	–	7,000	2	6	9
Greene	258	136	113	153	121	168	.45	8	4	88	10	3	117	11	–	10	10	–	–	2,500	1	2	9
Leeds	339	212	174	241	190	267	.54	9		178	10	2	124	12	–	12	11	–	–	4,300	–	5	15
Lewiston	6388	2213	1898	2519	1950	2600	.30	12		720	25	3	1560	–	–	29	27	1	21,000	200,000	4	4	60
Lisbon	1012	473	409	532	417	570	.41	9		162	22		418	–	–	12	12	–	–	22,000	2	3	16
Livermore	350	269	222	219	179	252	.57	8	1	148	9	3	134	17	2	17	11	–	–	4,800	–	5	20
Minot	493	358	272	328	285	372	.56	9	4	186	10	1	102	6	5	9	7	–	–	8,000	1	4	14
Poland	688	222	186	280	236	295	.31	9		135	9		151	–	–	17	12	–	–	12,000	–	6	15
Turner	596	364	316	402	350	440	.56	9		180	11		220	–	–	19	17	1	1623	5,000	–	11	20
Wales	139	100	88	120	104	131	.69	6	4	72	9	4	77	8	–	8	5	–	–	2,200	–	6	11
Webster	327	196	175	180	153	207	.50	10		150	8	3	60	–	–	10	2	–	–	2,100	1	3	9
	14,556	6428	5380	8291	6640	7669	.41	9	1	2863	13		4459	72	8	194	161	2	22,623	352,400	19	74	257

ANDROSCOGGIN COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts. for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law.								
Auburn	95	6	112 00	6 00	2 50	360 00	14,500	6856	–	4 53	14,500 00	5,269 77	–	19,769 77	18,866 81	902 96	
Durham	6	1	21 75	3 98	1 80	83 00	1,200	198	–	3 16	1,257 01	637 00	–	1,894 01	1,705 45	188 56	
East Livermore	4	–	32 00	3 60	2 01	57 00	864	–	–	2 27	1,462 78	569 17	210 26	2,242 21	2,117 62	124 59	
Greene	9	–	23 50	3 48	1 70	47 10	799	–	–	2 81	1,103 72	469 89	–	1,573 61	1,322 08	251 53	
Leeds	5	1	21 00	3 17	1 56	52 25	1,000	45	–	2 79	1,070 36	592 34	–	1,662 70	1,557 09	105 61	
Lewiston	61	12	133 90	8 65	3 50	1500 00	24,000	8734	–	3 63	24,000 00	10,925 06	39 38	34,964 44	35,187 40	–	222 96
Lisbon	16	3	60 00	5 50	2 50	151 00	2,600	487	–	2 87	2,682 03	1,497 37	26 02	4,205 42	4,175 18	30 24	
Livermore	8	–	24 00	3 17	1 67	67 75	1,025	15	–	3 00	1,148 73	567 51	54 43	1,770 67	1,689 07	81 60	
Minot	13	4	39 41	4 34	2 62	85 00	1,410	–	–	3 35	1,692 34	696 57	–	2,388 91	2,334 14	54 77	
Poland	11	–	24 83	3 95	1 96	100 00	2,500	546	–	3 60	2,319 99	1,148 27	–	3,468 26	3,378 69	89 57	
Turner	9	1	37 50	5 25	2 00	119 00	2,500	672	–	4 12	2,573 30	1,004 32	27 00	3,604 62	3,267 84	336 78	
Wales	4	1	20 00	3 00	2 00	39 25	600	196	–	4 29	742 20	231 64	–	973 84	961 98	11 86	
Webster	4	–	23 33	3 18	1 58	50 00	784	–	–	2 43	980 22	534 42	–	1,514 64	1,396 17	118 47	
	265	29	44 10	4 40	2 11	2691 35	53,782	17,749	–	3 30	55,532 68	24,143 33	357 09	80,033 10	77,959 52	2296 54	222 96

AROOSTOOK COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town	Number of School-houses in town.	Number in good condition	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
Amity	152	137	103	61	36	132	.46	17		68	11	3	35	4		4	4			1,400		2	5
Ashland	186	155	95	90	72	165	.45	12	1	73	12		36	6		5	4			2,000	1	2	4
Benedicta	134	79	58	79	59	103	.44	14		42	13	2	40	3		3	3			1,400		1	3
Blaine	282	190	160	165	147	200	.54	15		75	12		60	5		5	1			2,000	1	3	4
Bridgewater	361	183	146	174	133	193	.41	11	2	69	12	3	75	6		6	4			1,450	1	6	5
Caribou	1391	600	499	570	418	699	.33	12	1	231	12	4	238	19	2	18	10			6,000		5	20
Easton	395	247	209	207	173	297	.48	9		90	9		90			10	10	1	357	4,350	1	3	10
Fort Fairfield	1208	978	670	691	544	1015	.50	12	2	349	10		190			25	19	2	1100	11,400	2	10	23
Fort Kent	784	325	250	-	-	325	.33	20		280		-	-	11	3	10	5	2	275	1,275			14
Frenchville	1193	476	285	-	-	476	.24	24		506			-	22		13	3		-	600	3		18
Grand Isle	436	200	193	43	41	218	.27	25		150	12		12	6		5	2		-	1,200	2	1	5
Haynesville	84	64	56	47	38	70	.56	10	2	42	9	1	19	3		3	2	1	100	900	1	2	3
Hersey	65	54	40	46	35	57	.58	12		36	8		24	2	1	1	1			500		1	3
Hodgdon	414	222	216	214	158	285	.45	10		100	12	3	127	10	2	10	6			3,300	2	7	8
Houlton	1185	596	458	483	394	626	.36	21	1	276	8	4	114	-		9	4			7,000		1	16
Island Falls	93	54	41	48	41	58	.44	11		22	11	2	23	5	1	3	3			2,600		1	2
Limestone	312	193	144	169	130	202	.44	10		110	10	4	108	-		8	8			2,800	1	2	8
Linneus	412	252	188	187	152	279	.41	13	2	107	13	3	82	10	2	8	8			2,500		4	8
Littleton	424	256	180	125	98	305	.33	12	3	114	10	2	83	10		9	6			3,200	2	2	8
Ludlow	184	151	103	73	55	160	.43	16		80	12		36	5		4				1,412		3	9
Madawaska	632	342	242	91	71	285	.25	19	2	292	9	4	49	15		9	6	1	150	1,650	1	1	13
Mapleton	331	233	174	171	138	253	.47	10	2	95	11		88	9		7	6			1,700		3	8
Mars Hill	354	152	114	179	141	228	.36	9	3	67	11	4	106	10		9	6			2,400		5	7

Masardis.....	105	72	55	69	60	79	.55	11		33	10		30	3	-	3	2	-	-	900	-		2	3
Monticello	432	268	206	252	191	308	.49	10	1	92	12	2	75	8	-	8	3	1	350	1,900	-		4	9
New Limerick	266	173	137	152	111	197	.47	12	4	89	13	4	55	6		5	5	-	-	1,650	-		2	7
Orient.....	80	68	52	-	-	68	.65	13	4	55		-	-	3	-	3	3	-	-	1,200		1	-	3
Presque Isle.....	1015	632	510	563	456	778	.48	10	2	236	10	2	226		-	21	15	2	1000	8,000		2	4	21
Sherman	338	221	217	208	168	225	.57	11	1	79	11	1	67	6	-	6	3	-	-	2,000		1	3	6
Smyrna.....	113	61	42	61	52	83	.41	10	2	32	10		30	4	-	4	1	1	175	800	-		1	3
Van Buren.....	526	278	242	243	198	327	.42	12		132	9		54	9	-	8	7	-	-	1,800		3	2	8
Washburn	421	245	206	331	243	343	.53	8	4	96	10	4	108	9	-	10	8	1	315	1,800	-		3	10
Weston.....	178	121	91	69	59	125	.42	11	2	45	13	3	27	4	1	4	2	-	-	925	-		2	8
Woodland.....	348	162	129	199	145	248	.39	8	4	70	13		104	8	-	8	4	-	-	2,000	-		3	8

AROOSTOOK COUNTY—CONTINUED.

Plantations.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k.		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k		Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k	Number of Districts in town	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town	Number Male Teachers employed in Summer and Fall Terms	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d.											
Allagash	112	60	41	-	-	60	.36	21		42				2									2
Bancroft	96	75	61	12	10	75	.37	13		77	5		5	5	-	5	4			500			6
Cary	186	129	99	78	59	139	.42	11	1	78	11	2	34	5	-	5	2			1000		2	5
Castle Hill	210	124	92	117	98	146	.45	10		70	10	3	64	6	1	6	2			2200		2	7
Caswell	120	52	26	-	-	52	.22	21	1	85						1				40			6
Chapman	94	71	55	20	14	56	.37	9	4	39	8		8	3	-	2	1			350			4
Connor	279	133	104	-	-	133	.38	15		60				4	-	4	3	2	500	500			4
Crystal	121	102	61	78	61	114	.50	13	3	68	6	2	32	6	-	3	2			475			4
Cyr	229	107	90	-	-	107	.39	24		120				5	-	5	3			250	1		4
Dyer Brook	89	57	46	65	52	70	.55	11	1	45	11	3	47	4	1	3	3			1000			4
Eagle Lake	149	84	63		-	84	.42	24	2	48				2	-	2	2			500			2
Garfield	41	26	22	24	17	31	.48	13		13	20		20	1	-	1	1			425			1
Glenwood	69	51	40	-	-	51	.58	16		48				3	-	3	3			885	1		2
Hamlin	294	144	101	-	-	144	.34	25	4	129				5	1	5	5			600	2		3
Hammond	43	New	Plantation.																				
Macwahoc	93	56	47	38	33	68	.43	15		30	12		12	2	-	2	2			500			2
Merrill	108	66	50	62	58	72	.50	8		32	7		14	3	-	3	2			400	1		3
Molunkus	26	20	20	-	-	20	.77	10		20				2	-	2	1			50			2
Moro	83	53	44	-	-	53	.53	19	2	58				3	1	3	1			500			6
New Canada	118	71	42	-	-	71	.36	16	4	50				3	-	2	2	1	138	238			3
New Sweden	241	123	105	127	92	135	.41	9		54	13		77	5	1	6			-	1200	-	-	6
Oakfield	289	171	121	110	107	187	.39	11		99	10	2	73	9	-	7	4	-	-	1500	1	3	9
Perham	163	78	60	106	83	123	.44	8	2	34	10	1	61	6	1	4	3	-	-	1500	-	4	4

Portage Lake...	61	33	29	–	–	37	.48	20		20		–	–	1	–	1	1	–	–	700	–	–	1
Reed.....	67	46	41	45	38	52	.60	11	2	35	11	1	34	3	–	3	3	–	–	1000	–	–	3
St. Francis.....	139	50	32	–	–	50	.23	30		60		–	–	3	1	2	1	–	–	100	–	–	2
St. John.....	89	46	32	–	–	46	.36	21	2	43		–	–	2	–	2	1	–	–	200	–	–	2
Silver Ridge....	80	50	32	50	36	59	.42	11		33	8	1	41	3	–	3	2	–	–	200	–	–	3
Wade.....	43	20	14	11	8	20	.26	12		12	8	3	9	2	–	1	1	–	–	300	–	–	1
Wallagrass.....	223	97	70	–	–	97	.31	21	1	64		–	–	3	–	3	–	–	–	200	–	–	3
Westfield.....	54	15	9	19	16	22	.48	10		10	12		12	2	–	1	–	–	–	500	–	1	1
Winterville	No	Statistical		Returns.																			
	18,843	10,700	8150	7022	5,539	11,786	.36	14	1	5809	11		2954	324	19	354	229	15	4460	103,825	34	105	395

AROOSTOOK COUNTY—CONTINUED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886	Not less than 80 cts. for each inhabitant. Excess above am't required by law.	Not less than 80 cts. for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
Amity	1	-	27 50	4 89	1 92	17 00	350	4	-	2 28	502 83	265 37	271 30	1039 50	886 11	153 39	
Ashland	1	-	31 94	2 41	2 18	15 00	450	46	-	2 24	436 85	322 56	-	759 41	805 43	-	46 02
Benedicta	2	-	25 00	4 00	1 50	29 75	250	8	-	1 92	326 09	215 10	58 50	599 69	580 25	19 44	
Blaine	2	-	26 00	3 50	1 65	15 00	517	-	-	1 75	546 49	488 09	-	1034 58	1034 58		
Bridgewater	-	-	28 50	4 64	1 73	35 00	574	-	4	1 65	954 23	577 50	130 00	1661 73	1464 43	197 30	
Caribou	12	2	25 00	5 20	2 12	100 00	2205	-	-	1 80	2940 17	2028 49	-	4968 66	4580 05	388 61	
Easton	8	2	28 00	4 90	1 66	77 00	668	-	-	1 73	727 07	638 64	53 91	1419 62	1391 31	28 31	
Fort Fairfield	9	3	26 82	4 68	1 90	165 00	2800	554	-	2 42	2455 47	1915 99	96 29	4467 75	4817 76	-	350 01
Fort Kent	-	4	-	5 67	1 64	20 00	350	-	-	-	440 50	1133 24	25 68	1599 42	1803 48	-	204 06
Frenchville	-	1	14 66	2 71	1 99	18 00	375	-	-	-	624 53	1793 34	7 53	2425 40	2268 70	156 70	
Grand Isle	-	-	22 50	3 26	1 30	15 00	250	-	-	-	1080 54	671 29	101 32	1853 15	863 25	989 90	
Haynesville	-	1	23 00	3 17	1 78	4 50	190	11	-	2 07	185 23	152 22	77 00	414 45	411 83	2 62	
Hersey	2	-	16 00	2 85	1 83	6 00	135	8	-	1 72	185 22	129 06	84 00	398 28	376 33	21 95	
Hodgdon	3	1	22 60	3 78	1 75	33 25	1000	129	-	2 25	1241 73	734 62	55 10	2031 45	1785 49	245 96	
Houlton	13	2	24 00	5 32	2 44	280 00	2584	2	-	2 18	2992 15	1968 93	-	4961 08	4370 01	591 07	
Island Falls	1	1	26 00	4 60	1 65	11 00	200	11	-	2 20	228 78	150 56	144 00	523 34	368 20	155 14	
Limestone	6	-	28 00	4 40	1 95	25 00	524	-	-	1 86	647 11	466 38	164 66	1278 15	1257 15	21 00	
Linneus	2	-	31 25	4 32	1 62	24 75	855	121	-	2 13	978 15	663 47	15 75	1657 37	1568 55	88 82	
Littleton	1	1	27 00	3 83	1 51	25 00	No	Fiscal	Returns.								
Ludlow	-	-	26 00	3 22	1 68	22 00	374	-	-	1 95	510 89	317 68	59 50	888 07	815 89	72 18	
Madawaska	5	5	17 00	2 89	1 38	25 00	350	25	-	-	677 09	1002 99	42 87	1722 95	1547 86	175 09	
Mapleton	5	-	24 00	3 84	1 60	36 00	564	-	-	1 80	550 49	519 54	47 49	1117 52	1157 86	-	40 34
Mars Hill	4	-	22 20	3 39	1 49	30 00	573	-	-	1 65	612 13	575 79	50 00	1237 92	1064 05	173 87	

Masardis	1	-	30	00	3	00	1	75	3	00	175	5	-	1	90	222	29	152	22	37	00	411	51	414	82	-	3	31
Monticello	2	-	30	80	4	30	2	03	55	00	771	-		1	1	73	911	73	736	27	91	00	1739	00	1237	75	501	25		
New Limerick	2	-	27	00	4	40	1	68	35	00	672	200	-		2	76	674	60	402	05	46	20	1122	85	947	87	174	98		
Orient	-	-	28	00	4	00	1	63	7	00	180	1	-		1	94	421	85	153	87	85	29	661	01	557	51	103	50		
Presque Isle	18	5	24	00	4	80	2	00	185	00	2000	43	-		2	07	1777	00	1594	99	100	00	3471	99	4248	36	-	776	37
Sherman	3	-	33	75	4	58	1	80	24	00	785	247	-		2	30	1014	14	564	20	7	50	1585	84	1479	49	106	35		
Smyrna	2	-	16	00	3	30	1	48	9	00	220	30	-		2	22	212	72	163	80	-		376	52	379	14	-	2	62
Van Buren	4	2	22	00	4	16	1	31	10	00	888	-	-		1	68	1673	86	833	55	-		2507	41	1661	24	846	17		
Washburn	8	-	22	00	3	42	1	70	90	00	666	19	-		1	62	598	31	680	02	152	66	1430	99	1203	55	227	44		
Weston	-	-	25	00	4	09	1	51	12	00	334	-		2	1	96	384	66	281	28	55	87	721	81	692	13	29	68		
Woodland	5	1	26	67	4	34	1	71	41	00	550	7	-		1	60	559	27	516	34	184	00	1259	61	1152	58	107	03		

AROOSTOOK COUNTY—Concluded.

Plantations.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, exclusing board.	Average wages of Female Teachers per week, exclusing board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts. for each inhabitant. Excess above am't required by law.	Not less than 80 cts. for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
Allagash	-	1	-	-	-	18 73	50	-	12	-	50 00	173 73	-	223 73	223 73		
Bancroft	1	3	-	4 00	1 90	20 00	225	49	-	2 14	238 50	167 57	225 00	631 07	612 83	18 24	
Cary	1	-	21 25	4 10	1 57	10 00	330	-	-	1 94	517 09	337 30	10 85	865 24	820 35	44 89	
Castle Hill	5	-	22 00	3 73	1 48	25 00	399	64	-	2 04	530 03	324 30	-	854 33	775 68	78 65	
Caswell	-	-	-	4 75	1 60	12 00	172	-	89	1 58	330 84	180 35	-	511 19	508 31	2 88	
Chapman	1	1	-	3 40	1 35	18 50	135	2	-	1 77	227 04	125 75	-	352 79	267 38	85 41	
Connor	4	-	-	3 25	1 50	15 00	100	-	-	-	100 00	375 52	-	475 52	305 25	170 27	
Crystal	3	-	-	2 77	1 38	8 50	240	20	-	2 07	268 87	191 94	55 50	516 31	497 07	19 24	
Cyr	-	-	14 00	2 75	1 25	9 00	75	-	-	-	95 16	369 52	20 79	485 47	469 06	16 41	
Dyer Brook	4	-	-	3 31	1 22	36 00	217	79	-	2 65	241 55	135 67	90 20	467 42	462 97	4 45	
Eagle Lake	-	-	-	4 25	1 25	23 50	60	-	-	-	80 85	208 15	7 80	296 80	293 00	3 80	
Garfield	1	1	-	4 21	1 80	1 50	64	-	-	1 78	144 95	59 57	68 90	273 42	235 75	37 67	
Glenwood	-	-	20 00	3 63	1 72	6 00	152	-	6	2 41	166 81	104 23	82 56	354 60	320 27	34 33	
Hamlin	-	1	18 00	3 75	1 44	12 00	150	-	-	-	79 54	399 36	373 34	852 24	758 09	94 15	
Hammond	New	Pl.															
Madwahoc	1	1	-	4 89	1 94	3 00	200	50	-	2 22	201 64	132 69	-	334 33	321 45	12 88	
Merrill	1	-	22 00	4 00	1 60	10 00	165	-	-	1 42	161 71	191 94	50 00	403 65	385 79	17 86	
Molunkus	-	-	-	3 00	2 00												
Moro	-	-	-	3 45	1 50	10 00	181	44	-	2 21	174 82	135 67	-	310 49	299 70	10 79	
New Canada	-	-	-	3 37	1 30	20 00	100	-	-	-	100 43	195 25	-	295 68	280 95	14 73	
New Sweden	4	1	20 60	4 69	1 64	20 00	414	-	-	1 76	553 30	388 82	-	942 12	843 09	99 03	
Oakfield	4	-	22 50	3 25	1 75	26 00	510	-	-	1 92	809 41	438 45	56 68	1304 54	965 28	339 26	
Oxbow	-	-	-	-	-	-	110	8	-	1 83	110 00	99 27	-	209 27	110 80	98 47	

Perham	2	1	23 25	3 66	1 65	15 00	250	–	27	1 51	441 98	273 00	100 00	814 98	742 47	72 51		
Portage Lake	–	–	–	3 50	2 50	4 00	75	–	31	1 39	127 95	86 00	–	213 95	164 00	49 95		
Reed	3	–	–	4 04	2 00	17 90	200	113	–	2 78	253 52	100 72	172 62	526 86	473 46	53 40		
St. Francis	–	1	–	3 27	1 25	–	100	–	–	–	256 01	257 15	–	513 16	360 50	152 66		
St. John	–	–	–	3 22	1 25	31 03	100	–	–	–	124 41	128 00	–	252 41	223 03	29 38		
Silver Ridge	5	–	–	3 53	1 81	13 20	183	–	–	2 44	240 27	124 09	152 56	516 92	462 49	54 43		
Wade	1	–	–	3 50	2 00	6 00	104	–	1	2 42	112 54	71 14	–	183 68	130 10	53 58		
Wallagrass	–	1	–	3 83	1 00	29 50	100	–	–	–	169 28	336 34	–	505 62	418 00	87 62		
Westfield	–	1	22 00	3 00	2 00	4 25	115	33	–	2 21	117 82	86 04	–	203 86	155 45	48 41		
Winterville	–	–	–	–	–	–	60	–	21	1 30	130 34	76 10	–	206 44	172 55	33 89		
	163	44	24 04	3 84	1 67	1925 86	28,715	1933	194	1 52	35,450 83	29,083 07	3711 22	68,245 12	62,251 86	7415 99	1422 73	

CUMBERLAND COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k.		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k		Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d											
Baldwin	329	172	166	210	174	239	.52	13		143	12	1	134	12	-	12	10	-	-	4,700	1	5	13
Bridgton	803	457	388	404	381	512	.48	10	3	126	10	3	272	-	-	20	17	-	-	16,737	3	3	12
Brunswick ..	1,764	741	617	711	592	833	.35	20		504	11		268	-	-	23	20	1	6000	36,500	1	3	28
C. Elizabeth.	1,859	1021	903	1053	876	1110	.48	19		379	11		231	14		15	15	-	-	34,000	3	6	22
Casco ...	299	234	190	163	133	199	.54	9	2	94	12	2	99	8		8	6	-	-	4,000	1	3	9
Cumberland.	542	332	279	256	196	420	.44	8	3	153	10	4	108	10	3	9	7	-	-	5,000	1	4	17
Deering.....	1,299	862	714	729	690	862	.54	22		418	11		209	-	-	15	14	-	-	61,000	1	1	23
Falmouth ...	496	443	376	268	222	333	.60	9	4	172	12		133	12	-	12	9	-	-	8,500	4	4	10
Freeport .. .	657	422	333	399	311	503	.50	11		188	10		353	17	1	18	15	-	-	15,000	3	7	16
Gorham	887	724	614	601	506	745	.63	9	3	328	10	4	228	18	-	18	14	-	-	13,500	5	9	25
Gray	554	297	245	262	212	323	.41	8		160	10		119	12	-	12	6	1	45000	50,000	-	5	16
Harpswell ..	615	315	266	328	278	423	.44	8		216	10		160	18	-	17	15	-	-	5,000	1	9	12
Harrison....	356	267	231	216	191	292	.59	9		161	8	3	77	-	-	10	5	-	-	2,900	1	4	18
Naples.....	250	150	140	205	192	205	.66	10		100	11		121	-	-	11	9	-	-	4,200	-	4	10
New Glouc'r,	414	196	163	205	170	250	.40	10		120	11		132	-	-	12	12	1	1000	10,500	1	-	11
N. Yarmouth	234	110	84	122	96	132	.38	7	3	76	12	4	85	7	2	7	2	-	-	2,000	-	2	8
Otisfield.....	272	161	130	173	149	200	.51	9		104	11		124	12	1	12	10	-	-	3,000	-	4	12
Portland	11,834	6200	4865	6494	4869	7449	.41	22		506	16		368	-	-	17	16	1	1600	356,440	11	11	141
Pownal	272	181	127	154	123	230	.46	9		99	11	1	190	9	2	11	9	-	-	4,500	-	2	13
Raymond . .	339	188	149	139	123	263	.40	9		171	12	1	61	10	-	10	8	-	-	3,500	1	3	11

Scarborough	572	369	324	387	364	428	.60	9		99	13	4	152	11	1	11	9	-	-	7,000	-	7	11
Sebago	264	174	136	112	88	241	.42	9		145	10		50	9	.	9	8	-	-	2,100	-	5	16
Standish ...	555	326	274	327	266	388	.49	8		178	11	3	152	13	-	13	13	-	-	8,000	4	15	18
Westbrook ..	1,958	969	800	983	744	1118	.39	24		432	10		180	-	-	12	10	2	26000	80,000	3	3	20
Windham ..	681	406	349	414	341	446	.51	12		218	11	2	205	19	-	19	17	1	2660	10,200	1	8	18
Yarmouth ..	628	431	379	392	319	483	.56	9	2	95	11		116	9	3	10	7	-	-	5,575	-	1	12
	28,733	16,148	13,242	15,707	12,606	18,627	.45	11	4	5385	11	1	4327	220	13	343	283	7	82260	753,852	46	128	522

CUMBERLAND COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts for each inhabitant. Excess above am't required by law.	Not less than 80 cts for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
Baldwin	7	-	31 68	3 95	1 79	66 20	1,400	502	-	4 39	1,609 62	553 10	72 00	2,234 72	2,053 53	181 19	
Bridgton	13	3	84 00	4 74	1 93	170 00	4,300	2,010	-	5 67	3,921 91	1,346 01	452 98	5,720 90	5,565 68	155 22	
Brunswick	26	3	76 33	6 50	2 00	275 00	6,000	1,693	-	3 02	8,194 55	2,955 79	1856 76	13,007 10	12,404 02	603 08	
Cape Elizabeth	21	3	60 00	7 50	4 00	250 00	4,300	58	-	2 28	6,891 64	3,118 84	208 62	10,219 10	7,310 92	2908 18	
Casco	5	-	27 33	4 16	1 57	35 00	800	74	-	2 77	800 55	478 16	120 00	1,398 71	1,401 56	-	2 85
Cumberland	7	1	29 00	4 80	2 37	57 80	1,295	-	-	2 23	1,675 39	962 95	115 87	2,754 21	2,386 05	368 16	
Deering	24	15	122 00	9 00	4 00	175 00	7,400	3,841	-	5 35	9,911 05	2,289 91	-	12,200 96	10,151 73	2049 23	
Falmouth	8	-	40 00	7 33	2 25	75 00	2,000	702	-	4 11	2,145 90	804 11	77 65	3,027 66	2,899 03	128 63	
Freeport	28	-	19 60	3 76	2 25	150 00	2,500	677	-	4 12	2,551 68	1,024 69	15 01	3,591 38	3,717 95	-	126 57
Gorham	11	16	55 64	7 15	2 62	150 00	3,300	714	-	3 59	3,785 63	1,518 89	140 00	5,444 52	5,244 05	200 47	
Gray	7	-	34 04	3 81	2 10	60 00	1,500	62	-	2 81	1,950 28	883 54	63 90	2,897 72	2,622 04	275 68	
Harpswell	19	-	33 62	3 88	2 50	91 67	1,600	172	-	2 63	1,794 26	1,005 25	-	2,799 51	2,488 33	311 18	
Harrison	5	4	30 00	4 50	2 25	46 50	1,000	66	-	2 65	1,018 72	625 43	111 00	1,755 15	1,707 78	47 37	
Naples	7	-	32 00	4 25	2 50	45 00	1,200	394	-	4 21	1,488 20	471 54	-	1,959 74	1,959 74		
New Gloucester	12	7	20 00	4 75	2 34	75 00	2,000	894	-	4 89	2,787 83	620 25	288 65	3,696 73	3,214 73	482 00	
North Yarmouth	5	2	34 00	3 35	2 16	35 00	800	138	-	3 43	799 03	385 51	250 99	1,435 53	1,436 77	-	1 24
Otisfield	8	-	25 00	3 25	1 86	50 00	1,000	258	-	3 52	1,086 93	469 89	120 00	1,676 82	1,581 56	95 26	
Portland	141	21	120 00	9 00	4 50	2250 00	84,615	57,567	-	7 15	84,615 47	19,583 37	-	104,198 84	104,198 84		
Pownal	18	1	33 00	3 75	2 12	54 91	1,200	501	-	4 44	1,200 00	446 73	-	1,646 73	1,643 73	3 00	
Raymond	2	1	36 00	5 00	2 56	40 00	907	1	-	2 45	1,041 88	613 85	144 28	1,800 01	1,715 40	84 61	

Scarborough....	4	1	41	50	6	50	2	75	90	00	2,000	522	-	3	22	2,145	13	1,027	48	-	3,172	61	3,025	09	147	52	
Sebago	-	-	22	00	3	70	1	48	35	00	800	154	-	2	89	812	26	444	42	-	1,256	68	1,167	02	89	66	
Standish	-	-	31	70	4	35	2	20	120	00	2,100	472	-	3	62	2,237	59	959	64	93	60	3,290	83	2,568	12	722	71	
Westbrook. ..	20	17	65	00	5	50	3	00	85	00	5,000	1,515	-	3	00	5,000	00	2,864	04	398	50	8,262	54	7,371	56	890	98	
Windham	11	-	28	37	4	19	2	25	114	83	2,146	296	-	3	01	2,251	60	1,181	36	-		3,432	96	3,392	19	40	77	
Yarmouth	11	5	45	00	7	50	2	50	75	00	1,616	-	1	2	60	1,629	23	1,029	14	-		2,658	37	2,638	68	19	69	
	420	100	45	26	5	94	2	45	4671	91	142,779	73,583	1	3	62	153,346	33	47,663	89	4529	81	205,540	03	195,866	10	9804	59	130 66

FRANKLIN COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms	Average No. attending Winter and Spring Terms	Number of different Pupils Registered.	Percentage of Average Attendance	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k. w.	d.	Average length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
Avon	195	170	146	152	123	178	.69	7	3	114	7	4	101	12	-	11	6	-	-	2,000	-	-	17
Carthage	138	94	79	120	98	145	.64	8	1	67	10		40	7	-	5	5	-	-	2,000	-	-	7
Chesterville	249	155	134	166	140	198	.55	7	2	103	10	2	122	12	1	12	6	-	-	2,800	1	-	13
Eustis	98	138	116	24	18	77	.68	9	1	64	15		15	4	-	4	3	-	-	1,200	-	-	7
Farmington	975	566	417	559	444	630	.44	11		211	11		233	21	5	21	16	-	-	18,000	1	7	26
Freeman	177	162	137	138	105	189	.68	7	4	79	10	1	81	10	-	9	7	-	-	1,500	-	5	10
Industry	227	202	166	146	107	155	.60	7	3	92	9	3	77	11	1	10	9	-	-	2,350	-	2	12
Jay	399	213	170	240	200	255	.47	10		150	12		206	-	-	16	10	-	-	4,000	-	5	15
Kingfield	189	121	93	102	92	147	.49	8	2	42	10	3	32	2	-	3	2	-	-	2,500	2	2	4
Madrid	201	113	97	61	52	128	.37	7	3	106	9		36	9	-	8	2	-	-	1,200	-	2	14
New Sharon	341	250	215	254	221	329	.64	8		192	9	2	131	17	2	17	10	-	-	3,500	1	4	21
New Vineyard	264	222	180	150	130	222	.58	8		94	8	2	59	12	-	10	6	1	600	4,000	-	1	10
Phillips	479	376	313	361	294	411	.63	7	3	165	9	1	136	18	4	16	10	1	1200	6,000	1	2	21
Rangeley	222	129	119	140	109	203	.51	16	3	73	9	4	39	4	-	4	2	-	-	2,200	-	3	8
Salem	78	59	51	55	41	64	.59	10		20	14		28	-	-	3	1	-	-	300	-	2	2
Strong	176	101	78	127	99	153	.50	8		63	11	2	92	8	1	8	6	1	600	2,400	-	1	10
Temple	163	110	97	103	87	140	.56	11		93	8	3	69	9	1	9	3	-	-	1,000	1	2	12
Weld	292	185	169	180	146	283	.54	9		97	9	3	97	10	1	10	8	-	-	3,800	2	6	10
Wilton	491	250	224	357	281	371	.52	17		177	11		235	12	2	11	10	-	-	13,000	1	7	17

Plantations.																							
Coplin	41	20	18	21	16	31	.41	9		9	10		10	3	-	1	1	-	-	400	-	-	1
Dallas	72	46	39	46	37	50	.53	7		14	7		7	1	-	1	-	-	-	20	-	-	2
Greenvale	No Returns.																						
Letter E	12	12	10	-	-	15	.83	13		13		-	-	1	-	1	1	-	-	250	-	-	2
Perkins	36	29	22	-	-	34	.61	14		28		-	-	3	-	3	-	-	-	75	-	-	5
Rangeley	21	10	8	14	12	14	.50	9		9	10		10	1	1	1	1	-	-	150	-	-	1
	5536	3733	3101	3516	2852	4422	.54	9	4	2075	10	1	1856	187	19	194	125	3	2400	74,645	10	68	247

FRANKLIN COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts. for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law								
Avon	13	1	-	3 77	1 51	32 25	500	43	-	2 55	573 82	324 30	18 28	916 40	862 33	54 07	
Carthage	1	1	26 00	3 00	1 25	24 25	456	50	-	3 10	545 77	243 32	-	789 09	679 37	109 72	
Chesterville	5	2	22 00	2 87	1 50	42 50	859	95	-	3 38	977 68	420 26	38 03	1435 97	1278 79	157 18	
Eustis	1	-	-	3 72	1 75	11 65	350	108	-	3 93	363 08	149 93	14 73	527 74	503 03	24 71	
Farmington	20	15	40 77	3 62	1 98	114 70	3000	318	-	3 21	3983 98	1547 01	86 52	5617 51	4982 59	634 92	
Freeman	3	1	20 20	2 86	1 41	30 00	500	61	-	2 78	634 40	297 82	-	932 22	741 93	190 29	
Industry	6	3	23 00	3 29	1 58	36 50	572	-	-	2 52	619 91	375 58	-	995 49	988 57	6 92	
Jay	13	5	24 00	2 80	2 00	73 00	1200	167	-	3 01	1362 99	660 17	78 16	2101 32	1860 89	240 43	
Kingfield	1	-	33 50	5 59	1 75	15 00	364	-	-	1 96	402 73	279 75	64 74	747 22	719 10	28 12	
Madrid	2	2	26 50	2 72	1 26	22 00	360	10	-	2 50	402 40	238 26	32 47	673 13	631 86	41 27	
New Sharon	8	5	23 03	3 49	1 47	90 00	1160	115	-	4 66	1240 83	573 89	36 20	1850 92	1781 38	69 54	
New Vineyard	6	3	20 00	3 20	1 55	43 00	630	-	-	2 36	681 64	441 76	-	1123 40	1103 09	20 31	
Phillips	6	3	26 40	3 24	1 66	85 00	1470	320	-	2 93	1896 90	828 93	-	2725 83	2236 99	488 84	
Rangeley	1	1	24 33	3 55	2 09	23 00	452	2	-	2 13	647 97	350 77	50 33	1049 07	875 77	173 30	
Salem	-	-	29 50	3 63	1 62	6 50	224	6	-	2 49	295 90	148 91	-	444 81	381 64	63 17	
Strong	5	3	14 00	3 33	1 75	27 50	500	23	-	2 67	510 66	309 40	84 00	904 06	850 98	53 08	
Temple	6	1	22 00	2 32	1 51	23 00	464	-	-	2 67	610 43	287 90	-	898 33	784 15	114 18	
Weld	6	1	23 34	3 04	1 83	57 00	870	38	-	2 91	920 75	494 70	-	1415 45	1341 36	74 09	
Wilton	7	3	38 00	4 14	1 68	82 00	1391	-	-	2 69	1614 41	857 07	128 92	2600 40	2278 77	321 63	

Plantations.																	
Coplin	1	–	–	4 00	1 75	–	100	37	–	2 50	100 00	66 18	–	166 18	150 75	15 43	
Dallas	1	2	–	4 75	1 75	5 50	138	22	–	1 64	504 41	117 14	–	621 55	149 50	472 05	
Greenvale	–	–	–	–	–	–	65	31	–	5 42	79 24	19 86	–	99 10	74 40	24 70	
Letter E	–	–	–	2 25	1 40	3 50	40	–	–	3 64	61 41	18 20	–	79 61	47 15	32 46	
Perkins	–	–	–	2 00	1 50	1 00	107	–	–	2 82	149 33	62 88	–	212 21	150 42	61 79	
Rangeley	1	1	–	2 25	1 30	–	35	–	16	1 94	52 00	31 97	–	83 97	71 20	12 77	
	113	53	25 68	3 31	1 62	848 85	14,807	1446	16	2 90	19,232 64	9145 96	632 38	29,010 98	25,526 01	3484 97	

HANCOCK COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k		Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d.											
Amherst	129	90	67	119	84	102	.58	12		48	9	3	48	4	-	4	2	1	150	500	-	1	4
Aurora	73	53	43	28	22	53	.46	11	3	47	7		14	3	-	3	2	-	-	500	1	1	3
Bluehill	715	480	415	530	480	542	.63	18		324	9		54	18	1	17	8	1	500	5500	5	1	31
Brooklin	369	248	213	245	201	294	.56	10	1	92	9	4	98	9	-	9	7	-	-	3600	1	4	10
Brooksville	559	408	357	399	332	352	.62	9	2	121	9	3	131	9	-	9	7	1	817	3000	1	6	14
Bucksport	866	422	310	475	391	656	.41	17	1	222	10	3	168	13	-	19	8	-	-	8600	1	12	16
Castine	347	173	147	216	186	202	.49	11	2	69	16	1	97	4	-	6	5	-	-	10000		1	6
Cranberry Isles	114	58	46	91	78	94	.54	8		24	9	1	46	5	-	4	3	1	500	2000		2	3
Deer Isle	1320	878	755	738	612	1032	.52	11	1	259	11		233	21	1	20	18	1	1050	13500		14	22
Dedham	121	86	74	82	65	88	.57	8		56	9		54	7	-	6	5	1	500	1500		2	7
Eastbrook	126	89	78	88	67	98	.58	8	3	34	9	1	37	4	-	4	3	-	-	1600		3	4
Eden	654	541	498	441	404	560	.69	14	2	217	10		130	-	-	12	11	-	-	18550	2	8	13
Ellsworth	1736	923	785	917	776	1314	.45	9	2	482	20	3	552	19	2	23	16	-	-	26000	1	6	48
Franklin	437	331	261	304	263	386	.60	7		70	8		80	10	-	9	5	-	-	4500	6	3	16
Gouldsborough	582	351	297	437	387	373	.57	8	3	189	10		50	15	1	12	10	-	-	3800	5	4	19
Hancock	414	338	279	230	187	303	.56	14		84	9	2	56	7	-	6	5	-	-	4425		6	10
Isle-au-Haut	92	26	26	58	58	64	.46	9		18	10		40	5	-	2	1	-	-	250			2
Lamoine	253	162	132	127	115	161	.49	14	2	58	11		44	5	-	4	4	-	-	6000	3		4
Mariaville	131	98	80	-	-	100	.61	18	2	93			-	5	-	5	3	-	-	1400			5
Mount Desert	390	238	202	252	209	308	.53	15	4	154	9	2	95	10	-	9	6	-	-	3500	1	6	8
Orland	503	411	354	306	261	459	.61	11	1	156	9	2	133	14	2	14	3	-	-	7500	2	4	12
Otis	96	51	40	67	54	75	.49	15		45	8		24	3	-	3	-	-	-	225	1		5
Penobscot	434	312	272	202	176	401	.51	11		118	10	4	76	11	-	12	10	-	-	3000	2	3	19
Sedgwick	377	233	206	259	227	302	.58	10	4	108	9	3	97	9	1	10	8	-	-	7000	-	4	13

Sullivan	366	219	178	240	216	279	.54	12	4	98	10		68	7	–	7	7	–	–	3500	–		6	11
Surry	390	242	164	208	179	289	.44	15	3	156	10		69	9	–	9	6	–	–	2500	–		3	10
Tremont	695	381	299	470	399	521	.50	10	4	136	10	3	141	13	–	13	13	–	–	6000		1	8	14
Trenton	168	111	94	114	97	130	.57	9		63	10		70	7	–	7	7	–	–	2500	–		1	7
Verona	112	79	64	77	62	90	.56	8		32	8		32	4	–	4	4	–	–	1500	–		–	5
Waltham	95	96	83	18	16	64	.52	12	2	47	12		12	3	–	4	2	–	–	600		1	–	4
Plantations.																								
Long Island	59	24	20	30	24	39	.37	10		10	12		12	1	–	1	1	–	–	300	–		1	1
No. 7	21	16	13	–	–	20	.62	7		14		–	–	1	1	1	–	–	–	250	–		–	1
No. 21		No	Ret	urns																				
No. 33	71	36	32	38	34	50	.46	8		8	8		8	1	–	1	1	–	–	300		1	–	–
Swan's Island	243	160	133	175	141	194	.56	7	3	38	11	1	56	5	–	5	3	–	–	850	–		3	4
	13,057	8364	7017	7981	6803	9995	.53	11	2	3690	10	1	2825	261	9	274	194	6	3517	154,750	33		119	351

HANCOCK COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886	Not less than 80 cts for each inhabitant. Excess above am't required by law.	Not less than 80 cts for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
Amherst	4	-	35 00	3 94	1 60	23 50	320	-	-	2 27	556 73	233 39	71 27	861 39	779 31	82 08	
Aurora	1	-	30 00	2 75	1 50	15 00	170	-	-	2 30	468 44	122 44	60 00	650 88	334 90	315 98	
Bluehill	5	-	32 00	4 50	2 00	95 00	1800	30	-	2 54	1960 46	1171 43	150 00	3281 89	3199 24	82 65	
Brooklin	5	1	35 00	3 50	2 70	55 50	1000	218	-	2 75	1074 20	602 26	-	1676 46	1620 31	56 15	
Brooksville	7	-	32 43	4 24	1 90	48 75	1140	5	-	2 02	1223 53	934 82	-	2158 35	2096 51	61 84	
Bucksport	12	-	33 50	4 00	2 33	139 00	2500	62	-	2 75	2949 27	1502 34	79 29	4530 90	4205 22	325 68	
Castine	5	2	32 00	6 55	2 50	62 25	1200	228	-	3 51	1314 52	565 86	45 00	1925 38	1782 59	142 79	
Cranberry Isles	3	-	30 00	3 50	1 90	23 45	274	-	-	2 39	313 76	190 28	-	504 04	477 81	26 23	
Deer Isle	4	1	36 00	4 38	2 09	50 00	2650	37	-	2 00	2786 54	2190 64	22 77	4999 95	4784 33	215 62	
Dedham	4	-	30 00	3 18	2 00	25 00	400	75	-	2 69	582 74	246 53	132 28	961 55	788 27	173 28	
Eastbrook	1	2	28 67	3 87	1 93	9 00	300	69	-	2 29	334 00	183 84	23 52	541 36	539 05	2 31	
Eden	6	1	45 00	5 50	2 70	297 71	2500	1197	-	4 17	2862 15	992 75	138 74	3993 64	4673 75	-	680 11
Ellsworth	48	1	31 38	4 72	2 31	250 00	4200	158	-	2 37	6827 16	2867 35	18 28	9712 79	9120 40	592 39	
Franklin	2	2	32 50	3 50	2 50	25 00	882	-	-	2 31	1572 68	632 04	-	2204 72	1663 27	541 45	
Gouldsborough	1	3	36 58	4 10	2 53	69 50	1459	-	1	2 55	1505 86	944 75	31 72	2482 33	2435 52	46 81	
Hancock	-	4	38 50	5 28	2 50	72 00	874	-	-	2 11	980 76	684 99	-	1665 75	1611 03	54 72	
Isle-au-Haut	4	1	-	4 30	2 74	10 00	222	3	-	2 67	289 95	137 32	07	427 34	410 41	16 93	
Lamoine	1	-	34 12	4 31	2 50	25 00	601	2	-	2 41	651 07	411 98	-	1063 05	999 58	63 47	
Mariaville	-	-	-	3 75	1 34	10 00	325	19	-	2 80	326 16	198 22	40 00	564 38	535 43	28 95	
Mount Desert	4	4	36 85	3 68	1 84	60 00	814	-	-	2 09	877 62	643 62	-	1521 24	1438 49	82 75	
Orland	8	3	32 50	3 87	2 02	65 00	1360	9	-	2 81	1636 66	800 80	135 00	2572 46	2437 54	134 92	
Otis	2	-	35 00	4 42	2 00	18 25	250	7	-	2 47	281 26	167 12	33 60	481 98	457 95	24 03	
Penobscot	3	1	32 00	4 72	2 03	32 98	1115	42	-	2 55	1196 30	724 70	-	1921 00	1699 21	221 79	
Sedgwick	6	2	30 00	4 97	1 96	60 75	1000	98	-	2 65	1071 96	609 06	54 18	1735 20	1693 99	41 21	

Sullivan	–	3	35 70	4 25	3 00	23 00	850	32	–	2 32	902 76	607 22	–	1509 98	1388 10	121 88		
Surry	4	–	38 33	3 80	1 99	69 45	950	3	–	2 48	1111 83	633 69	–	1745 52	1677 79	67 73		
Tremont	5	5	38 22	4 49	2 18	100 00	1609	–	–	2 24	1818 84	1189 63	–	3008 47	2748 30	260 17		
Trenton	6	–	30 00	4 00	1 55	30 00	711	200	–	3 84	772 97	306 09	–	1079 06	1011 87	67 19		
Verona	–	–	–	3 50	1 81	14 00	285	–	–	2 64	297 99	178 70	–	476 69	419 04	57 65		
Waltham	1	1	29 00	4 50	1 58	8 25	237	–	–	2 55	489 22	132 69	76 48	698 39	449 20	249 19		
Plantations.																		
Long Island	–	2	30 00	4 00	2 80	3 00	120	–	–	1 97	120 00	100 92	–	220 92	204 03	16 89		
No. 7	–	–	–	2 00	2 00	–	52	2	–	2 60	58 57	33 09	12 00	103 66	101 19	2 47		
No. 21	–	–	–	–	–	–	75	26	–	3 41	138 33	36 40	–	174 73	75 07	99 66		
No. 33	–	–	27 00	–	2 00	4 50	100	6	–	1 51	153 14	109 20	–	262 34	166 00	96 34		
Swan's Island	3	3	37 23	4 27	2 18	50 25	500	–	–	2 07	571 50	400 40	–	971 90	948 22	23 68		
	155	42	33 48	4 13	2 13	1845 09	32,845	2528	1	2 55	40,078 93	21,486 56	1124 20	62,689 69	58,972 92	4396 88	680 11	

KENNEBEC COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k.		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k.		Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d.											
Albion	335	185	162	216	178	261	.51	9		144	10	4	114	12	-	12	8	-	-	3000	1	6	15
Augusta	2542	1293	964	1133	891	1547	.37	20	3	556	11	1	292	-	-	27	25	1	1843	49500	2	3	34
Belgrade	359	206	177	240	214	260	.54	8	4	116	10	4	194	18	-	18	10	-	-	3500	1	6	12
Benton	337	187	155	179	125	277	.42	7	3	165	8	3	86	10	-	10	7	-	-	3800		2	20
Chelsea	269	158	131	122	104	190	44	9	2	123	9		45	9	-	9	7	-	-	3700			16
China	455	360	295	252	218	360	.56	8		186	11		171	21	1	20	14	-	-	3000		5	23
Clinton	475	298	255	316	269	348	.55	9		117	10	3	137	13	-	13	10	-	-	4100	1	5	12
Farmingdale	235	99	85	199	165	163	.53	11	3	46	9	2	76	4	-	4	2	-	-	5500	1	3	3
Fayette	242	125	102	130	110	169	.44	7	2	66	9	2	93	9	4	9	4	-	-	2500		3	9
Gardiner	1421	839	788	776	661	871	.51	24		356	12		178	-	-	12	11	1	10,000	60000	2	2	18
Hallowell	854	509	453	463	428	661	.52	12		132	24		264	-	-	11	11	-	-	25000			11
Litchfield	345	234	191	278	230	311	.61	9	3	144	10	3	159	15	-	15	9	-	-	3500	1	6	14
Manchester	154	79	70	90	75	120	.47	10		60	10	3	63	-	-	6	4	-	-	2500		3	6
Monmouth	333	172	147	227	185	227	.56	19		204	10	4	124	-	-	12	7	1	700	4500		2	22
Mt. Vernon	253	171	140	188	141	226	.56	7	2	73	10	3	118	-	-	11	6	-	-	3300	1	6	9
Oakland	592	407	332	415	359	433	.58	9	3	130	12	4	300	-	-	12	9	1	600	8000	1	2	13
Pittston	403	364	315	338	299	451	.42	17	3	106	9		117	-	-	10	5	-	-	2875	4	4	11
Randolph	335	-	-	-	-	-	-			-			-	-	-	3	2	-	-	5000			
Readfield	267	135	107	176	127	213	.44	8		81	12	3	127	9	-	10	3	-	-	3500		1	10
Rome	165	108	92	138	212	138	.62	9	2	75	13	3	68	5	3	6	4	-	-	1200	1	2	7
Sidney	396	252	219	277	225	295	.56	8	3	200	11		178	19	-	19	8	-	-	1900		1	23
Vassalborough	736	398	315	457	377	411	.47	10	3	209	11	2	208	20	-	22	20	1	200	10600	2	4	25
Vienna	187	127	93	134	102	152	.52	9	1	65	9		82	10	-	10	7	-	-	1100	-	3	8

Waterville	2461	851	715	832	672	1075	.28	18		324	18		344	–	–	10	9	–	–	35000	2	1	19
Wayne.....	248	140	124	187	156	199	.56	9		72	10		100	–	–	9	8	–	–	5500	–	5	8
West Gardiner..	278	207	178	185	161	213	.61	9	1	91	10	1	92	9	–	9	6	–	–	3500	1	5	8
Windsor.....	283	242	203	135	117	269	.57	8	3	140	9	1	55	13	1	13	5	–	–	2500	2	3	13
Winslow	595	270	211	295	241	311	.38	9		212	10		129	16	–	15	10	–	–	2500	–	2	20
Winthrop.....	570	287	246	246	214	362	.40	20		200	11		99	–	–	10	5	–	–	14200	–	3	10
Unity Pl.....	22	16	15	17	14	17	.66	8		8	9	1	9	1	–	1	–	–	–	200	–	–	1
	16,147	3719	7280	8641	7170	10,530	.45	11	2	4401	11	1	4022	213	9	348	236	5	13,343	274,975	23	88	400

KENNEBEC COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law.								
Albion	5	–	22 71	3 19	1 49	70 35	954	1	–	2 86	1115 95	557 59	–	1673 54	1616 95	56 59	
Augusta	34	2	80 63	7 75	3 50	375 00	11661	4729	–	4 92	12354 82	3916 34	–	16271 16	15973 21	297 95	
Belgrade	13	1	24 17	3 78	1 65	75 00	1600	543	–	4 69	1681 46	564 20	–	2245 66	1965 08	280 58	
Benton	6	–	27 00	3 77	1 36	59 25	1200	262	–	3 27	1512 97	607 22	–	2120 19	1708 96	411 23	
Chelsea	6	2	–	3 25	1 75	37 00	750	75	–	2 75	876 38	451 69	–	1328 07	1202 41	125 66	
China	11	1	25 60	3 29	1 55	95 00	1415	–	–	3 12	1513 58	751 17	–	2264 75	2170 70	94 05	
Clinton	8	–	32 68	4 15	1 70	81 00	1500	168	–	2 72	1492 55	911 66	–	2404 21	2340 54	63 67	
Farmingdale	5	2	27 00	4 92	3 15	50 00	1000	369	–	4 44	1226 57	372 27	–	1598 84	1420 83	178 01	
Fayette	6	–	26 83	3 10	1 91	37 75	800	188	–	3 28	857 06	403 72	–	1254 78	1106 69	148 09	
Gardiner	18	5	97 22	8 20	3 50	200 00	4600	1049	–	3 34	5250 00	2418 23	98 76	7766 99	7765 87	1 12	
Hallowell	11	–	–	5 63	3 00	150 00	2800	277	–	3 46	2800 00	1394 04	40 00	4234 04	4206 10	27 94	
Litchfield	9	–	23 83	3 56	1 88	61 75	1048	–	–	2 76	1373 67	783 73	–	2159 40	1830 06	327 34	
Manchester	3	1	29 00	3 30	2 19	35 00	600	102	–	3 64	609 23	273 00	90 00	972 23	942 84	29 39	
Monmouth	11	–	23 50	4 00	2 00	93 15	1800	584	–	5 55	1772 22	536 08	–	2308 30	2286 58	21 72	
Mt. Vernon	5	–	21 00	3 84	1 75	50 00	936	–	–	3 07	1116 07	487 56	–	1603 63	1365 36	238 27	
Oakland	12	1	71 85	5 04	2 56	250 00	3000	1683	–	4 99	2951 57	991 08	–	3942 65	3788 46	154 19	
Pittston	11	1	36 00	4 00	2 00	130 00	1958	–	8	2 85	2142 68	1135 03	–	3277 71	3177 84	99 87	
Randolph																	
Readfield	9	1	42 00	3 63	1 80	50 00	1000	6	–	3 69	1523 84	448 38	–	1972 22	1614 68	357 54	
Rome	3	1	21 40	2 92	1 54	25 00	485	–	–	3 09	498 74	259 77	–	758 51	745 63	12 88	
Sidney	15	–	20 00	3 94	1 40	68 25	1500	383	–	3 66	1666 78	690 59	–	2357 37	2098 18	259 19	
Vassalborough	20	–	35 80	3 65	2 10	120 00	2097	–	–	2 80	2586 74	1240 92	150 87	3978 53	3534 06	444 47	

Vienna	7	–	18 00	3 03	1 42	25 00	215	–	–	2 74	566 94	311 06	–	878 00	826 85	51 15			
Waterville	21	4	70 00	6 50	2 75	930 00	6000	2262	–	2 70	7647 60	3681 39	58 81	11387 80	9648 84	1738 96			
Wayne	5	1	22 40	3 22	2 22	53 00	760	–	–	3 08	802 51	408 67	66 22	1277 40	1253 27	24 13			
West Gardiner	4	2	24 00	3 85	1 76	45 00	859	68	–	3 07	934 35	458 80	–	1393 15	1288 45	104 70			
Windsor	3	–	23 80	3 88	1 51	35 00	860	–	3	2 87	950 89	494 71	–	1445 60	1314 01	131 59			
Winslow	10	–	40 00	3 50	1 75	62 55	1200	26	–	1 91	1534 13	1037 42	17 14	2588 69	2361 96	226 73			
Winthrop	6	3	28 00	5 75	3 00	–	1800	83	–	3 11	1988 65	956 34	170 24	3115 23	2892 79	222 44			
Unity Plantation	1	–	–	3 50	3 50	2 00	50	1	–	2 50	50 00	33 09	3 00	86 09	84 05	2 04			
	278	28	34 78	4 21	2 13	3266 05	54,739	12,859	11	3 34	61,391 95	26,575 75	695 04	88,662 74	82,531 25	6131 49			

KNOX COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms	Average No. attending Winter and Spring Terms	Number of different Pupils Registered.	Percentage of Average Attendance	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k. w.	d.	Average length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Win't'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
Appleton	415	245	220	365	315	365	.64	8	2	101	9	3	111	12	1	11	8	–	–	5000	1	7	12
Camden	1331	825	795	774	758	836	.58	8	4	378	10		230	14	–	16	10	–	–	15000	4	10	22
Cushing	275	160	126	161	128	190	.46	9	2	93	11		66	6	1	6	4	–	–	1600	–	3	7
Friendship	320	151	118	180	143	215	.41	9		72	12		96	7	2	7	6	–	–	2000	1	4	7
Hope	234	145	127	144	121	175	.53	12	4	92	10		69	7	1	7	4	–	–	1400	–	2	9
Hurricane Isle	66	35	33	40	25	57	.44	11		11	21		21	1	–	1	1	–	–	1500	–	1	2
North Haven	232	150	132	156	134	201	.57	7	3	67	9		54	6	–	6	5	–	–	1350	–	5	9
Rockland	2275	1333	1157	1366	1134	1366	.50	12		312	19		494	–	–	12	8	–	–	43500	3	3	30
South Thomaston	562	362	311	289	250	458	.50	8	1	133	9	4	160	12	–	14	10	–	–	4200	3	7	12
St. George	892	593	527	574	486	698	.57	12	1	229	12	1	220	19	4	17	14	–	–	5700	3	14	17
Thomaston	847	628	501	608	499	638	.58	21		252	11		132	–	–	10	8	–	–	19000	3	3	12
Union	434	267	227	292	254	310	.55	10	4	139	9	1	129	14	–	14	13	–	–	9000	–	6	13
Vinalhaven	871	461	410	587	502	700	.52	13		144	12		132	11	–	13	10	–	–	8500	1	3	17
Warren	719	506	431	608	530	608	.67	8	3	206	9	3	249	19	2	19	16	–	–	9700	1	6	12
Washington	402	244	212	245	215	306	.53	9	3	123	10	2	139	13	2	10	8	–	–	1750	–	6	12
Matinicus Isle Pl...	64	27	23	39	31	39	.42	16		16	12		12	1	–	1	1	–	–	700	–	1	1
	9939	6132	5350	6428	5515	7162	.54	11	1	2368	11	3	2314	142	13	164	126	–	–	129,900	20	81	194

KNOX COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts. for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law.								
Appleton	6	8	32 80	3 86	1 79	15 00	1079	-	-	2 48	1358 92	719 73	-	2078 65	1654 07	424 58	
Camden	13	15	45 00	4 25	2 00	100 00	4000	491	-	2 95	4459 12	2241 93	90 36	6791 41	5912 46	878 95	
Cushing	3	-	31 00	3 96	2 22	17 65	644	-	-	2 28	795 06	468 23	-	1263 29	1113 50	149 79	
Friendship	4	-	26 00	2 56	2 14	20 00	750	-	-	2 30	761 38	539 39	-	1300 77	1287 34	13 43	
Hope	5	2	20 00	4 00	1 75	35 00	664	-	-	2 83	725 18	388 82	17 18	1131 18	1022 46	108 72	
Hurricane Isle	1	-	40 00	6 00	3 75	10 00	450	274	-	7 63	656 54	99 62	-	754 16	560 22	193 94	
North Haven	1	2	33 60	3 36	2 49	29 00	650	46	-	2 70	671 42	398 74	-	1070 16	1050 08	20 08	
Rockland	30	1	16 66	8 97	3 50	300 00	7080	1001	-	3 11	7114 62	3707 86	80 71	10903 19	10982 48	-	79 29
South Thomaston	10	4	28 83	5 87	2 40	60 00	1417	-	-	2 52	1670 96	931 51	5 28	2607 75	2396 75	211 00	
St George	4	5	28 12	4 25	2 38	50 00	2300	-	-	2 53	2560 23	1503 99	4 72	4068 94	3849 36	219 58	
Thomaston	11	1	65 00	6 67	2 50	150 00	4000	1586	-	4 54	4350 00	1707 66	29 16	6086 82	6019 67	67 15	
Union	8	5	35 00	4 25	1 90	68 00	1238	-	-	2 91	1477 54	698 58	-	2176 12	1819 73	356 39	
Vinalhaven	13	14	49 33	5 31	2 52	125 00	2855	571	-	3 04	3060 12	1555 29	-	4615 41	4518 14	97 27	
Warren	14	3	24 35	4 70	2 00	59 98	1733	-	-	2 42	1903 27	1186 33	250 00	3339 60	3069 41	270 19	
Washington	7	1	30 00	3 00	2 00	55 00	986	-	13	2 39	1106 36	681 69	-	1788 05	1683 46	104 59	
Matinicus Isle Pl	-	-	38 00	4 00	2 12	5 00	200	6	-	3 12	328 25	105 90	-	434 15	264 00	170 15	
	130	61	40 23	4 69	2 34	1099 63	30,046	3965	13	3 11	32,998 97	16,933 27	477 41	50,409 65	47,203 13	3285 81	79 29

LINCOLN COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
Alna	183	149	130	168	154	180	.83	10		60	9		54	6	-	6	4	-	-	2500	1	4	5
Boothbay	1355	807	700	769	622	915	.49	8	3	327	10	1	224	-	-	18	11	3	3400	20500	4	12	31
Bremen	259	162	135	120	104	190	.46	8		88	9	2	65	9	1	9	5	-	-	3800	1	5	12
Bristol	1024	601	547	715	617	715	.57	9		206	9		202	20	1	21	12	-	-	13000	3	11	22
Damariscotta	315	136	122	170	134	205	.41	8		99	10	3	84	6	-	7	6	-	-	3500	1	6	13
Dresden	343	165	138	184	131	220	.39	8	1	66	12	1	110	9	1	9	5	-	-	2500	-	5	9
Edgecomb	281	202	171	212	178	216	.62	10	4	75	11	3	80	7	-	7	7	-	-	4500	1	5	5
Jefferson	477	296	228	340	244	356	.49	9		130	8	3	127	15	1	15	8	1	400	5000	1	10	15
Newcastle	410	251	211	189	152	263	.44	9		178	8	4	89	14	1	14	8	-	-	2800	1	3	14
Nobleborough	331	225	194	222	192	260	.58	9		108	10	2	125	12	-	12	6	-	-	2500	2	6	10
Somerville	203	103	85	76	55	121	.34	9	3	57	10	4	44	6	1	4	4	-	-	1200	-	2	7
Southport	226	145	116	142	123	187	.53	8		56	10	2	52	6	-	5	5	-	-	2100	-	3	7
Waldoborough	1097	674	563	716	617	754	.54	10	3	321	11		316	31	-	30	21	-	-	13000	1	12	30
Westport	181	96	79	117	88	134	.46	8	3	34	11	2	46	4	-	4	3	-	-	1800	-	-	4
Whitefield	472	262	218	330	312	332	.56	8	3	137	10	2	162	16	-	15	9	-	-	4050	3	10	15
Wiscasset	627	363	299	397	339	405	.51	10		100	17	2	174	6	-	7	5	-	-	7500	1	5	12
Monhegan Pl	30	22	18	27	23	27	.68	10		10	9		9	1	1	1	1	-	-	300	-	-	1
	7814	4659	3954	4894	4085	5480	.51	9	1	2052	10	3	1963	168	7	184	120	4	3800	90,550	20	99	212

LINCOLN COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law.								
Alna	2	4	20 00	5 25	2 10	30 00	600	50	-	3 11	818 88	319 32	-	1138 20	988 89	149 31	
Boothbay	9	8	36 80	4 36	3 50	134 65	3600	739	-	2 61	3720 13	2279 99	300 00	6300 12	6422 39	-	122 27
Bremen	-	-	24 75	3 52	1 87	25 50	678	7	-	2 60	708 76	431 83	29 49	1170 08	1089 26	80 82	
Bristol	14	1	38 00	4 06	2 50	115 00	2600	43	-	2 46	3523 17	1748 87	-	5272 04	4040 42	1231 62	
Damariscotta	2	-	19 21	6 04	2 50	65 00	1000	86	-	3 17	1137 77	668 43	-	1806 20	1605 17	201 03	
Dresden	4	1	28 00	4 38	2 22	30 00	1000	174	-	3 05	1072 51	542 70	-	1615 21	1391 84	223 37	
Edgecomb	2	-	33 50	3 72	2 52	40 00	800	102	-	2 67	931 49	494 71	-	1426 20	1297 27	128 93	
Jefferson	4	-	23 00	3 00	1 40	58 75	1272	-	-	2 72	1591 81	762 67	-	2354 48	2182 50	171 98	
Newcastle	6	1	32 33	3 49	2 08	95 00	1227	-	-	2 89	1243 55	701 53	-	1945 08	1820 58	124 50	
Nobleborough	6	-	30 00	3 23	1 90	50 00	914	-	-	2 66	1094 67	567 51	-	1662 18	1455 06	207 12	
Somerville	2	2	30 00	3 04	1 50	16 00	432	1	-	2 04	492 94	342 00	-	834 94	781 04	53 90	
Southport	2	2	35 33	5 11	2 58	30 00	679	136	-	2 74	717 36	410 34	-	1127 70	1062 89	64 81	
Waldoborough	13	1	36 00	3 84	2 00	180 00	3050	44	-	2 75	3343 95	1834 91	-	5178 86	4712 16	466 70	
Westport	4	1	-	4 50	2 62	8 00	490	-	-	2 82	585 60	277 97	-	863 57	808 07	55 50	
Whitefield	4	2	28 40	3 70	1 70	94 30	1400	191	-	3 02	1782 82	767 71	-	2550 53	2332 02	218 51	
Wiscasset	10	-	41 50	4 81	2 69	60 00	1500	22	-	2 46	1454 70	1009 29	-	2463 99	2491 98	-	27 99
Monhegan Pl.	1	-	-	4 00	3 00	-	105	-	-	2 76	140 16	62 88	-	203 04	166 35	36 69	
	85	23	30 45	4 12	2 28	1032 20	21,347	1595	-	2 79	24,360 27	13,222 66	329 49	37,912 42	34,647 89	3414 79	150 26

OXFORD COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days der w'k. w.	d.	Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
Albany	220	146	117	139	109	154	.51	8	2	85	10	2	92	10	-	10	5	-	-	2200	-	4	10
Andover	261	202	178	139	126	169	.58	9		82	12		84	7	-	6	6	1	1500	3500	1	2	7
Bethel	607	295	251	344	278	372	.44	8	2	192	9	3	221	23	3	22	22	-	-	6000	2	7	27
Brownfield	392	376	310	133	101	282	.52	8	4	178	9	1	56	-	-	14	10	-	-	4500	2	6	18
Buckfield	386	224	202	245	215	275	.54	10		120	10		120	-	-	12	5	-	-	3535	-	8	14
Byron	77	88	87	55	45	102	.85	7	1	43	10	2	52	7	-	3	3	-	-	500	1	1	4
Canton	437	208	166	284	243	319	.47	8		80	10	4	108	11	-	10	9	-	-	4000	1	5	9
Denmark	284	206	168	202	172	169	.60	9		167	9		108	12	-	11	11	-	-	3200	1	3	19
Dixfield	286	240	157	255	191	196	.61	8	2	101	12		108	11	2	11	8	-	-	4000	1	6	11
Fryeburg	460	357	300	276	236	296	.58	9	3	181	11	2	162	16	1	16	8	-	-	4200	1	3	18
Gilead	93	68	56	47	38	72	.50	11		66	9	2	19	6	-	6	6	-	-	700	-		8
Grafton	35	22	19	27	24	30	.61	6		18	9	2	28	2	1	2	1	-	-	700	-	1	3
Greenwood	270	169	138	157	124	208	.49	12		96	11	2	91	13	-	11	3	-	-	1800	-	4	8
Hanover	53	29	26	38	33	36	.56	16		32	20		40	2	1	3	2	-	-	1800	-		2
Hartford	216	179	149	155	137	194	.66	9		124	9	2	123	14	1	14	11	-	-	2100	-	5	16
Hebron	174	88	80	104	91	117	.50	8	2	59	10	4	65	7	2	7	7	-	-	1800	-	2	7
Hiram	385	245	210	249	219	320	.56	8		98	12		145	12	1	12	9	-	-	5500	1	4	14
Lovell	284	196	144	199	166	207	.55	10	3	129	10	2	123	12	-	12	10	-	-	5000	-	5	16
Mason	37	18	16	19	13	26	.40	11		11	10		10	1	-	1	1	-	-	400	-	1	1
Mexico	128	113	102	70	60	92	.63	10	4	65	9	1	37	6	-	5	3	-	-	1000	1	2	6
Newry	107	67	57	80	67	91	.58	11	1	67	9	1	55	6	-	6	4	1	100	850	1	5	6
Norway	874	471	423	493	435	545	.49	9		181	13		260	15	3	17	17	1	500	9000	1	7	20
Oxford	470	284	238	316	273	356	.54	9	3	97	11	3	103	11	1	11	8	-	-	10000	1	4	13
Paris	923	470	405	569	495	662	.50	10		202	10	2	208	20	-	20	18	-	-	10000	1	12	26

Peru	253	202	167	123	107	191	.54	12	2	126	10	3	84	10	–	10	8	–	–	4000	–	3	14
Porter	326	218	180	153	128	236	.47	9	2	94	10	3	78	13	–	13	6	–	–	2500	3	7	6
Roxbury	62	54	47	22	15	54	.50	9	2	56	7	4	16	6	1	4	2	–	–	1000	–	1	6
Rumford	332	254	215	160	130	262	.52	10	2	137	10	1	132	13	1	13	6	–	–	4455	1	7	15
Stoneham	148	78	67	62	48	92	.39	15		60	12	1	25	4	1	4	1	–	–	1000	2	2	3
Stow	120	92	76	66	53	110	.53	10	1	82	14	2	72	8	–	7	5	–	–	2000	1	1	7
Sumner	335	199	170	254	227	264	.65	8	2	122	10	3	153	16	1	15	11	–	–	4000	–	7	15
Sweden	124	84	75	89	82	103	.63	8	2	59	12	1	86	7	–	7	7	–	–	3600	–	2	7
Upton	90	59	49	58	46	81	.53	10	2	52	7	3	23	4	–	3	2	–	–	400	1	2	4
Waterford	310	244	214	222	182	228	.64	11		132	10	3	116	13	1	13	13	–	–	10000	–	3	11
Woodstock	325	184	150	214	175	246	.50	9		108	10	1	113	11	1	11	9	–	–	3500	–	9	12
Plantations.																							
Franklin	55	33	28	28	25	37	.48	11		22	12		24	2	–	2	1	–	–	250	–	–	2
Lincoln	22	17	15	–	–	17	.68	9	2	19		–	–	1	–	1	1	–	–	800	–	–	2
Magalloway	20	19	16	–	–	19	.75	10		10		–	–	1	–	1	1	–	–	600	–	–	1
Milton	85	37	32	28	23	40	.32	8		16	12		12	2	2	2	1	–	–	700	–	1	2
	10,066	6535	5570	6074	5232	7270	.54	9	3	3569	10	1	3352	335	24	348	261	3	2100	125,090	24	142	390

OXFORD COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts. for each inhabitant. Excess above am't required by law.	Not less than 80 cts. for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
Albany	5	1	20 75	3 00	1 42	37 00	555	1	-	2 47	550 29	372 27	23 06	945 62	945 27	35	
Andover	5	1	33 00	3 40	1 89	25 00	700	76	-	2 29	676 84	506 30	21 00	1204 14	1123 32	80 82	
Bethel	14	1	23 00	3 78	1 32	126 00	1662	-	-	2 68	1742 64	1024 18	30 00	2796 82	2693 58	103 24	
Brownfield	-	1	30 22	3 41	1 65	25 00	1095	112	-	3 14	1122 47	618 66	-	1731 13	1700 67	30 46	
Buckfield	6	2	34 00	5 00	1 72	71 37	1103	-	-	2 89	1311 97	632 04	181 97	2125 98	1995 57	130 41	
Byron	5	-	16 00	2 47	1 50	16 50	244	91	-	2 11	427 35	191 94	31 32	650 61	408 88	241 73	
Canton	5	-	37 19	3 60	2 00	52 00	1000	177	-	2 34	1020 61	708 15	101 13	1829 89	1523 71	306 18	
Denmark	9	1	31 00	3 65	1 42	50 00	1000	277	-	3 37	1173 17	491 40	32 80	1697 37	1487 10	210 27	
Dixfield	6	1	36 00	3 21	1 67	40 00	730	-	-	2 62	759 02	461 60	-	1220 62	1252 60	-	31 98
Fryeburg	11	1	25 75	3 78	1 42	75 00	1400	94	-	3 04	1735 20	762 74	-	2497 94	2287 20	210 74	
Gilead	2	-	-	3 48	98	20 36	235	1	-	2 77	238 05	140 63	15 00	393 68	393 68		
Grafton	2	-	26 00	3 12	1 75	4 00	100	8	-	2 70	128 79	61 22	100 00	290 01	277 01	13 00	
Greenwood	4	-	24 33	3 32	1 32	45 00	700	30	-	2 45	820 59	460 40	28 98	1309 97	1179 02	130 95	
Hanover	2	-	-	5 38	1 65	10 00	250	88	-	5 00	239 32	82 73	12 00	334 05	311 50	22 55	
Hartford	8	-	21 00	3 49	1 47	42 50	800	110	-	3 52	927 52	375 58	24 00	1327 10	1232 41	94 69	
Hebron	5	-	20 00	4 06	1 75	30 00	481	-	-	2 53	618 13	314 37	-	932 50	858 77	73 73	
Hiram	9	3	26 00	4 84	2 10	70 00	1500	338	-	4 04	1600 19	615 50	-	2215 69	2040 16	175 53	
Lovell	7	-	24 20	3 48	1 35	50 00	900	38	-	3 32	1059 76	448 38	216 79	1724 93	1642 60	82 33	
Mason	-	-	30 00	3 50	1 75	-	100	25	-	2 78	100 00	59 57	-	159 57	159 57		
Mexico	2	1	23 00	2 78	1 56	21 00	366	44	-	2 73	377 84	221 72	-	599 56	545 97	53 59	
Newry	-	-	20 00	3 17	91	15 75	332	62	-	2 91	353 59	188 63	45 18	587 40	555 81	31 59	
Norway	19	-	39 50	4 25	2 00	100 00	2500	485	-	3 09	2697 67	1338 32	-	4035 99	3890 70	145 29	
Oxford	12	-	28 80	4 31	1 99	66 00	1500	176	-	3 25	1595 54	764 40	-	2359 94	2232 67	127 27	
Paris	16	1	25 86	3 56	1 90	120 00	2344	-	1	2 63	2346 80	1472 56	217 65	4037 01	4057 27	-	20 26

Peru	5	1	24 40	3 28	1 52	40 00	800	140	–	3 48	844 26	380 55	34 38	1259 19	1212 37	46 82			
Porter	–	–	25 00	3 75	2 10	51 00	876	–	–	2 52	1002 56	575 79	100 00	1678 35	1592 73	85 62			
Roxbury	1	–	14 00	2 60	1 40	9 50	200	60	–	3 45	254 34	95 97	45 56	395 87	308 85	87 02			
Rumford	6	1	20 83	3 43	1 80	47 00	805	–	–	2 50	958 18	532 77	117 20	1608 15	1498 48	109 67			
Stoneham	–	–	25 00	3 94	1 90	20 00	380	–	–	2 73	418 29	229 99	–	648 28	618 03	30 25			
Stow	4	–	15 42	2 96	1 37	16 00	400	79	–	3 01	427 98	220 06	–	648 04	659 54	–	11	50	
Sumner	9	–	25 00	2 94	1 67	68 68	811	–	–	2 37	974 36	565 86	10 49	1550 71	1459 27	91 44			
Sweden	5	–	19 00	3 46	1 53	25 50	500	121	–	3 97	548 03	208 48	100 00	856 51	828 74	27 77			
Upton	1	1	27 50	3 08	1 79	3 00	196	4	–	2 18	199 63	148 91	125 00	473 54	473 54				
Waterford	8	1	27 50	4 09	1 70	83 00	1200	271	–	3 99	1681 51	498 02	26 66	2206 19	1937 63	268 56			
Woodstock	2	–	21 10	2 55	1 68	26 25	800	38	–	2 25	818 18	548 31	–	1366 49	1295 67	70 82			
Plantations.																			
Franklin	2	1	–	3 05	1 37	5 00	127	–	–	2 49	130 03	84 38	3 00	217 41	216 15	1 26			
Lincoln	–	–	–	3 50	2 00	6 50	100	58	–	4 00	182 51	35 17	–	217 68	107 15	110 53			
Magalloway	–	–	–	3 50	1 50	7 00	100	64	–	5 00	120 00	–	–	120 00	56 00	64 00			
Milton	–	–	25 00	3 67	1 12	6 00	216	–	–	2 25	216 00	158 84	–	374 84	374 84				
	197	19	25 45	3 40	1 57	1526 91	29,108	3068	1	2 92	32,389 21	16,596 39	1643 17	50,628 77	47,434 03	3258 48	63	74	

PENOBSCOT COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k		Aggregate length of Win'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d											
Alton	130	74	63	79	66	85	.50	9	1	46	13	4	55	5		4	2			1000		1	5
Argyle	71	43	30	24	20	44	.35	14		98	12		24	4		4	4			2000	2	1	5
Bangor	5288	3019	2687	3019	2687	3019	.51	26		1768	10		680			36	36			125000	5	5	97
Bradford	508	308	255	287	235	382	.48	13	1	195	9	2	100	15		15	14	1	325	6650	1	6	22
Bradley	253	133	102	122	97	168	.39	17	3	89	12	1	61	3		4	1			800			10
Brewer	1030	662	570	642	544	740	.54	20		300	20		300			11	8			17500		1	15
Burlington	179	158	128	91	79	135	.58	14		83	11	1	45	6		6	6			2200	1	3	5
Carmel	386	323	263	330	248	319	.66	10	4	139	11	2	149	11		11	8			3500	1	6	15
Carroll	223	157	126	81	69	168	.44	10	4	75	10	2	42	7	1	7	4			1700		4	9
Charleston	381	251	207	210	177	277	.50	9	3	105	9	3	96	10	1	10	8			4000		5	11
Chester	131	86	72	85	71	94	.55	8	3	51	9		44	6		5	2			2200		1	6
Clifton	112	58	46	71	54	72	.45	8		40	11	2	57	5		5	4			1500		1	5
Corinna	387	283	230	191	139	298	.48	12		143	11		141	13	2	14	12			5000		2	18
Corinth	390	262	155	186	160	278	.40	12		108	11		109	13		12	10			8000		5	13
Dexter	744	527	459	497	405	561	.58	9	4	176	10		180			15	15	1	6000	15000	2	2	17
Dixmont	334	224	188	244	195	312	.57	9	3	135	10		140	13	2	13	12			5200		8	14
Eddington	243	198	164	154	125	198	.59	11	2	80	10	1	72	7		7	3	1	850	2200	1	3	8
Edinburg	20	20	15	15	13	20	.70	10		20	10		20	2		2	2			1500			1
Enfield	181	115	89	33	31	131	.33	15	2	108	8		8	7		7	5			850	1	1	12
Etna	261	149	123	177	136	184	.50	9	3	76	13	1	106	8		8	8			3000		4	8
Exeter	296	233	185	229	189	245	.63	10		129	11	1	146	13	1	13	10			4650		11	15
Garland	311	158	133	133	112	241	.39	15		165	9	3	77	11	2	11	7			5000		3	13
Glenburn	207	152	127	133	107	169	.57	9		63	14	1	100	7		7	6			700		2	8
Greenbush	259	173	163	184	153	189	.61	14		131	4		4	8		8	8			3000	1	1	11
Greenfield	99	72	71	39	35	81	.53	12		60	14		14	5		5	5			1300		1	5

Hampden ...	792	653	623	415	329	512	.60	14	2	265	20		358	18	-	18	8	1	600	6800	1	13	32
Hermon	428	259	209	264	211	348	.49	9	4	129	11	2	148	14	-	13	9	1	656	3000	-	6	16
Holden	214	162	132	123	96	163	.53	10		79	10	3	85	8	-	8	6	-	-	2200	-	-	9
Howland	44	41	34	30	10	43	.50	9	3	57	9		27	5	-	3	1	-	-	600	-	-	6
Hudson	187	130	107	120	102	147	.56	8		55	9	3	67	7	-	7	5	-	-	2200	-	4	10
Kenduskeag..	168	110	93	110	93	124	.55	12		48	18		72	4	1	4	4	-	-	1000	1	2	3
Kingman	227	156	114	127	87	189	.44	13	3	68	10	2	52	-	-	3	3	1	200	1400	-	-	5
Lagrange	237	148	126	127	102	177	.48	13		64	11	1	56	5	-	5	5	-	-	2400	-	2	7
Lee	361	208	173	261	239	270	.57	12		96	13		103	8	1	9	6	-	-	2200	-	7	12
Levant	329	190	153	229	186	256	.52	10		120	9	2	113	12	1	12	10	-	-	3600	1	6	14
Lincoln	554	286	242	308	231	426	.43	17		179	13	1	145	10	-	9	9	-	-	5300	-	3	18
Lowell.....	176	118	88	-	-	118	.50	18	2	119		-	-	6	-	6	1	-	-	200	-	-	13
Mat'misc'ntis	17	12	8	11	9	12	.50	14		14		-	-	1	-	1	1	-	-	400	-	-	2
Mattaw'mk'g	185	131	101	64	55	140	.45	16		112	9		18	5	-	4	-	-	-	1200	-	-	7
Maxfield. ...	46	32	28	8	8	40	.40	10	2	32	3		3	4	-	2	2	-	-	300	1	-	2
Medway. ...	249	172	139	45	40	174	.36	16	3	116	5		5	7	-	6	4	-	-	2800	2	-	13
Milford	244	169	136	156	141	150	.57	11		22	11		22	4	-	4	4	-	-	5500	1	1	5
Mt Chase....	128	81	65	21	15	88	.31	13	2	54	12		12	5	1	5	1	1	165	675	1	-	4
Newburg	301	216	180	175	133	238	.52	10		109	11	3	105	12	-	11	10	-	-	3150	-	6	11
Newport	400	225	184	237	196	349	.48	18	2	185	11	4	119	10	3	10	8	-	-	7600	1	1	21
Oldtown.....	1237	661	587	540	476	723	.43	19		353	10	1	165	-	-	13	9	-	-	10000	2	3	19
Orono	739	459	364	389	343	556	.48	13	1	132	10	4	108	-	-	10	8	-	-	9000	1	2	12
Orrington ...	412	308	267	254	201	330	.57	11	1	123	11		121	11	-	12	9	-	-	4800	-	4	14
Passadumk'g.	87	59	51	36	30	83	.47	10	3	53	8		8	4	-	4	1	-	-	1800	-	-	5
Patten.....	290	137	116	137	111	177	.39	10	2	124	10	4	64	6	-	6	5	-	-	2500	-	2	6
Plymouth ...	228	134	114	142	111	193	.49	12	2	98	10	3	95	8	-	9	4	-	-	2100	-	2	7
Prentiss.....	149	73	55	67	56	105	.37	10		50	12		48	5	1	5	3	-	-	1500	-	4	5
Springfield...	265	230	190	212	178	245	.70	10	2	63	8	3	35	6	3	6	6	-	-	4000	1	3	7
Stetson	207	143	119	115	97	180	.52	9	4	68	11	3	70	7	-	7	6	-	-	3800	1	2	6
Veazie.....	189	97	76	102	82	134	.42	8		24	12	4	38	-	-	3	3	-	-	2000	-	-	2
Winn	345	245	202	154	116	211	.46	18	2	148	11		66	-	-	6	6	-	-	2500	-	1	8
Drew Pl.....	49	41	34	38	33	41	.68	8	1	25	11		33	3	-	1	1	-	-	300	-	1	3
Lakeville Pl..	56	23	17	38	23	31	.36	15	2	31	11	2	23	2	1	2	2	-	-	700	1	1	1
No. 2 G'nd F'ls	35	24	15	-	-	24	.43	8		16		-	-	1	-	1	-	-	-	100	1		
Stacyville Pl.	68	53	42	37	25	42	.50	14		56	10		20	4	-	4	2	-	-	500	1	1	4
Webster Pl ..	58	39	34	13	11	52	.40	11		33	10		10	4	-	3	-	-	-	125	-	1	3
Woodville Pl	98	42	31	29	29	48	.30	11		41	13		13	4	-	2	1	-	-	225	-	-	3
	22,223	14,105	11,920	12,390	10,352	15,549	.50	12	3	7619	11		5196	389	21	473	363	7	8796	321,925	32	155	663

PENOBSCOT COUNTY—CONCLUDED.

Towns.	No of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts for each inhabitant. Excess above am't required by law.	Not less than 80 cts for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
Alton	4	-	33 00	2 66	1 52	14 00	400	268	-	3 03	519 47	218 41	-	737 88	587 36	150 52	
Argyle	1	-	23 00	3 00	2 00	11 15	329	101	-	4 01	379 38	135 68	-	515 06	534 59	-	19 53
Bangor	97	4	84 86	8 63	3 50	1210 00	30000	16514	-	5 70	30000 00	8711 25	412 00	39123 25	34785 64	4337 61	
Bradford	6	2	28 00	3 82	1 64	85 00	1200	32	-	2 44	1389 13	814 04	92 56	2295 73	2165 36	130 37	
Bradley	5	-	-	5 31	2 50	23 83	66	2	-	2 46	729 13	446 73	49 00	1224 86	1158 54	66 32	
Brewer	14	2	43 00	5 12	2 00	208 00	3150	614	-	3 13	3211 88	1662 83	58 16	4932 87	4585 89	346 98	
Burlington	1	1	26 50	3 64	1 82	24 00	429	-	-	2 42	540 78	292 86	240 00	1073 64	988 20	85 44	
Carmel	9	-	31 50	3 36	1 62	54 00	976	-	-	2 39	1015 37	649 02	81 95	1746 34	1558 81	187 53	
Carroll	-	1	24 00	3 25	1 45	29 00	500	-	-	2 24	586 53	346 89	71 79	1005 21	873 98	131 23	
Charleston	5	-	27 60	3 42	1 60	66 00	890	10	-	2 75	993 46	536 08	97 50	1627 04	1535 84	91 20	
Chester	4	1	26 00	3 93	1 58	24 00	290	-	-	2 18	375 09	220 06	120 00	715 15	656 95	58 20	
Clifton	4	-	26 00	3 25	1 30	15 00	280	-	-	2 62	297 71	177 04	155 00	629 75	557 54	72 21	
Corinna	10	-	30 00	3 54	1 57	106 85	1273	71	-	3 13	1456 43	671 75	-	2128 18	1974 70	153 48	
Corinth	6	2	26 67	3 43	1 71	58 00	1066	-	-	2 73	1090 27	646 94	63 02	1800 23	1739 18	61 05	
Dexter	17	5	66 00	4 75	2 50	150 00	2700	650	-	3 48	2700 00	1282 28	180 49	4162 77	4466 27	-	303 50
Dixmont	6	-	23 00	3 35	1 66	66 25	1000	94	-	2 90	1037 36	570 82	154 00	1762 18	1741 54	20 64	
Eddington	4	-	37 33	4 00	1 70	22 75	700	103	-	2 68	819 16	431 84	-	1251 00	1180 50	70 50	
Edinburg	1	-	-	3 00	2 00	3 00	50	14	-	1 92	50 00	43 02	11 98	105 00	105 00		
Enfield	-	1	27 50	3 50	1 78	20 00	450	59	-	2 25	475 74	330 91	55 20	861 85	786 55	75 30	
Etna	4	-	27 25	3 25	1 45	30 00	716	-	-	2 72	721 69	435 14	52 00	1208 83	1183 41	25 42	
Exeter	3	-	27 18	3 10	1 73	50 00	1200	181	-	3 25	1759 62	610 53	203 95	2574 10	2001 09	573 01	
Garland	5	-	34 00	3 17	1 72	62 25	1000	31	-	3 06	1215 39	541 04	92 04	1848 47	1692 29	156 18	
Glenburn	7	-	25 00	3 77	1 94	40 00	600	76	-	2 75	639 39	367 00	180 00	1186 39	1160 11	26 28	
Greenbush	-	-	27 00	3 88	2 10	30 00	525	-	20	2 01	544 46	431 84	-	976 30	923 40	52 90	
Greenfield	-	1	30 00	3 00	2 00	12 00	275	5	-	2 81	271 54	162 15	-	433 69	433 69		

Hampden	23	4	27	57	5	16	1	82	100	00	2500	171	-		3	17	3374	72	1305	44	-	4680	16	4011	25	668	91		
Hermon	7	-	25	67	5	00	1	45	67	50	1200	85	-		2	81	1411	45	706	49	-	2117	94	1777	25	340	69		
Holden	8	4	-		3	73	1	60	35	00	650	76	-		2	89	711	12	372	27	10	00	1093	39	1022	79	70	60		
Howland	3	-	-		2	52	1	68	6	00	250	140	-		5	56	308	85	62	35	-	371	20	336	30	34	90		
Hudson	3	-	21	75	3	39	1	53	40	00	530	3	-		2	68	628	22	327	61	111	00	1066	83	895	40	171	43		
Kenduskeag	6	3	50	00	3	84	2	25	55	50	520	-	-		2	95	520	00	291	21	75	16	886	37	926	37	-		40	00
Kingman	5	1	-		3	90	2	00	18	00	400	-		37	1	89	511	77	350	77	60	00	922	54	775	67	146	87		
Lagrange	3	-	30	00	4	08	1	85	20	00	600	23	-		2	37	586	61	418	60	53	73	1058	94	1033	20	25	74		
Lee	3	-	24	00	4	82	2	00	45	00	716	1	-		1	97	722	65	602	26	60	00	1384	91	1360	59	24	32		
Levant	6	-	33	67	2	92	1	80	60	50	961	100	-		2	75	1499	60	579	10	94	73	2173	43	1737	37	436	06		
Lincoln	12	2	36	67	4	50	2	37	115	60	1350	23	-		2	49	1650	11	896	77	192	50	2739	38	2680	38	59	00		
Lowell	-	-	-		3	73	1	88	24	50	400	54	-		2	70	403	53	244	88	66	00	714	41	688	03	26	38		
Mattamiscontis	-	-	-		3	75	1	70	2	00	50	-		1	2	78	50	00	29	79	-		79	79	91	75	-		11	96
Mattawamkeag	2	1	-		4	05	2	30	19	50	365	-	-		2	06	378	71	292	86	195	31	866	88	880	61	-		13	73
Maxfield	1	-	16	00	3	00	1	50	6	00	125	14	-		2	72	118	21	76	12	-		194	33	169	17	25	16		
Medway	2	3	21	20	4	43	2	75	17	50	502	-	-		2	05	485	25	403	72	94	60	983	57	967	67	15	90		
Milford	5	-	50	00	3	00	2	50	42	00	700	113	-		2	95	1583	99	392	13	180	00	2156	12	1464	15	691	97		
Mt. Chase	1	-	20	00	2	87	1	65	23	00	250	2	-		2	14	313	14	193	59	15	42	522	15	405	85	116	30		
Newburg	3	-	27	83	3	41	1	65	34	50	1000	154	-		3	14	1070	96	493	96	-		1564	92	1498	92	66	00		
Newport	10	-	22	50	4	37	1	73	101	00	1161	-	-		2	87	1411	85	668	44	144	00	2224	29	2142	01	82	28		
Oldtown	14	-	60	17	4	69	2	42	150	00	2800	84	-		2	27	2609	32	2040	07	50	19	4699	58	4807	08	-		107	50
Orono	8	3	51	50	6	36	3	50	75	00	2000	204	-		2	71	2109	33	1219	42	61	90	3390	65	3585	14	-		194	49
Orrington	10	1	34	80	4	91	2	22	98	50	1250	27	-		2	93	1325	79	706	49	69	42	2101	70	2125	53	-		23	83
Passadumkeag	1	2	-		4	50	1	98	10	00	300	58	-		3	33	352	95	148	91	-		501	86	451	47	50	39		
Patten	4	1	25	00	3	78	1	84	65	00	700	127	-		2	56	721	54	451	69	69	92	1243	15	1030	78	212	37		
Plymouth	7	2	33	33	3	03	1	48	37	00	700	38	-		2	88	775	17	402	05	-		1177	22	1115	85	61	37		
Prentiss	-	1	27	00	3	38	1	76	13	00	350	17	-		2	46	473	61	234	95	119	05	827	61	820	00	7	61		
Springfield	1	1	35	66	4	10	1	78	60	00	800	98	-		3	31	871	25	400	40	75	00	1346	65	1125	54	221	11		
Stetson	4	-	33	00	2	93	2	33	45	00	600	17			2	64	545	06	375	58	162	00	1082	64	1008	19	74	45		
Veazie	3	1	-		6	26	2	50	50	00	600	102	-		3	17	652	65	312	71	-		965	36	848	94	116	42		
Winn	6	2	48	00	3	80	2	17	27	08	800	82	-		2	27	800	00	582	41	50	10	1432	51	1423	82	8	69		
Drew Pl	3	2	24	00	2	70	1	86	10	00	400	200	-		8	89	447	42	74	45	-		521	87	381	07	140	80		
Lakeville Pl	1	1	22	00	4	25	1	62	5	00	110	-	-		1	89	163	03	95	97	166	33	425	33	361	74	63	59		
No. 2, G'nd F'ls Pl	-	-	16	00	-		2	00	3	00	74	-	-		2	10	127	10	57	91	-		185	01	102	00	83	01		
Stacyville Pl	1	-	29	20	3	00	1	60	-		150	72		7	2	50	285	65	99	27	75	60	460	52	360	50	100	02		
Webster Pl	-	-	27	00	3	70	2	18	6	00	100	26	-		1	64	200	49	100	93	44	45	345	87	331	89	13	98		
Woodville Pl	1	3	-		4	10	1	88	12	00	200	22	-		2	30	192	37	143	95	87	54	423	86	392	99	30	87		
	380	58	31	92	3	89	1	90	3915	06	76,825	21,048	58		2	82	83,212	45	36,891	67	4753	59	124,858	71	114,513	69	11,059	56	714	54

PISCATAQUIS COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms	Average No. attending Winter and Spring Terms	Number of different Pupils Registered.	Percentage of Average Attendance	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k. w.	d.	Average length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
Abbot	220	125	110	140	120	163	.52	8		64	10		80	–	–	8	4	–	–	1600		1	8
Atkinson	244	162	133	166	130	209	.54	9		87	10		90	10	1	10	6	–	–	3000	–	3	10
Blanchard	57	40	30	38	32	47	.54	18		18	9		9	–	–	1	1	–	–	700	–	–	2
Brownville	353	220	178	220	174	275	.50	9		81	10		90	–	–	9	4	–	–	3900	–	2	9
Dover	506	441	323	420	343	426	.66	10	1	162	13	2	188	12	3	14	11	–	–	15000	3	2	17
Foxcroft	431	243	220	260	230	326	.52	12		110	15		120	–	–	8	6	–	–	5000	1	2	10
Greenville	203	97	71	94	71	112	.35	10		40	12		48	4	–	3	2	–	–	2000	–	2	4
Guilford	320	181	158	206	168	236	.51	9	2	75	10	4	98	8	–	8	6	–	–	5000	–	3	9
Medford	138	116	90	56	51	96	.51	12		72	8	1	33	6	–	6	4	–	–	1100	–	3	7
Milo	340	218	185	210	171	271	.52	11	3	128	7		63	9	–	9	3	–	–	2200	–	4	17
Monson	398	218	189	235	187	250	.47	8		64	8	2	68	–	–	7	4	–	–	1700	–	1	10
Orneville	219	127	91	128	102	138	.44	8	2	67	9	1	74	9	2	7	5	–	–	1550	–	1	8
Parkman	347	194	159	205	167	258	.47	7		77	11	3	138	14	–	14	9	–	–	3000	1	4	10
Sangerville	339	177	149	194	181	196	.49	8	2	75	10	2	92	9	2	9	8	–	–	3000	–	5	13
Sebec	213	153	128	173	137	231	.62	11	3	104	12	4	114	9	–	9	6	–	–	4000	3	6	9
Shirley	78		No	Returns.																			
Wellington	235	120	106	159	135	170	.51	8	1	58	11	1	101	9	1	8	8	–	–	1900	–	5	9
Williamsburg	67	29	19	39	37	45	.42	10		10	12		24	2	–	2	–	–	–	150	–	1	1
Willimantic	127	87	63	74	59	90	.48	12		36	13	2	40	3	–	3	2	–	–	1450	–	–	4
Plantations.																							
Elliottsville	18	–	–	–	–	–	–	–	–	–	–	–	–	3									
Kingsbury	83	70	58	65	53	78	.67	9	–	54	–	–	–	3	–	3	3	–	–	800	–	–	6
	4936	3018	2460	3082	2548	3617	.51	10		1372	10	4	1470	110	9	138	92	–	–	57,050	8	45	163

PISCATAQUIS COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board	Average cost of Teachers' board per week	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law.								
Abbot	7	1	20 00	4 27	1 90	63 00	556	-	-	2 27	628 76	405 36	74 60	1108 72	1084 50	24 22	
Atkinson	6	2	21 33	3 70	1 90	25 00	700	38	-	2 87	754 03	403 71	100 00	1257 74	1078 17	179 57	
Blanchard	1	1	-	5 58	2 47	4 50	133	-	1	2 29	133 00	95 97	41 16	270 13	262 96	7 17	
Brownville	7	2	26 00	3 70	1 90	49 25	800	83	-	2 20	450 91	602 26	53 33	1106 50	1468 02	-	361 52
Dover	12	1	20 00	4 3.	1 75	81 00	1800	450	-	3 53	1846 70	784 90	84 00	2715 60	2589 17	126 43	
Foxcroft	10	2	45 00	5 00	2 00	75 00	1150	140	-	2 57	1445 85	634 64	72 14	2152 63	1938 92	213 71	
Greenville	3	-	36 00	3 00	3 00	13 00	460	15	-	2 30	509 14	330 91	50 00	890 05	907 01	-	16 96
Guilford	6	-	38 00	4 55	1 78	35 50	800	95	-	2 57	872 04	514 57	-	1386 61	1433 33	-	46 72
Medford	1	-	23 00	3 00	1 41	23 50	320	2	-	2 42	424 36	227 00	3 00	654 36	570 02	84 34	
Milo	5	-	28 75	3 41	1 88	60 00	750	3	-	2 33	750 00	524 34	80 00	1354 34	1469 72	-	115 38
Monson	9	1	48 00	3 79	2 16	46 00	675	13	-	1 58	675 00	704 84	51 24	1431 08	1426 48	4 60	
Orneville	7	-	20 00	2 78	1 52	28 60	441	40	-	2 24	478 53	325 95	-	804 48	780 42	24 06	
Parkman	8	-	23 20	3 89	1 51	48 00	804	-	-	2 14	906 67	620 46	-	1527 13	1399 41	127 72	
Sangerville	4	7	28 80	4 25	2 00	35 00	1000	163	-	3 15	1057 95	529 14	47 64	1634 73	1532 85	101 88	
Sebec	4	1	33 33	3 27	1 90	43 45	800	99	-	3 21	906 14	411 98	100 00	1418 12	1293 54	124 58	
Shirley	-	-	-	-	-	-	200	-	2	2 30	200 00	139 08	140 52	479 60	479 60		
Wellington	2	-	21 00	3 00	1 40	15 00	550	32	-	2 36	579 47	383 66	-	963 13	915 93	47 20	
Williamsburg	1	-	30 00	4 00	2 35	5 25	200	12	-	2 86	204 97	115 82	-	320 79	307 31	13 48	
Willimantic Plantations.	3	1	-	4 37	1 62	-	300	66	-	2 46	300 00	201 86	72 18	574 04	574 07	-	03
Elliottsville	New	Pl.															
Kingsbury	-	2	-	3 00	2 00	5 00	158	-	-	2 13	158 40	147 07	-	305 47	305 47		
	96	21	28 90	3 84	1 91	656 05	12,597	1251	3	2 49	13,281 92	8103 52	969 81	22,355 25	21,816 90	1078 96	540 61

SAGADAHOC COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k.		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k.		Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d.											
Arrowsic	64	45	38	30	26	47	.50	9	3	30	9		9	2	–	2	1	–	–	700	–	–	3
Bath	2583	1695	1462	1854	1536	2125	.58	13		429	21	2	710	–	–	15	15	1	12500	112500	4	4	33
Bowdoin	306	178	137	222	185	234	.53	9		108	11		154	–	–	14	7	1	600	4200	1	9	11
Bowdoinham	502	240	219	241	202	375	.42	20		261	11	2	161	–	–	12	10	–	–	4000	2	5	10
Georgetown	329	277	224	167	138	236	.55	8	4	93	9	1	74	10	–	9	8	–	–	2000		3	9
Perkins	25	–	–	15	12	15	.48			..	14		14	1	–	1	–	–	–	400		1	
Phipsburg	506	344	301	376	315	417	.61	8	3	119	9	2	113	12	–	13	12	–	–	1000		1	14
Richmond	881	523	443	534	448	599	.51	9		170	18		250	11	–	15	15	–	–	14100	1	3	20
Topsham	359	240	197	242	173	242	.51	20		280	10		140	–	–	13	12	1	300	3500	1	1	14
West Bath	95	83	57	56	48	86	.55	22		88	10		40	4	–	4	4	–	–	2500	–		4
Woolwich	371	294	240	247	157	263	.54	8	3	77	11		88	8	–	8	8	–	–	4000	–	4	7
	6021	3919	3318	3984	3240	4639	.54	12	4	1655	12	1	1753	48	–	106	92	3	13,400	148,900	9	31	125

SAGADAHOC COUNTY—Concluded.

Towns.	No. of Female Teachers employed in Winter and Spring Terms	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts. for each inhabitant		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law								
Arrowsic	2	2	-	3 80	2 40	9 50	210	6	-	3 18	256 05	109 20	-	365 25	315 70	49 55	
Bath	33	3	105 88	10 65	4 00	300 00	8000	1700	-	2 87	8000 00	4606 29	49 15	12655 44	12655 44		
Bowdoin	5	-	24 00	4 10	1 25	40 86	1080	171	-	3 09	1607 57	579 10	7 25	2193 92	1931 63	262 29	
Bowdoinham	9	1	25 00	4 00	2 00	75 00	1600	255	-	3 19	1858 03	830 59	-	2688 62	2399 50	289 12	
Georgetown	5	3	34 33	4 18	2 50	50 00	900	36	-	2 64	1069 13	564 20	-	1633 33	1443 44	189 89	
Perkins	-	-	20 00	-	2 50	-	62	-	-	2 48	62 40	41 36	-	103 76	105 00	-	1 24
Phipsburg	11	3	25 00	4 64	2 58	70 00	1200	2	-	2 41	1204 31	822 31	-	2026 62	1985 56	41 06	
Richmond	24	2	60 00	6 00	2 50	150 00	2500	374	-	2 81	2617 86	1474 21	63 99	4156 06	4091 46	64 60	
Topsham	14	2	85 00	5 00	2 00	120 00	1500	265	-	3 98	1500 00	633 04	33 36	2166 40	2635 12	-	468 72
West Bath	1	2	-	4 00	2 00	12 00	400	148	-	3 96	420 78	160 72	-	581 50	526 04	55 46	
Woolwich	3	1	37 00	5 38	2 60	58 00	950	27	-	2 51	1076 71	625 44	-	1702 15	1676 31	25 84	
	107	19	46 25	5 18	2 39	885 36	18402	2984	-	3 01	19,672 84	10,446 46	153 75	30,273 05	29,765 20	977 81	469 96

SOMERSET COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No of female Teachers employed in Summer and Fall Terms.
Anson	461	314	278	179	146	283	.46	7	4	165	8	2	132	19	-	20	6	-	-	10000	1	2	18
Athens	412	403	334	238	187	262	.63	12	2	160	12	3	152	13	1	13	13	-	-	2000	-	3	14
Bingham	225	190	151	86	70	153	.49	12	4	115	11	3	47	10	1	9	5	-	-	5000	-	1	9
Brighton	222	122	112	159	150	143	.59	8		65	11	1	101	9	-	8	4	-	-	1000	-	2	8
Cambridge	136	92	74	105	74	105	.53	9	1	46	14	4	74	4	1	5	3	-	-	750	1	3	4
Canaan	387	263	234	245	185	294	.54	8	4	151	10	3	117	12	-	12	8	-	-	5500	-	2	17
Concord	134	104	99	57	54	84	.57	7		76	10		60	10	-	10	3	-	-	625	1	2	10
Cornville	264	175	141	206	164	223	.57	7	1	87	11	2	137	12	1	12	9	-	-	3000	-	1	12
Detroit	185	154	129	139	112	165	.65	8	4	61	13	4	81	6	-	6	2	-	-	1800	-	2	7
Embden	210	153	126	146	125	174	.59	11	3	93	9	2	75	11	1	10	3	-	-	1200	-	2	10
Fairfield	1019	697	583	701	598	794	.58	15		285	15		315	-	-	18	14	-	-	16000	1	2	20
Harmony	228	151	127	155	126	165	.55	9	3	96	10	3	106	10	1	11	6	-	-	2000	-	2	10
Hartland	330	263	200	215	175	263	.57	9	4	88	9		72	8	5	8	2	-	-	2200	1	1	8
Madison	536	379	329	232	199	379	.49	10		169	9		108	-	-	17	15	-	-	5000	1	3	26
Mercer	201	152	130	145	127	152	.64	7	2	74	9	2	94	10	1	10	7	-	-	1000	1	5	8
Moscow	199	125	105	126	92	144	.50	9	1	55	11	1	67	8	-	6	5	-	-	1800	-	5	6
New Portland	353	315	272	243	210	305	.68	8	3	149	9	4	139	17	1	16	15	-	-	5000	1	5	17
Norridgewock	474	247	192	345	264	334	.48	8	3	93	19	1	192	15	5	16	10	-	-	3800	1	4	12
Palmyra	345	248	207	180	175	276	.55	12		179	9	4	100	15	2	15	12	-	-	5000	-	1	20
Pittsfield	664	410	331	315	279	414	.47	6	1	164	10	2	122	11	4	11	6	-	-	4500	1	2	13
Ripley	151	165	134	60	49	117	.61	9	1	86	10	2	31	5	-	5	2	-	-	500	-	2	9
St Albans	443	331	292	323	267	346	.63	15		180	11	3	105	-	-	15	10	-	-	5000	-	4	10
Solon	284	233	195	169	141	226	.59	8	2	99	9	4	88	12	-	12	8	-	-	3200	-	7	14

Skowhegan	1305	786	639	780	664	874	.50	8	1	213	11		266	–	–	25	23	–	–	25000	3	3	28
Smithfield	156	125	110	95	76	119	.60	9	1	64	10	4	62	7	–	7	4	–	–	1200	1	3	6
Starks	275	115	85	249	202	255	.52	7		75	12		161	14	2	13	9	–	–	2400	1	5	10
Plantations.																							
Carratunk	85	71	65	55	50	80	.67	8		48	8		40	6	–	5	5	1	150	1100	1	–	5
Dead River	35	29	19	29	19	29	.54	7		7	10		10	2	–	2	–	–	–	500	–	–	3
Dennistown	30	24	14	–	–	24	.47	9		18		–	–	1	–	1	1	–	–	250	–	–	1
Flagstaff	35	28	23	24	20	32	.61	9	2	19	8		16	1	–	1	1	–	–	300	–	1	2
Highland	37	No	soh	ools	in 188	6.																	
Jackman	51	25	19	23	15	28	.33	12		12	10		10	1	–	1	1	–	–	300	–	–	1
Lexington	76	42	37	–	–	42	.51	10	3	76		–	–	7	–	7	2	–	–	500	–	–	10
Moose River	56	39	32	26	20	44	.46	12		12	10		10	1	–	1	1	–	–	415	–	1	1
No. 1, R. 2, W.K.R.	32	30	24	–	–	30	.75	9	4	39		–	–	4	1	4	–	–	–	350	–	–	3
The Forks	55	38	28	–	–	38	.50	8		24		–	–	4	–	2	2	–	–	600	1	–	2
West Forks	52	33	22	36	27	36	.47	8		16	9		27	3	–	2	2	–	–	700	–	–	2
	10,143	7071	5896	6086	5062	7432	.54	9	4	3359	10	4	3123	268	27	326	219	1	150	118,490	17	76	356

SOMERSET COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, exeluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886	Not less than 80 cts for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law.								
Anson	14	-	17 62	3 38	1 39	50 00	1394	150	-	2 87	1647 63	786 50	-	2434 13	2146 35	287 78	
Athens	9	-	24 00	4 00	1 50	55 50	1130	82	-	3 09	1157 48	690 59	79 63	1927 70	1863 99	63 71	
Bingham	1	-	20 00	2 35	1 00	48 00	663	1	-	3 04	682 52	360 70	103 57	1146 70	1106 81	39 98	
Brighton	6	-	21 50	3 34	1 25	25 00	480	12	-	2 10	549 96	378 89	-	928 85	875 23	53 62	
Cambridge	2	1	22 00	3 96	1 65	19 50	378	-	-	2 52	432 94	248 19	30 12	711 25	671 59	39 66	
Canaan	9	2	28 27	3 93	1 51	72 00	1067	42	-	2 81	1132 90	627 08	75 93	1835 91	1689 18	146 73	
Concord	4	-	20 00	2 12	92	19 00	325	-	-	2 37	379 14	225 40	-	604 54	547 19	57 35	
Cornville	11	-	13 25	3 48	1 81	63 25	800	54	-	3 14	943 30	421 91	106 75	1471 96	1307 84	164 12	
Detroit	4	1	23 00	3 25	1 53	24 00	530	-	-	2 77	540 55	316 02	60 20	916 77	830 36	86 41	
Embden	5	-	22 00	3 20	1 31	10 00	539	-	-	2 54	561 39	375 67	-	937 06	904 66	32 40	
Fairfield	19	8	57 50	4 98	2 30	469 00	3500	1065	-	4 06	4229 24	1424 57	-	5653 81	5096 65	557 16	
Harmony	8	-	17 00	3 49	1 26	25 00	705	-	-	2 83	1057 68	411 98	100 00	1569 66	1429 16	140 50	
Hartland	8	-	25 00	4 00	2 00	75 00	850	15	-	2 52	929 27	557 59	-	1486 86	1352 60	134 26	
Madison	9	1	30 00	3 52	1 50	76 25	1052	-	-	2 18	1204 27	797 49	104 00	2105 76	2065 41	40 35	
Mercer	5	1	28 33	3 38	1 49	25 00	604	-	-	2 82	642 89	354 08	-	996 97	892 31	104 66	
Moscow	1	-	25 20	3 21	1 43	14 00	420	2	-	2 07	480 39	335 87	33 44	849 70	781 25	68 45	
New Portland	10	-	29 00	3 46	1 45	75 00	1200	183	-	3 41	1456 11	582 41	34 59	2073 11	1830 99	242 12	
Norridgewock	6	-	53 40	3 41	1 65	65 00	1200	7	-	2 59	1308 86	767 71	-	2076 57	1978 67	97 90	
Palmyra	10	-	28 00	3 58	1 32	65 00	1017	-	-	3 09	1083 70	544 35	69 80	1697 85	1487 41	210 44	
Pittsfield	10	2	36 50	5 00	1 95	81 75	1530	3	-	2 61	1688 08	971 22	-	2659 30	2531 47	127 83	
Ripley	1	-	22 50	3 77	1 43	20 00	440	-	-	2 86	485 15	254 81	32 43	772 39	772 91	-	52
St. Albans	5	4	24 00	4 70	1 55	107 50	1340	225	-	3 07	1442 25	721 39	71 40	2235 04	2063 88	171 16	
Solon	2	-	25 28	3 23	1 75	34 50	810	-	-	2 67	861 47	501 33	104 72	1467 52	1337 89	129 63	

Skowhegan	23	2	44 00	5 38	1 85	191 00	3700	612	–	2 84	4095 47	2155 89	–	6251 36	5785 06	466 30			
Smithfield	3	–	21 50	3 05	1 48	30 00	452	–	–	2 82	480 65	264 73	–	745 38	725 83	19 55			
Starks	10	–	28 16	3 00	1 32	58 50	743	–	–	2 61	781 52	471 54	–	1253 06	1213 09	39 97			
Plantations.																			
Carratunk	6	2	15 00	3 50	1 50	–	140	2	–	1 71	140 00	175 30	111 70	427 00	427 00				
Dead River	–	–	–	3 50	1 50	2 25	80	6	–	2 50	112 17	52 95	–	165 12	126 55	38 57			
Dennistown	–	–	–	3 75	2 00	6 00	66	8	–	2 20	71 85	49 64	–	121 49	103 50	17 99			
Flagstaff	1	–	26 00	5 00	2 25	–	50	–	11	1 71	76 92	47 98	108 50	233 40	259 32	–	25 92		
Highland	No sc	hool	s in 18	86															
Jackman	1	–	–	4 06	2 00	–	85	9	–	1 77	85 00	79 43	–	164 43	149 25	15 18			
Lexington	–	-	–	3 40	1 10	9 50	260	2	–	3 10	281 83	139 98	–	421 81	397 79	24 02			
Moose River	–	–	16 00	4 00	2 62	11 25	85	3	–	1 67	85 00	84 38	21 22	190 60	190 60	.			
No. 1, R. 2, W.K.R.	–	–	–	3 00	1 00	2 50	110	8	–	2 82	120 48	68 74	–	189 22	182 67	6 55			
The Forks	–	–	15 00	3 00	1 83	–	98	–	61	1 81	122 66	89 35	11 82	223 83	130 09	93 74			
West Forks	3	–	–	3 00	2 00	12 00	76	–	–	1 36	116 28	92 67	156 58	365 53	255 00	110 53			
	206	24	25 97	3 62	1 59	1842 25	27,919	2491	72	2 58	31,467 00	16,428 33	1416 40	49,311 73	45,509 55	3828 62	26 44		

WALDO COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k.		Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same	Estimated value of all School Property in town	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d.											
Belfast	1331	927	786	949	814	1143	.60	16	1	318	13	4	294	15	2	18	9	–	–	12400	3	14	25
Belmont	173	91	79	126	97	141	.51	9		45	9	2	47	5	–	5	2	–	–	600		4	5
Brooks	234	156	123	152	133	176	.55	12	2	87	11	4	81	7	–	7	3	–	–	2600		5	7
Burnham	320	277	237	195	159	295	.62	7		85	10	3	97	9	–	10	7	–	–	3250		4	12
Frankfort	419	168	144	446	378	378	.62	9	2	38	11		100	7	2	7	5	–	–	3350	2	3	7
Freedom	184	113	90	133	103	147	.52	9	1	64	11		99	9	2	9	5	–	–	1500		3	7
Islesborough	376	223	188	229	182	290	.49	10		80	11	1	89	8	–	8	6	–	–	4000		7	8
Jackson	207	106	88	143	102	155	.46	7	4	54	12		108	9	1	9	7	–	–	2000		4	7
Knox	278	166	132	173	140	235	.49	8	3	94	9	3	87	9	2	9	4	–	–	2000		8	11
Liberty	281	213	176	212	159	232	.59	8	3	69	11	3	105	9	4	9	5	–	–	3000		4	6
Lincolnville	518	334	269	345	278	404	.53	9	3	164	10	4	174	17	–	17	12	–	–	6500		8	17
Monroe	365	240	200	250	205	330	.55	8	1	107	10	2	145	13	4	13	13	–	–	4050		7	16
Montville	458	216	180	255	212	375	.43	8		112	10	1	143	14	2	15	12	–	–	4800		8	14
Morrill	150	113	82	97	77	129	.53	8	4	44	9	2	47	4	2	4	2	–	–	1000	1	2	4
Northport	254	170	144	182	153	180	.58	9	2	94	9	2	85	9	–	9	9	–	–	3500		6	10
Palermo	314	157	123	189	138	238	.41	9		90	12	2	126	13	2	13	5	–	–	2400		7	10
Prospect	259	174	153	206	170	208	.62	9	4	77	9	2	66	6	2	7	6	–	–	3200		5	8
Searsmont	414	307	251	250	198	349	.67	11	2	138	8	3	103	12	2	12	6	–	–	4000	1	9	13
Searsport	564	383	306	290	256	445	.50	15	4	238	9	1	101	9	1	11	8	–	–	7500	1	4	14
Stockton	377	271	229	258	204	297	.57	12	4	140	11	1	100	9	–	9	8	–	–	4000	1	5	10

Swanville	244	198	173	171	138	200	.64	11		66	10	3	63	6	1	6	4	–	–	2550	–	6	6
Thorndike	237	142	119	200	174	220	.62	7	2	74	9	1	84	10	–	10	6	1	500	4000	–	7	10
Troy	299	199	149	235	200	255	.58	9	4	108	10		110	12	3	9	8	1	247	2450	1	7	10
Unity	312	256	190	204	164	256	.57	10		100	10	2	127	12	1	12	10	–	–	3000	1	3	9
Waldo	269	187	158	193	152	217	.58	7	1	50	8	2	85	7	–	7	6	–	–	1800	–	6	7
Winterport	654	390	340	447	395	480	.56	10	2	226	11	2	217	16	–	16	10	–	–	9800	–	11	22
	9481	6177	5109	6530	5381	7775	.55	9	4	2762	10	3	2883	246	33	261	178	2	747	99,250	15	157	275

WALDO COUNTY—CONCLUDED.

Towns.	No of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts for each inhabitant. Excess above am't required by law.	Not less than 80 cts for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
Belfast	13	2	64 75	6 28	2 50	150 00	5000	754	–	3 71	6762 33	2227 04	2600 00	11589 37	11199 75	389 62	
Belmont	1	4	27 00	2 75	1 85	11 25	416	–	–	2 41	441 08	281 24	–	722 32	682 83	39 49	
Brooks	2	–	31 40	3 13	1 58	30 00	700	–	2	2 79	818 84	415 29	–	1234 13	1140 59	93 54	
Burnham	5	–	24 75	3 57	2 15	35 00	774	–	–	2 43	910 56	526 16	56 44	1493 16	1388 50	104 66	
Frankfort	6	3	28 06	4 35	1 88	50 00	926	–	–	2 01	998 08	762 74	–	1760 82	1516 62	244 20	
Freedom	6	1	26 00	3 00	1 53	30 00	525	3	–	2 79	589 92	311 06	25 05	926 03	890 70	35 33	
Islesborough	1	2	31 50	3 65	2 65	27 00	970	4	–	2 62	1049 30	612 16	12 00	1673 46	1647 13	26 33	
Jackson	5	–	29 00	2 72	1 29	35 00	566	20	–	2 73	697 64	342 49	–	1040 13	970 26	69 87	
Knox	1	–	26 50	2 87	1 37	38 00	700	18	–	2 47	756 93	468 23	10 00	1235 16	1152 46	82 70	
Liberty	5	1	26 88	3 68	1 60	36 00	776	–	–	2 63	799 46	488 09	–	1287 55	1264 14	23 41	
Lincolnville	8	3	25 25	2 95	1 88	29 95	1383	19	–	2 54	1401 27	874 42	–	2275 69	2230 49	45 20	
Monroe	7	3	31 00	3 35	1 66	45 00	1200	107	–	3 22	1241 71	617 15	–	1858 86	1741 80	117 06	
Montville	6	5	25 00	3 41	1 51	46 00	1015	11	–	2 20	1119 47	762 74	–	1872 21	1731 31	140 90	
Morrill	2	–	31 67	3 29	1 81	18 00	395	1	–	2 57	438 98	254 81	–	693 79	667 19	26 60	
Northport	3	1	25 33	2 82	2 00	31 00	698	–	–	2 81	700 07	414 04	–	1114 11	1097 49	16 62	
Palermo	4	–	22 32	3 21	1 46	40 00	894	–	–	2 81	922 00	526 16	–	1448 16	1393 13	55 03	
Prospect	2	2	30 60	3 00	1 99	35 00	616	–	–	2 42	640 87	421 91	43 77	1106 55	1057 32	49 23	
Searsmont	3	–	26 53	3 15	1 69	37 75	1064	–	–	2 61	1175 30	673 40	–	1848 70	1752 73	95 97	
Searsport	7	4	55 75	4 86	2 35	84 50	2000	142	–	3 42	2123 21	943 15	–	3066 36	2946 46	119 90	
Stockton	4	4	28 50	4 42	1 91	60 50	1237	–	1	3 20	1411 12	638 66	–	2049 78	1825 30	224 48	

Swanville.....	-	1	30 00	2 59	1 77	24 50	600	38	-	2 97	819 55	390 48	-	1210 03	1029 26	180 77			
Thorndike.....	2	-	23 66	2 58	1 52	22 00	600	30	-	2 60	754 87	380 55	4 76	1140 18	1032 54	107 64			
Troy.....	4	-	23 25	3 09	1 60	37 75	1000	153	-	3 25	1098 64	509 61	49 00	1657 25	1576 88	80 37			
Unity	9	-	29 00	2 93	1 37	36 00	880	6	-	2 64	932 96	550 97	-	1483 93	1357 05	126 88			
Waldo.	4	-	30 50	3 47	1 75	18 00	525	-	5	1 91	575 24	455 01	70 79	1101 04	1083 65	17 39			
Winterport.....	8	4	30 00	4 10	2 00	90 00	2200	392	-	2 94	2655 01	1237 62	-	3892 63	3640 32	252 31			
	118	40	29 04	3 30	1 73	1098 20	27,660	1,698	8	2 62	31,834 41	16,085 18	2871 81	50,781 40	48,015 90	2765 50			

WASHINGTON COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years	No. registered in Summer and Fall Terms	Average No. attending Summer and Fall Terms	No. registered in Winter and Spring Terms	Average No. attending Winter and Spring Terms	Number of different Pupils Registered.	Percentage of Average Attendance	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k. w.	d.	Average length of Summer and Fall Terms in weeks, 5 days per w'k.	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k. w.	d.	Aggregate length of Wint'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.
Addison	365	238	211	249	221	298	.59	8	2	91	9	1	110	12	1	12	4	-	-	3500	3	3	8
Alexander	160	109	76	61	50	124	.40	14	2	58	11	2	23	3	3	4	4	-	-	2000	1	2	5
Baileyville	113	53	39	59	43	89	.36	10	1	51	11	2	46	5	1	6	1	1	200	1000	1		5
Baring	105	48	43	64	56	66	.47	8		16	12		24	1	-	1	1	-	-	2000	1	1	2
Beddington	83	58	48	-	-	68	.58	20		80			-	1	-	2	2	1	670	1775	1	2	2
Brookton	147	101	77	56	47	114	.42	18	3	56	8		16	2	-	2	2	-	-	2000	2	1	2
Calais	2460	1400	1175	1415	1050	1750	.45	14		294	22		462	-	-	13	13	-	-	30000	2	2	21
Centerville	60	38	23	29	19	47	.35	10		20	5		5	1	1	2	1	-	-	1000	1		
Charlotte	187	168	138	61	49	174	.50	13		65	9		18	5	-	5	2	-	-	3000	2	2	3
Cherryfield	683	495	442	183	178	514	.45	23	2	278	10		30	9	-	10	7	-	-	12500	2	1	12
Columbia	268	184	175	194	159	231	.62	19		133			-	7	-	7	2	-	-	700	4		10
Columbia Falls	273	221	165	-	-	221	.60	21	1	63			-	3	2	4	3	-	-	3000	2		6
Cooper	124	97	79	23	20	105	.40	14	2	72	10		10	5	-	5	3	-	-	2000	3	1	5
Crawford	65	44	38	41	33	51	.55	8		24	9		18	2	-	2	2	-	-	1100	1	2	2
Cutler	313	296	244	132	106	217	.56	15		150	13		39	8	-	8	8	-	-	2500	4	3	8
Danforth	374	318	256	163	136	197	.52	11	1	78	11	1	56	5	-	5	5	-	-	4000	1	4	8
Deblois	31	28	23	-	-	30	.74	10	3	21			-	1	-	1	1	-	-	800	1		1
Dennysville	182	107	96	106	94	137	.52	9	1	28	21	2	64	-	-	2	2	-	-	2800	1	1	2
East Machias	578	392	330	285	220	425	.48	24		288	11	1	67	7	1	11	10	-	-	4500	2	2	12
Eastport	1750	762	587	871	693	1121	.37	16		272	22		396	-	-	6	6	-	-	12500	2	4	15
Edmunds	181	106	73	127	122	117	.51	12		48	11	1	45	4	-	4	4	-	-	200	-	1	4
Forest City	100	60	49	64	53	73	.51	11		11	22		22	1	-	1	1	-	-	800	-	-	1
Harrington	441	282	257	225	198	297	.52	13	3	150	12		60	9	1	9	7	-	-	4000	2	5	11

Jonesborough	221	136	119	69	55	177	.39	18		119	10		20	–	–	8	4	–	–	2940	2	2	12
Jonesport.....	793	332	266	565	419	550	.43	11		78	13		162	13	1	11	10	–	–	9700	2	4	7
Kossuth	37	21	17	10	3	28	.27	11		34	10		20	2	1	2	1	–	–	200	–	1	3
Lubec	752	422	358	445	376	515	.49	9	4	146	19		208	13	–	14	–	–	–	3000	1	9	15
Machias	875	483	440	502	459	551	.51	10		130	20		260	–	–	10	10	–	–	10000	3	3	12
Machiasport.....	528	403	348	308	250	501	.57	13	4	124	10	4	64	10	1	8	8	–	–	3500	3	5	7
Marion	42	33	25	–	–	22	.59	14		55		–	–	4	–	3	2	–	–	400	–	–	5
Marshfield	135	100	85	–	–	115	.63	20	2	61			–	2	–	2	2	–	–	700	2	–	4
Meddybemps.....	60	50	46	50	44	52	.75	11	3	12	10	2	21	2	–	2	1	–	–	800	1	2	
Millbridge.....	598	336	292	364	342	409	.53	15	3	165	12	2	112	10	2	9	6	–	–	5600	3	6	14
Northfield.....	57	40	33	41	34	40	.59	12	3	25	11		22	2	–	3	2	–	–	600	–	1	2
Pembroke.....	719	356	290	385	295	497	.41	9	3	113	20	3	247	–	–	11	11	–	–	15000	5	5	8
Perry	384	238	216	231	179	250	.51	8		88	13		143	11	–	11	9	1	275	1500	1	2	13
Princeton.....	380	289	267	168	137	276	.50	25	2	153	8	3	61	4	–	5	4	–	–	5000	2	2	5
Robbinston	323	151	106	185	159	233	.43	9		54	12	2	74	6	–	6	3	–	–	2200	–	5	6
Steuben	401	278	243	286	247	288	.61	9	2	94	9	2	103	11	–	10	9	–	–	5400	–	4	10
Talmadge.....	53	37	32	33	28	39	.57	11		22	10	3	43	–	–	2	2	–	–	700	–	1	2
Topsfield	147	91	64	46	39	102	.35	17	2	70	12	2	25	4	–	4	1	–	–	800	1	2	6
Trescott	203	124	103	125	102	127	.50	7	1	50	8	4	62	8	–	8	4	–	–	1000	–	3	7
Vanceboro'	240	125	96	113	95	116	.40	20		60	10		20	–	–	2	2	–	–	2700	1	1	2
Waite	90	61	60	25	23	61	.46	9	3	39	8		8	2	1	3	3	–	–	1000	1	1	3
Wesley	91	65	51	16	15	65	.36	10	1	41	8	2	17	4	–	4	3	–	–	2600	2	1	2
Whiting	144	No	Ret	urn s.																			
Whitneyville.....	172	93	72	102	85	130	.46	9		18	8	4	44	1	1	2	2	–	–	2200	–	1	2
Plantations.																							
Codyville	34	24	19	19	15	24	.50	18		18		–	–	1	–	1	1	–	–	400	–	–	2
No. 14.	59	38	30	40	38	40	.57	9		18	9		18	2	–	2	2	–	–	900	1	1	1
No. 18.....	17	13	9	–	–	13	.53	10		10		–	–	1	–	1	1	–	–	150	–	–	1
No 21.....	47	34	33	–	–	34	.70	7		28		–	–	2	–	2	2	–	–	300	1	–	3
	16,635	9978	8364	8536	6986	11,721	.47	13	1	4172	12	1	3265	266	17	268	196	3	1145	176,965	76	101	301

WASHINGTON COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886.	Not less than 80 cts. for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources.	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
								Excess above am't required by law.	Less than the am't required by law.								
Addison	9	5	22 50	5 34	1 84	45 00	993	3	-	2 63	1032 18	634 63	-	1666 81	1593 49	73 32	
Alexander	-	1	29 33	4 08	1 60	38 00	351	-	-	1 95	366 30	297 82	113 27	777 39	623 43	153 96	
Baileyville	4	-	25 00	3 25	1 88	12 50	325	24	-	2 60	478 33	206 82	-	685 15	561 54	123 61	
Baring	1	-	43 00	3 75	2 00	28 00	307	65	-	3 37	307 00	150 56	18 07	475 63	459 90	15 73	
Beddington	-	1	27 00	4 50	2 25	20 75	260	157	-	3 71	283 62	115 82	-	399 44	350 78	48 66	
Brookton	1	-	30 00	3 00	2 75	10 50	400	132	-	2 80	471 83	236 60	112 00	820 43	703 09	117 34	
Calais	21	4	88 25	8 00	3 00	300 00	5875	937	-	2 39	5875 00	4070 21	-	9945 21	9960 43	-	15 22
Centerville	-	-	29 69	-	2 00	1 50	115	5	-	1 89	96 78	100 92	40 00	237 70	240 35	-	2 65
Charlotte	-	-	29 00	3 83	1 66	33 00	400	9	-	2 18	361 65	302 78	50 00	714 43	692 72	21 71	
Cherryfield	3	2	47 87	4 82	2 00	100 00	1500	66	-	2 21	1558 63	1121 80	35 01	2715 44	2699 40	16 04	
Columbia	-	1	23 50	6 04	1 67	15 00	610	96	-	2 37	649 36	426 86	19 68	1095 90	1097 11	-	1 21
Columbia Falls	-	3	40 50	7 70	2 61	25 00	610	62	-	2 21	596 36	456 66	60 00	1113 02	1119 44	-	6 42
Cooper	-	-	24 00	3 30	1 46	17 00	300	23	-	2 40	315 17	212 62	30 00	557 79	516 22	41 57	
Crawford	-	1	34 07	4 50	1 82	7 75	200	35	-	2 82	200 00	117 47	49 00	366 47	389 99	-	23 52
Cutler	-	-	30 00	4 15	2 75	20 00	750	87	-	2 44	950 76	509 61	112 00	1572 37	1330 74	241 63	
Danforth	1	-	34 44	4 39	2 15	30 00	800	310	-	2 78	809 80	476 51	22 50	1308 81	1286 33	22 48	
Deblois	-	-	20 00	4 50	2 00	2 00	90	6	-	1 92	97 31	77 76	24 00	199 07	184 69	14 38	
Dennysville	2	3	50 00	6 50	3 03	25 00	418	-	-	2 16	360 02	319 33	-	679 35	835 32	-	155 97
East Machias	4	1	37 50	3 66	2 50	78 33	1500	-	-	2 50	1772 23	970 34	-	2742 57	2576 86	165 71	
Eastport	14	1	66 00	6 00	3 00	25 00	4100	895	-	2 41	4100 00	2854 91	-	6954 91	7022 63	-	67 72
Eaton	4	-	35 00	1 93	2 07	21 00	328	77	-	2 11	267 56	256 46	-	524 02	507 09	16 93	
Edmunds	1	1	-	6 00	2 78	5 00	356	-	-	1 97	445 17	299 47	133 00	877 64	760 76	116 88	
Harrington	3	3	39 25	4 00	2 75	40 00	1250	218	-	2 82	1284 64	734 62	-	2019 26	1986 05	33 21	

Jonesborough	–	–	22	50	3	48	2	00	30	00	450	6	–	1	96	545	21	353	29	104	50	1003	00	1006	40	–		3	40
Jonesport	9	–	40	14	5	63	2	57	32	00	1250	–	–	1	60	1596	72	1292	20	–		2888	92	2612	75	276	17		
Kossuth	1	–	26	00	2	63	2	33	–		62	–	26	2	08	62	40	49	64	123	00	235	04	192	30	42	74		
Lubec	2	14	35	00	4	00	2	20	30	00	1900	213	–	2	60	1917	45	1207	83	–		3125	28	2599	84	525	44		
Machias	12	1	50	00	7	00	3	00	100	00	2200	438	–	2	51	2200	00	1456	60	–		3656	60	3146	81	509	79		
Machiasport	1	2	35	00	4	35	2	90	30	00	1250	25	–	2	35	1627	84	881	88	–		2509	72	2274	16	235	56		
Marion	–	–	–		2	35	1	45	10	00	116	–	–	3	24	244	70	74	45	13	00	332	15	223	18	108	97		
Marshfield	–	–	32	00	3	00	2	00	6	00	300	60	–	2	19	316	79	226	73	–		543	52	497	32	46	20		
Meddybemps	–	–	37	00	–		2	00	7	00	300	162	–	4	00	345	90	124	09	–		469	99	373	56	96	43		
Millbridge	2	1	35	00	3	75	3	00	50	00	1442	40	–	2	25	1597	77	1072	65	–		2670	42	2488	82	181	60		
Northfield	1	–	35	00	3	50	2	00	8	00	200	46	–	3	08	217	91	103	91	14	40	336	22	287	59	48	63		
Pembroke	4	–	37	05	5	61	1	98	75	00	1859	–	–	2	45	2273	42	1247	54	4	75	3525	71	2947	13	578	58		
Perry	3	2	27	00	4	75	1	60	60	00	838	–	–	2	01	890	76	689	95	153	70	1734	41	1707	97	26	44		
Princeton	4	–	36	33	4	22	2	62	25	00	1000	170	–	2	67	1110	91	620	46	–		1731	37	1561	14	170	23		
Robbinston	1	5	30	00	4	11	2	03	25	00	745	17	–	2	17	772	01	569	17	101	09	1442	27	1241	47	200	80		
Steuben	7	6	37	00	4	12	2	20	48	00	932	–	–	2	44	1143	30	632	04	60	25	1835	59	1624	49	211	10		
Talmadge	3	–	27	00	4	00	1	55	6	00	125	35	–	2	36	480	89	87	69	128	40	696	98	481	04	215	94		
Topsfield	–	2	33	00	3	92	1	64	28	90	380	28	–	2	66	420	93	236	60	150	00	807	53	871	72	–		64	19
Trescott	4	–	23	33	3	73	1	98	34	00	442	–	–	2	17	466	11	354	89	–		821	00	818	94	2	06		
Vanceboro'	1	1	44	00	4	00	3	00	20	00	400	95	–	1	73	805	75	383	86	174	84	1364	45	798	65	565	80		
Waite	2	–	26	00	4	00	2	00	6	00	175	12	–	2	43	190	00	119	13	140	96	450	09	358	99	91	10		
Wesley	1	–	25	88	2	50	1	71	8	75	225	45	–	2	55	300	96	158	84	78	00	537	80	467	92	69	88		
Whiting	–	–	–		–		–		–		450	110	–	2	81	503	71	264	73	82	00	850	44	718	78	131	66		
Whitneyville	4	1	40	00	4	00	3	30	20	00	400	6	–	2	31	368	55	286	24	6	00	660	79	635	78	25	01		
Plantations.																													
Codyville	–	–	–		3	75	1	25	7	50	100	37	–	2	94	159	79	56	26	–		216	05	98	35	117	70		
No. 14	1	–	28	00	3	75	2	12	4	50	140	9	–	2	19	236	86	105	89	–		342	75	210	75	132	00		
No 18	–	–	–		2	46	2	00	–		–	–	–	–		21	18	34	86	–		56	04	56	04				
No. 21	–	–	25	00	2	81	1	59	5	00	100	13	–	2	18	97	75	76	12	–		173	87	179	37	–		5	50
	131	62	34	63	4	26	2	19	1576	98	39,649	4774	26	2	45	43,594	17	27,718	12	2153	42	73,466	81	67,979	62	5832	99	345	80

YORK COUNTY.

Towns.	No. of Children belonging in town between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k.		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k		Aggregate length of Winter and Spring Terms in weeks, 5 days per w'k.	Number of Districts in town.	Number of Parts of Districts in town.	Number of School-houses in town.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in town.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No of Female Teachers employed in Summer and Fall Terms.
								w.	d.		w.	d											
Acton	292	200	173	193	153	211	.56	9	1	101	10	3	107	14	-	14	9	1	1000	4000	1	3	10
Alfred	353	224	172	197	150	260	.46	11	2	103	14		112	7	-	7	7		-	4500	1	3	8
Berwick	657	386	319	313	262	440	.44	18	1	274	12	4	116	12	-	14	10		-	13500	2	4	14
Biddeford	4396	1543	1332	1482	1245	1769	.29	23		966	11	2	483	12	2	23	20		-	103500	7	7	37
Buxton	627	355	301	368	302	408	.48	12		228	12	2	181	16	-	15	10		-	6000	4	11	15
Cornish	338	215	178	208	154	212	.56	20	3	134	10		30	6	1	6	3		-	2000	2	1	13
Dayton	147	67	62	82	65	95	.43	9	3	39	11	3	46	4	2	4	3		-	2000	-	2	4
Eliot	427	242	190	255	193	365	.45	14	2	131	14	1	128	8	-	8	6		-	8000	1	8	8
Hollis	392	261	211	298	278	310	.62	8	3	129	10	3	161	13	1	14	13		-	5000	3	7	19
Kennebunk	823	463	377	538	515	582	.54	10	4	173	21	3	372	10	-	14	11		-	15000	1	2	15
Kennebunkport,	646	394	337	537	432	625	.59	10		150	11	2	171	12	1	12	11		-	7300	-	1	14
Kittery	834	472	387	384	284	495	.40	9		153	13		169	10	-	11	11		-	15000	2	9	15
Lebanon	460	347	209	255	221	370	.47	9		156	15		150	19	2	19	12	1	1000	6000	1	4	17
Limerick	278	146	126	220	185	225	.56	8	1	74	10	3	95	9	-	10	10		-	2500	-	3	9
Limington	369	236	208	201	176	322	.52	10	3	171	9	3	86	15	-	15	11		-	2500	-	8	16
Lyman	277	202	177	176	150	225	.59	9	1	92	10	3	74	10	1	9	9		-	5000	-	2	10
Newfield	231	155	129	143	120	168	.54	12	2	99	10		50	7	1	7	7		-	5000	1	3	7
North Berwick	533	394	339	328	268	373	.57	9		172	14		246	-	-	18	18		-	10500	1	3	18
Old Orchard	167	83	56	55	44	89	.30	24		24	12		12	-	-	1	1		-	4000	-	-	2
Parsonsfield	453	263	218	254	196	293	.45	9		109	9	3	136	17	3	17	10		-	7000	2	8	10

Saco	1662	912	806	893	743	970	.47	21	1	478	13	2	285	8	–	15	13	–	–	44000	2	6	25
Sanford	1096	825	681	288	256	902	.43	18	3	316	9		63	14	3	15	8	–	–	10000	1	2	16
Shapleigh	305	137	115	192	169	207	.47	22	1	111	10	3	84	10	2	9	7	–	–	4500	–	5	5
South Berwick	1014	515	404	661	533	593	.46	12	3	187	11	2	169	13	2	14	8	–	–	12000	2	2	14
Waterborough	403	331	288	246	264	390	.68	9	1	111	10		120	13	–	13	11	–	–	6000	1	6	12
Wells	752	420	359	307	241	598	.40	16		271	11	1	124	17	–	17	16	–	–	11500	3	6	25
York	512	354	246	359	287	359	.65	17	1	240	11	3	149	14	–	14	14	–	–	7500	–	7	9
	18,444	10,130	8499	9436	7886	11,856	.44	13	3	5192	12		3919	290	21	335	269	2	2000	323,800	38	123	367

YORK COUNTY—CONCLUDED.

Towns.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.	Am't of School Money voted in 1886	Not less than 80 cts for each inhabitant. Excess above am't required by law.	Not less than 80 cts for each inhabitant. Less than the am't required by law.	Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over expended April 1, 1887.
Acton	7	2	32 00	3 68	1 63	30 00	840	-	-	2 85	862 30	489 17	30 00	1381 47	1372 88	8 59	
Alfred	6	3	46 31	4 85	2 59	60 00	1300	419	-	3 61	1331 23	609 56	-	1940 79	1784 39	156 40	
Berwick	8	1	39 00	4 31	2 00	130 00	2500	281	-	3 93	2631 10	1052 31	-	3683 41	3430 18	253 23	
Biddeford	37	3	74 71	9 00	3 50	1400 00	18000	7878	-	4 06	12808 50	7324 73	3 64	20136 87	24939 67	-	4802 80
Buxton	5		26 00	4 50	2 46	124 45	2500	716	-	3 96	3993 90	1045 69	-	4439 59	3641 38	798 21	
Cornish	2	1	35 00	4 50	2 25	53 25	935	-	-	2 89	1183 20	536 08	27 03	1746 31	1685 01	61 30	
Dayton	2	-	28 75	4 44	2 19	10 60	600	126	-	3 87	716 28	256 46	-	972 74	858 17	114 57	
Eliot	1	1	32 00	3 50	3 00	60 00	1800	488	-	4 02	2083 20	741 24	-	2824 44	2753 73	70 71	
Hollis	2	4	24 36	3 92	2 03	43 50	1500	266	-	3 55	1560 16	699 87	-	2260 03	1981 40	278 63	
Kennebunk	16	2	173 00	4 50	2 00	150 00	2600	318	-	3 15	2809 25	1373 19	-	4182 44	4227 31	-	44 87
Kennebunkport	14	1	40 00	5 00	2 75	96 00	2000	76	-	3 11	2258 05	1062 23	-	3320 28	2987 93	332 35	
Kittery	4	1	40 00	5 50	3 00	170 00	2700	116	-	3 15	2955 01	1419 62	-	4374 63	4325 96	48 67	
Lebanon	6	6	28 00	4 72	2 00	56 75	1281	-	-	2 78	1325 03	762 74	-	2087 77	1944 05	143 72	
Limerick	8	3	22 50	4 14	1 98	60 00	1002	-	-	3 09	1373 65	536 08	5 50	1915 23	1648 61	266 62	
Limington	3	-	27 14	3 52	1 76	50 00	1200	56	-	3 03	1432 69	647 88	-	2080 57	1529 76	550 81	
Lyman	5	1	28 00	4 16	2 00	43 50	804	1	-	2 91	965 83	456 66	8 40	1430 89	1349 70	81 19	
Newfield	2	1	25 40	4 43	2 21	38 00	797	-	-	3 54	821 20	377 28	-	1198 48	1174 24	24 24	
North Berwick	14	-	52 00	4 25	2 00	100 00	2000	559	-	3 86	2000 00	924 47	75 78	3000 25	2896 68	103 57	
Old Orchard	2	-	-	5 50	2 00	40 00	600	200	-	3 53	513 06	281 28	-	794 34	803 20	-	8 86
Parsonsfield	6	-	26 50	4 02	2 10	102 50	1300	10	-	2 92	2174 80	736 27	100 00	3011 07	2795 80	215 27	

Saco	19	2	56	00	6	00	3	00	250	00	8000	2883	–	4	71	9722	87	2831	39	–	12554	26	10890	94	1663	32
Sanford	5	–	48	00	5	19	2	26	105	00	2200	13	–	2	58	2308	60	1409	69	8	99	3727	28	3641	00	86	28
Shapleigh	11	–	23	40	4	20	1	83	50	00	902	–	–	2	97	1046	41	502	99	53	00	1602	40	1470	37	132	03
South Berwick	13	1	31	00	6	64	3	00	100	00	2650	608	–	2	98	3302	27	1469	25	–		4771	52	4371	63	399	89
Waterborough	6	–	30	00	3	92	2	00	50	00	1185	–	–	2	97	1974	66	660	37	–		2635	03	1829	87	805	16
Wells	5	–	33	75	4	80	2	29	143	90	2500	530	–	3	24	2808	56	1237	30	–		4045	86	3814	03	231	83
York	6	1	41	00	4	83	2	42	133	60	2000	30	–	2	50	2046	80	1325	30	–		3372	10	3372	10	–	
	215	34	40	92	4	74	2	30	3650	45	65,696	15,574	–	3	32	68,408	61	30,769	10	312	34	99,490	05	97,519	99	6826	59	4856	53

SUMMARY.

Counties.	No. of Children belonging in county between the ages of 4 and 21 years.	No. registered in Summer and Fall Terms.	Average No. attending Summer and Fall Terms.	No. registered in Winter and Spring Terms.	Average No. attending Winter and Spring Terms.	Number of different Pupils Registered.	Percentage of Average Attendance.	Average length of Summer and Fall Terms in weeks and days, 5 days per w'k.		Aggregate length of Summer and Fall Terms in weeks, 5 days per w'k	Average length of Winter and Spring Terms in weeks and days, 5 days per w'k.		Aggregate length of Win't'r and Spring Terms in weeks, 5 days per w'k.	Number of Districts in county.	Number of Parts of Districts in county.
								w.	d.		w.	d.			
Androscoggin	14,556	6,428	5,380	8,291	6,640	7,669	.41	9	1	2,863	13		4,459	72	8
Aroostook	18,843	10,700	8,150	7,022	5,539	11,786	.36	14	1	5,809	11		2,954	324	19
Cumberland	28,733	16,148	13,242	15,707	12,606	18,627	.45	11	4	5,385	11	1	4,327	220	13
Franklin	5,536	3,733	3,101	3,516	2,852	4,422	.54	9	4	2,075	10	1	1,856	187	19
Hancock	13,057	8,364	7,017	7,981	6,803	9,995	.53	11	2	3,690	10	1	2,825	261	9
Kennebec	16,147	8,719	7,280	8,641	7,170	10,530	.45	11	2	4,401	11	1	4,022	213	9
Knox	9,939	6,132	5,350	6,428	5,515	7,162	.54	11	1	2,368	11	3	2,314	142	13
Lincoln	7,814	4,659	3,954	4,894	4,085	5,480	.51	9	1	2,052	10	3	1,963	168	7
Oxford	10,066	6,535	5,575	6,074	5,232	7,270	.54	9	3	3,569	10	1	3,352	335	24
Penobscot	22,223	14,105	11,920	12,390	10,352	15,549	.50	12	3	7,649	11		5,196	389	21
Piscataquis	4,936	3,018	2,460	3,082	2,548	3,617	.51	10		1,372	10	4	1,470	110	9
Sagadahoc	6,021	3,919	3,318	3,984	3,240	4,639	.54	12	4	1,655	12	1	1,753	48	
Somerset	10,143	7,071	5,896	6,086	5,062	7,432	.54	9	4	3,359	10	4	3,123	268	27
Waldo	9,481	6,177	5,109	6,530	5,381	7,775	.55	9	4	2,762	10	3	2,883	246	33
Washington	16,635	9,978	8,364	8,536	6,986	11,721	.47	13	1	4,172	12	1	3,265	266	17
York	18,444	10,130	8,400	9,436	7,886	11,856	.44	13	3	5,192	12		3,919	290	21
	212,574	125,816	104,516	118,598	97,897	145,530	.48	11	1	58,373	11	1	49,681	2,539	249

SUMMARY—CONTINUED.

Counties.	Number of School-houses in county.	Number in good condition.	Number of School-houses built last year.	Cost of the same.	Estimated value of all School Property in county.	Number Male Teachers employed in Summer and Fall Terms.	Number of Male Teachers employed in Winter and Spring Terms.	No. of Female Teachers employed in Summer and Fall Terms.	No. of Female Teachers employed in Winter and Spring Terms.	No. of Teachers graduates of Normal Schools.	Average wages of Male Teachers per month, excluding board.	Average wages of Female Teachers per week, excluding board.	Average cost of Teachers' board per week.	Amount paid for School Supervision.
Androscoggin	194	161	2	22,623	352,400	19	74	257	265	29	44 10	4 40	2 11	2,691 35
Aroostook	354	229	15	4,460	103,825	34	105	395	163	44	24 04	3 84	1 67	1,925 86
Cumberland	343	283	7	82,260	753,852	46	128	522	420	100	45 26	5 24	2 45	4,671 91
Franklin	194	125	3	2,400	74,645	10	68	247	113	53	25 68	3 31	1 62	848 85
Hancock	274	194	6	3,517	154,750	33	119	351	155	42	33 48	4 13	2 13	1,845 09
Kennebec	348	236	5	13,343	274,975	23	88	400	278	28	34 78	4 21	2 13	3,266 05
Knox	164	126	-	-	129,900	20	81	194	130	61	40 23	4 69	2 34	1,099 63
Lincoln	184	120	4	3,800	90,550	20	99	212	85	23	30 45	4 12	2 28	1,032 20
Oxford	348	261	3	2,100	125,090	24	142	390	197	19	25 45	3 40	1 57	1,526 91
Penobscot	473	363	7	8,796	321,925	32	155	663	380	58	31 92	3 89	1 90	3,915 06
Piscataquis	138	92	-	-	57,050	8	45	163	96	21	28 90	3 84	1 91	656 05
Sagadahoc	106	92	3	13,400	148,900	9	31	125	107	19	46 25	5 18	2 39	885 36
Somerset	326	219	1	150	118,490	17	76	356	206	24	25 97	3 62	1 59	1,842 25
Waldo	261	178	2	747	99,250	15	157	275	118	40	29 04	3 30	1 73	1,098 20
Washington	268	196	3	1,145	176,965	70	101	301	131	62	34 63	4 26	2 19	1,576 98
York	335	269	2	2,000	323,800	38	123	367	215	34	40 92	4 74	2 30	3,650 45
	4310	3144	63	160,741	3,306,367	418	1592	5218	3059	657	33 82	4 14	2 03	32,532 20

SUMMARY—CONCLUDED.

Counties.	Am't of School Money voted in 1886.	Not less than 80 cts for each inhabitant.		Amount raised per scholar.	Amount available from Town Treasury from April 1, 1886, to April 1, 1887.	Amount available from State Treasury from April 1, 1886, to April 1, 1887.	Amount derived from Local Funds.	Total School Resources	Total amount actually expended for Public Schools from April 1, 1886, to April 1, 1887.	Balance Unexpended April 1, 1887.	Balance Over-expended April 1, 1887.
		Excess above am't required by law.	Less than the am't required by law.								
Androscoggin	53,782	17,749	–	3 30	55,532 68	24,143 33	357 09	80,033 10	77,959 52	2,296 51	222 96
Aroostook	28,715	1,933	194	1 52	35,450 83	29,083 07	3,711 22	68,245 12	62,251 86	7,416 99	1,422 73
Cumberland	142,779	73,583	1	3 62	153,346 33	47,663 89	4,529 81	205,540 03	195,866 10	9,804 59	130 66
Franklin	14,807	1,446	16	2 90	19,232 64	9,145 96	632 38	29,010 98	25,526 01	3,484 97	
Hancock	32,845	2,528	1	2 55	40,078 93	21,486 56	1,124 20	62,689 69	58,972 92	4,396 88	€80 11
Kennebec	54,739	12,859	11	3 34	61,391 95	26,575 75	695 04	88,662 74	82,531 25	6,131 49	
Knox	30,046	3,965	13	3 11	32,998 47	16,933 27	477 41	50,409 65	47,203 13	3,285 81	79 29
Lincoln	21,347	1,595	–	2 79	24,360 27	13,222 66	329 49	37,912 42	34,647 89	3,414 79	150 26
Oxford	29,108	3,068	1	2 92	32,389 21	16,596 39	1,643 17	50,628 77	47,434 03	3,258 48	63 74
Penobscot	76,825	21,048	58	2 82	83,212 45	36,891 67	4,753 59	124,858 71	114,513 69	11,059 56	714 54
Piscataquis	12,597	1,251	3	2 49	13,281 92	8,103 52	969 81	22,355 25	21,816 90	1,078 96	540 61
Sagadahoc	18,402	2,984	–	3 01	19,672 84	10,446 46	153 75	30,273 05	29,765 20	977 81	469 96
Somerset	27,919	2,491	72	2 58	31,467 00	16,428 33	1,416 40	49,311 73	45,509 55	3,828 62	26 44
Waldo	27,660	1,698	8	2 62	31,834 41	16,085 18	2,871 81	50,781 40	48,015 90	2,765 50	
Washington	39,649	4,774	26	2 45	43,594 17	27,718 12	2,153 42	73,466 81	67,979 62	5,832 99	345 80
York	65,696	15,574	–	3 32	68,408 61	30,769 10	312 34	99,490 05	97,519 99	6,826 59	4,856 53
	676,916	168,546	404	3 14	746,253 21	351,293 26	26,130 93	1,123,669 50	1,057,513 56	75,860 57	9,704 63

SPECIAL COMMON SCHOOL STATISTICS.

Counties.	No. of towns making returns.	No. of different schools in county.	No. of graded schools.	No. of ungraded schools.	Percentage of graded schools to whole number.	No. of ungraded schools in which United States History is taught.	No. of ungraded schools in which Physiology is taught.	No. of ungraded schools in which Book-Keeping is taught.	No. of ungraded schools in which branches other than those mentioned in the statutes, are taught.	No of towns in which schools are well supplied with text-books.	No. of towns in which schools are not well supplied with text-books.
Androscoggin	13	230	67	163	.29	101	115	56	59	13	
Aroostook	64	403	12	391	.03	221	215	146	82	45	19
Cumberland	26	371	104	267	.28	182	216	127	89	25	1
Franklin	24	211	18	193	.08½	108	160	56	58	21	3
Hancock	34	295	34	261	.12	179	227	110	91	28	6
Kennebec	29	360	68	292	.19	180	215	115	102	28	1
Knox	16	184	46	138	.25	81	108	63	24	16	
Lincoln	17	202	24	178	.12	110	131	86	64	16	1
Oxford	39	362	21	341	.06	215	235	137	146	37	2
Penobscot	62	545	134	411	.25	265	302	177	155	57	5
Piscataquis	19	151	15	136	.10	94	102	64	40	17	2
Sagadahoc	11	131	49	82	.37	54	62	31	23	9	2
Somerset	36	344	33	311	.10	164	214	123	87	33	3
Waldo	26	279	24	255	.09	135	182	122	85	25	1
Washington	50	306	80	226	.26	136	159	73	66	44	6
York	27	385	105	280	.27	146	178	114	84	27	
	493	4,759	834	3,925	.18	2,371	2,821	1,600	1,255	441	52

SPECIAL COMMON SCHOOL STATISTICS—Concluded.

Counties.	No. of towns having uniformity of text-books.	No. of towns not having uniformity of text-books.	No. of ungraded schools supplied with globes.	No. of ungraded schools supplied with wall maps.	No. of ungraded schools supplied with charts.	No. of different teachers employed.	No. of teachers continued through the year.	No. of teachers who have had previous experience.	No. of teachers who have not had previous experience.	Percentage of experienced teachers to whole number.	No. of teachers who failed to return registers as required by law.	No. of schools not visited by school officer at least twice each term.	No. of towns having the unit or town system.
Androscoggin	9	4	15	66	19	358	124	313	45	.87	1	20	6
Aroostook	44	20	26	151	29	537	159	435	102	.81	4	88	8
Cumberland	24	2	50	98	42	704	272	639	65	.91	1	28	8
Franklin	18	6	29	96	23	349	33	280	69	.80	2	47	4
Hancock	26	8	40	119	34	476	89	409	67	.86	7	50	4
Kennebec	19	10	36	121	55	569	156	477	92	.84	12	56	12
Knox	15	1	13	41	15	336	81	286	50	.85	7	47	4
Lincoln	13	4	25	68	23	323	45	269	54	.83	9	30	2
Oxford	32	7	17	121	10	591	91	485	106	.82	23	98	4
Penobscot	52	10	49	154	23	907	207	785	122	.87	15	104	12
Piscataquis	18	1	17	56	12	249	34	213	36	.81	5	31	5
Sagadahoc	9	2	3	33	1	188	60	173	15	.92	-	8	5
Somerset	22	14	32	83	48	512	106	436	76	.85	10	158	8
Waldo	21	5	10	53	10	479	67	414	65	.86	17	88	
Washington	42	8	22	97	22	459	130	403	56	.88	3	49	14
York	25	2	66	107	36	548	208	457	91	.83	8	37	2
	389	104	450	1,464	402	7,585	1,862	6,474	1,111	.85⅓	124	839	98

COMPARATIVE STATEMENT—I.

Items.	1886.	1887.	Increase.	Decrease.
Whole number of scholars between four and twenty-one	212,782	212,574	-	208
Number registered in summer and fall schools	123,821	125,816	1,995	
Average attendance in summer and fall schools	102,513	104,516	2,003	
Number registered in winter and spring schools	117,286	118,598	1,312	
Average attendance in winter and spring schools	97,277	97,897	620	
Per cent of average attendance to whole number	.47	.48	.01	
Per cent of average attendance to number registered in summer and fall	.81	.80	-	.01
Per cent of average attendance to number registered during the year	.68	.70	.02	
Whole number different scholars registered during the year	146,085	145,530	-	555
Average length of summer schools in weeks and days	10w.	11w. 1d.	1w. 1d.	
Average length of winter schools in weeks and days	10w. 4d.	11w. 1d.	- 2d.	
Average length of schools for the year,	20w. 4d.	22w. 2d.	1w. 3d.	
Number of school districts in the State,	3,628	2,539	-	89
" parts of districts	275	249	-	26
" school-houses	4,312	4,310	-	2
" school-houses reported in good condition	3,273	3,144	-	129
" school-houses built during the year	69	63	-	6
Cost of the same	$53,143	$160,741	$107,598	
Estimated value of school property in the State	$3,109,745	$3,306,367	$196,622	
Number of male teachers employed in summer	420	418	-	2
Number of male teachers employed in winter	1,640	1,592	-	48
Number of female teachers employed in summer	5,043	5,218	175	
Number of female teachers employed in winter	3,023	3,059	36	
Number of teachers graduates of normal schools	567	657	90	
Average wages of male teachers per month (excluding board)	$34 15	$33 82	-	.33
Average wages of female teachers per week (excluding board)	4 17	4 14	-	.03
Average cost of teachers' board per week,	2 01	2 03	.02	
Amount of money voted by towns for common schools	630,223	676,916	$46,693	
Excess above amount required by law	133,249	168,546	35,297	
Average amount per scholar	2 94	3 14	.20	
Amount available from town treasuries for school year	703,717	746,253	42,536	
Amount available from State treasury for school year	342,491	351,293	8,802	
Amount derived from local funds	30,303	26,131	-	$4,172
Total school resources	1,076,511	1,123,669	47,158	
Amount expended for common schools.	1,013,741	1,057,513	43,772	
Net balance unexpended	62,770	66,157	3,387	
Amount paid for school supervision	31,693	32,532	839	

COMPARATIVE STATEMENT—II.

Items.	1887.	1877.	Increase.	Decrease.
Number of scholars between four and twenty-one years	212,574	217,417	-	4,843
Number registered in summer schools	125,816	125,455	361	
Average attendance " "	104,516	100.982	3,534	
Number registered in winter schools	118,598	132,865	-	14,267
Average attendance " "	97,897	107,653	-	9,756
Per cent of average attendance to whole number	.48	.48		
Average length of summer schools	11w. 1d.	10w. 2d.	4d.	
" " winter "	11w. 1d.	11w.	1d.	
" " of schools for the year,	22w. 2d.	21w. 2d.	1w.	
Number of districts in the State	2,539	4,039	-	1,500
" parts of districts in the State,	249	354	-	105
" school-houses " "	4,310	4,222	88	
" reported in good condition	3,144	3,014	130	
" built last year	63	86	-	23
Cost of same	$160,741	$62,766	$97,975	
Estimated value of school property	$3,306,367	$3,022,722	$283,645	
Number of male teachers employed in summer	418	228	-	190
Number of male teachers employed in winter	1,592	2,253	-	661
Number of female teachers employed in summer	5,218	4,543	675	
Number of female teachers employed in winter	3,059	2,361	698	
Number of teachers graduates of normal schools	657	314	343	
Wages of male teachers per month (excluding board)	$33 82	$32 76	$1 06	
Wages of female teachers per week (excluding board)	4 14	4 14		
Amount of school money voted by towns,	676,916	863,164	-	$186,248
Excess above amount required by law	168,546	152,195	16,351	
Average amount per scholar	3 14	4 02	-	.88
Amount available from State treasury	351,293	165,971	185,322	
" derived from local funds	26,131	24,358	1,773	
" paid for school supervision	32,532	30,814	1,718	

STATEMENT.

Showing the Amount of School Money apportioned by the State Treasurer to the Several Towns and Plantations in the State and available for school purposes for the school year ending April 1, 1888.

ANDROSCOGGIN COUNTY.

Towns.	Number of Scholars.	Money Apportioned.	Towns.	Number of Scholars.	Money Apportioned.
Auburn	3,205	$5,462 91	Minot	493	$840 31
Durham	380	647 71	Poland	688	1,172 70
East Livermore	381	649 41	Turner	596	1,015 88
Greene	258	439 76	Wales	139	236 93
Leeds	339	577 83	Webster	327	557 37
Lewiston	6,388	10,888 33			
Lisbon	1,012	1,724 95	Totals	14,556	24,810 66
Livermore	350	596 57			

AROOSTOOK COUNTY.

Amity	152	$ 259 08	PLANTATIONS.		
Ashland	186	317 04	Allegash	112	190 90
Benedicta	134	228 40	Bancroft	96	163 64
Blaine	282	480 67	Cary	186	317 04
Bridgewater	361	615 32	Castle Hill	210	357 94
Caribou	1,391	2,370 95	Caswell	120	204 54
Easton	395	673 27	Chapman	94	160 23
Fort Fairfield	1,208	2,059 04	Connor	279	475 55
Fort Kent	784	1,336 33	Crystal	121	206 24
Frenchville	1,193	2,033 46	Cyr	229	390 33
Grand Isle	436	743 17	Dyer Brook	89	151 70
Haynesville	84	143 18	Eagle Lake	149	253 97
Hersey	65	110 79	Garfield	41	69 88
Hodgdon	414	705 66	Glenwood	69	117 61
Houlton	1,185	2,019 83	Hamlin	294	501 13
Island Falls	93	158 51	Hammond	43	73 29
Limestone	312	531 80	Macwahoc	93	158 52
Linneus	412	702 25	Merrill	108	184 09
Littleton	329	560 78	Molunkus	27	46 02
Ludlow	184	313 63	Moro	83	141 47
Madawaska	632	1,077 25	New Canada	118	201 13
Mapleton	331	564 19	New Sweden	241	410 78
Mars Hill	354	603 39	Oakfield	289	492 60
Masardis	105	178 97	Oxbow	54	92 05
Monticello	432	736 35	Perham	163	277 83
New Limerick	266	453 40	Portage Lake	61	103 97
Orient	80	136 36	Reed	67	114 20
Presque Isle	1,015	1,730 06	St. Francis	139	236 93
Sherman	338	576 13	St. John	89	151 70
Smyrna	113	192 60	Silver Ridge	80	136 36
Van Buren	526	896 57	Wade	43	73 29
Washburn	421	717 59	Wallagrass	223	380 10
Weston	178	303 40	Westfield	54	92 05
Woodland	348	593 17	Winterville	41	68 88
			Totals	18,844	32,119 55

CUMBERLAND COUNTY.

Towns.	Number of Scholars.	Money Apportioned.	Towns.	Number of Scholars.	Money Apportioned.
Baldwin	329	$56 78	New Gloucester	414	$705 66
Bridgton	803	1,368 71	North Yarmouth	234	398 86
Brunswick	1,764	3,006 74	Otisfield	272	463 62
Cape Elizabeth	1,859	3,168 66	Portland	11,834	20,171 03
Casco	299	509 64	Pownal	272	463 62
Cumberland	542	923 84	Raymond	339	577 83
Deering	1,299	2,214 14	Scarboro'	572	974 97
Falmouth	496	845 43	Sebago	264	449 99
Freeport	657	1,119 85	Standish	555	945 99
Gorham	887	1,511 89	Westbrook	1,958	3,337 41
Gray	554	944 29	Windham	681	1,160 76
Harpswell	615	1,048 26	Yarmouth	628	1,070 43
Harrison	356	606 80			
Naples	250	426 12	Totals	28.733	48,975 32

FRANKLIN COUNTY.

Avon	195	332 38	Strong	176	299 99
Carthage	138	235 23	Temple	163	277 83
Chesterville	249	424 43	Weld	292	497 72
Eustis	98	167 05	Wilton	491	836 91
Farmington	975	1,661 88			
Freeman	177	301 69	PLANTATIONS.		
Industry	227	386 92	Coplin	41	69 88
Jay	399	680 09	Dallas	72	122 72
Kingfield	189	322 15	Greenville	11	18 74
Madrid	201	342 60	Letter E	12	20 45
New Sharon	341	581 23	Perkins	36	61 37
New Vineyard	267	455 10	Rangeley	21	35 79
Phillips	479	816 45			
Rangeley	222	378 41	Totals	5,550	9,459 96
Salem	78	132 95			

HANCOCK COUNTY.

Amherst	129	219 88	Orland	503	857 37
Aurora	73	124 43	Otis	96	163 63
Bluehill	715	1,218 71	Penobscot	434	739 75
Brooklin	369	628 96	Sedgewick	377	642 59
Brooksville	559	952 81	Sullivan	366	623 85
Bucksport	866	1,476 10	Surry	390	664 75
Castine	347	591 46	Tremont	695	1,184 62
Cranberry Isles	114	194 32	Trenton	168	286 36
Dedham	121	206 24	Verona	112	190 90
Deer Isle	1,320	2,249 94	Waltham	95	161 92
Eastbrook	126	214 77			
Eden	654	1,114 74	PLANTATIONS.		
Ellsworth	1,736	2,959 02	Long Island	59	100 56
Franklin	437	744 86	No. 7	21	35 79
Gouldsboro	582	992 02	No. 21	20	34 09
Hancock	414	705 66	No. 33	71	121 02
Isle au Haut	92	156 82	Swan's Island	243	414 20
Lamoine	253	431 24			
Mariaville	131	223 28	Totals	13,078	22,291 41
Mount Desert	390	664 75			

KENNEBEC COUNTY.

Towns.	Number of Scholars.	Money Apportioned.	Towns.	Number of Scholars.	Money Apportioned.
Albion	335	$571 01	Pittston	403	$686 91
Augusta	2,542	4,332 83	Randolph	335	571 01
Belgrade	359	611 92	Readfield	267	455 10
Benton	337	574 42	Rome	165	281 24
Chelsea	269	458 51	Sidney	396	674 98
China	455	775 54	Vassalboro'	736	1,254 52
Clinton	475	809 63	Vienna	187	318 74
Farmingdale	235	400 56	Waterville	2,461	4,194 77
Fayette	242	412 49	Wayne	248	422 72
Gardiner	1,421	2,422 09	West Gardiner	278	473 85
Hallowell	854	1,455 64	Windsor	283	482 37
Litchfield	345	588 05	Winslow	595	1,014 17
Manchester	154	262 49	Winthrop	570	971 56
Monmouth	333	567 60	Unity Plantation	22	37 50
Mt. Vernon	253	431 24			
Oakland	592	1,009 06	Totals	16,147	27,522 52

KNOX COUNTY.

Appleton	415	707 36	St. George	892	1,520 41
Camden	1,331	2,268 69	Thomaston	847	1,443 71
Cushing	275	468 73	Union	434	739 76
Friendship	320	545 44	Vinalhaven	871	1,484 61
Hope	234	398 86	Warren	719	1,225 53
Hurricane Isle	66	112 50	Washington	402	685 21
North Haven	232	395 45	Matinicus Isle Pl	64	109 09
Rockland	2,275	3,877 72			
South Thomaston	562	957 93	Totals	9,939	16,941 00

LINCOLN COUNTY.

Alna	183	311 92	Somerville	203	346 01
Boothbay	1,355	2,309 60	Southport	226	385 22
Bremen	259	441 47	Waldoboro'	1,097	1,869 84
Bristol	1,024	1,745 41	Westport	181	308 51
Damariscotta	315	536 91	Whitefield	472	804 52
Dresden	343	584 64	Wiscasset	627	1,068 72
Edgecomb	281	478 96	Monhegan Pl	30	51 14
Jefferson	477	813 04			
Newcastle	410	698 84	Totals	7,814	13,318 94
Nobleboro'	331	564 19			

OXFORD COUNTY.

Towns.	Number of Scholars.	Money Apportioned.	Towns.	Number of Scholars.	Money Apportioned.
Albany	220	$374 99	Oxford	470	$801 11
Andover	261	444 87	Paris	860	1,465 87
Bethel	607	1,034 63	Peru	253	431 23
Brownfield	392	668 16	Porter	326	555 67
Buckfield	386	657 94	Roxbury	62	105 68
Byron	77	131 24	Rumford	332	565 90
Canton	437	744 87	Stoneham	148	252 27
Denmark	284	484 08	Stow	120	204 54
Dixfield	286	487 49	Sumner	335	571 01
Fryeburg	460	784 07	Sweden	124	211 36
Gilead	93	158 51	Upton	90	153 40
Grafton	35	59 66	Waterford	310	528 39
Greenwood	270	460 21	Woodstock	325	553 96
Hanover	53	90 34			
Hartford	216	368 17	PLANTATIONS.		
Hebron	174	296 58	Franklin	55	93 75
Hiram	385	656 23	Lincoln	22	37 50
Lovell	284	484 08	Magalloway	20	34 09
Mason	37	63 07	Milton	85	144 88
Mexico	128	218 18			
Newry	107	182 38	Totals	10,003	17,050 09
Norway	874	1,489 73			

PENOBSCOT COUNTY.

Alton	130	$221 59	Lee	361	615 32
Argyle	71	121 01	Levant	329	560 78
Bangor	5,288	9,013 39	Lincoln	554	944 29
Bradford	508	865 89	Lowell	176	299 99
Bradley	253	431 23	Mattamiscontis	17	28 97
Brewer	1,030	1,755 64	Mattawamkeag	185	315 33
Burlington	179	305 10	Maxfield	46	78 41
Carmel	386	657 94	Medway	249	424 42
Carroll	223	380 10	Milford	244	415 90
Charleston	381	649 41	Mt. Chase	128	218 18
Chester	131	223 29	Newburg	301	513 05
Clifton	112	190 90	Newport	400	681 80
Corinna	387	659 64	Oldtown	1,237	2,108 47
Corinth	390	664 75	Orono	738	1,257 93
Dexter	744	1,268 15	Orrington	412	702 25
Dixmont	334	569 31	Passadumkeag	87	148 29
Eddington	243	414 19	Patten	290	494 30
Edinburg	20	34 09	Plymouth	228	388 63
Enfield	181	308 51	Prentiss	149	253 97
Etna	261	444 87	Springfield	265	451 69
Exeter	296	504 53	Stetson	207	352 83
Garland	311	530 09	Veazie	189	322 15
Glenburn	207	352 83	Winn	345	588 05
Greenbush	259	441 46			
Greenfield	99	168 74	PLANTATIONS.		
Hampden	792	1,349 96	Drew	49	83 53
Hermon	428	729 53	Lakeville	56	95 45
Holden	214	364 76	No. 2, Grand Falls	35	59 66
Howland	44	75 00	Stacyville	68	115 91
Hudson	187	318 74	Webster	58	98 86
Kenduskeag	168	286 36	Woodville	98	167 04
Kingman	227	386 92			
Lagrange	237	403 97	Totals	22,222	37,877 34

PISCATAQUIS COUNTY.

Towns.	Number of Scholars.	Money Apportioned.	Towns.	Number of Scholars.	Money Apportioned.
Abbot	220	$374 99	Sangerville	339	$577 83
Atkinson	244	415 90	Sebec	224	381 81
Blanchard	57	97 15	Shirley	78	132 95
Brownville	353	601 68	Wellington	235	400 56
Dover	506	862 48	Williamsburg	67	114 20
Foxcroft	431	734 64	Willimantic	127	216 47
Greenville	203	346 01			
Guilford	320	545 44	PLANTATIONS.		
Medford	138	235 23	Elliottsville	16	27 27
Milo	340	579 53	Kingsbury	83	141 47
Monson	398	678 39			
Orneville	219	373 28	Totals	4,945	8,428 74
Parkman	347	591 46			

SAGADAHOC COUNTY.

Arrowsic	64	109 09	Richmond	881	1,501 66
Bath	2,583	4,402 71	Topsham	359	611 92
Bowdoin	306	521 58	West Bath	95	161 92
Bowdoinham	502	855 66	Woolwich	371	632 36
Georgetown	329	560 78			
Perkins	25	42 61	Totals	6,021	10,262 77
Phipsburg	506	862 48			

SOMERSET COUNTY.

Anson	461	785 77	St. Albans	443	755 09
Athens	412	702 25	Skowhegan	1,305	2,224 37
Bingham	225	383 51	Smithfield	156	265 90
Brighton	222	378 40	Solon	284	484 08
Cambridge	136	231 82	Starks	275	468 73
Canaan	387	659 64			
Concord	134	228 41	PLANTATIONS.		
Cornville	264	449 99	Carratunk	85	144 88
Detroit	185	315 33	Dead River	35	59 66
Embden	210	357 94	Dennistown	30	51 14
Fairfield	1,019	1,736 88	Flagstaff	35	59 66
Harmony	228	388 63	Highland	32	54 55
Hartland	330	562 49	Jackman	51	86 92
Madison	536	913 62	Lexington	76	129 54
Mercer	201	342 60	Moose River	56	95 46
Moscow	199	339 19	No. 1, R. 2, W.K.R.	32	54 55
New Portland	353	601 68	The Forks	55	93 74
Norridgewock	474	807 93	West Forks	52	88 63
Palmyra	345	588 05			
Pittsfield	664	1,131 79	Totals	10,138	17,280 19
Ripley	151	257 37			

WALDO COUNTY.

Towns.	Number of Scholars.	Money Apportioned.	Towns.	Number of Scholars.	Money Apportioned.
Belfast	1,331	$2,268 69	Northport	254	$432 94
Belmont	173	294 87	Palermo	314	535 21
Brooks	234	398 86	Prospect	259	441 46
Burnham	320	545 44	Searsmont	414	705 66
Frankfort	419	714 18	Searsport	564	961 34
Freedom	184	313 63	Stockton	377	642 59
Islesboro'	376	640 89	Swanville	244	415 90
Jackson	207	353 83	Thorndike	237	403 97
Knox	278	473 85	Troy	299	509 65
Liberty	281	478 96	Unity	312	531 80
Lincolnville	518	882 93	Waldo	269	458 51
Monroe	365	622 14	Winterport	654	1,114 74
Montville	458	780 66			
Morrill	150	255 67	Totals	9,491	16,177 37

WASHINGTON COUNTY.

Addison	365	622 14	Machiasport	528	899 98
Alexander	160	272 72	Marion	42	71 59
Baileyville	113	192 60	Marshfield	135	230 11
Baring	105	178 97	Meddybemps	60	102 27
Beddington	83	141 47	Millbridge	598	1,019 30
Brookton	147	250 56	Northfield	57	97 16
Calais	2,462	4,196 47	Pembroke	719	1,225 53
Centreville	60	102 27	Perry	375	639 18
Charlotte	187	318 74	Princeton	380	647 71
Cherryfield	683	1,164 17	Robbinston	323	550 55
Columbia	268	456 81	Steuben	401	683 50
Columbia Falls	273	465 32	Talmadge	53	90 34
Cooper	124	211 36	Topsfield	147	250 56
Crawford	65	110 79	Trescott	203	346 01
Cutler	313	533 50	Vanceboro'	240	409 08
Danforth	374	637 48	Waite	90	153 41
Deblois	31	52 84	Wesley	91	155 11
Dennysville	182	310 22	Whiting	144	245 45
East Machias	578	985 20	Whitneyville	172	293 17
Eastport	1,750	2,982 88			
Edmunds	181	308 51	PLANTATIONS.		
Forest City	100	170 45	Codyville	34	57 96
Harrington	441	751 68	No. 14	59	100 57
Jonesboro'	221	376 69	No. 18	12	20 45
Jonesport	793	1,351 67	No. 21	47	80 11
Kossuth	37	63 07			
Lubec	752	1,281 79	Totals	16,633	28,350 90
Machias	875	1,491 43			

YORK COUNTY.

Towns.	Number of Scholars.	Money Apportioned.	Towns.	Number of Scholars.	Money Apportioned.
Acton	292	$497 71	Lyman	277	$472 14
Alfred	353	601 68	Newfield	231	393 74
Berwick	657	1,119 86	North Berwick	533	908 50
Biddeford	4,396	7,492 97	Old Orchard	167	284 65
Buxton	627	1,068 72	Parsonsfield	453	772 13
Cornish	338	576 13	Saco	1,662	2,832 88
Dayton	147	250 56	Sanford	1,096	1,868 13
Eliot	427	727 82	Shapleigh	305	515 87
Hollis	392	668 16	South Berwick	1,014	1,728 36
Kennebunk	823	1,402 80	Waterboro'	403	686 91
Kennebunkport	646	1,101 11	Wells	752	1,281 78
Kittery	834	1,421 56	York	512	872 70
Lebanon	460	784 07			
Limerick	278	473 85	Totals	18,444	31,437 75
Limington	369	628 96			

Free High School Statistics.

FREE HIGH SCHOOL STATISTICS.

RETURNS FOR THE YEAR ENDING JUNE 1ST, 1887.

Towns.	Districts.	Whole amount expended.	Amount provided by town or district.	Amount from State Treasury.	Number of terms.	Whole number of weeks.	Whole number of pupils registered.	Average attendance.	Number in Fourth Reader and above.	Number in Arithmetic.	Number in English Grammar.	Number in Geography.	Number in United States History.	Number in Ancient Languages	Number in Modern Languages.	Number in Natural Sciences.	Number in Higher Mathematics.	Number in Book-Keeping	Number who taught or intend teaching during the year.
Alfred		$505 25	$255 25	$250 00	3	30	42	30	42	42	25	11	22	7	-	30	20	30	2
Anson		513 00	361 50	151 50	1	15	80	75	80	23	14	7	32	20	5	10	35	9	12
Ashland		300 00	151 50	148 50	2	20	40	27	40	40	40	22	25	-	-	40	14	17	9
Atkinson	Nos. 8 and 5	162 00	81 00	81 00	2	18	36	32	20	32	18	14	5	-	-	4	4	5	
Auburn		3,533 33	3,283 33	250 00	3	36	522	392	-	-	-	-	-	86	37	97	100	16	18
Augusta		3,250 00	3,000 00	250 00	3	36	130	89	115	13	10	28	98	91	26	59	81	13	1
Avon	No. 8	80 00	40 00	40 00	1	10	13	11	11	10	7	6	6	-	-	-	1	7	1
Bangor		4,138 00	3,888 00	250 00	3	36	241	231	-	51	-	6	-	198	82	144	93	-	2
Bath		3,276 00	3,026 00	250 00	3	35	231	219	-	73	180	-	-	54	113	200	160	87	13
Belfast	Central Dis.	1,500 00	1,250 00	250 00	4	37	56	48	56	14	-	-	-	21	-	28	34	12	3
Berwick	Sullivan Dis	600 00	350 00	250 00	2	20	52	44	52	28	39	28	27	-	-	24	12	15	4
Biddeford		2,650 00	2,400 00	250 00	3	36	127	104	-	-	-	-	-	70	20	90	68	14	
Bluehill		400 00	200 00	200 00	3	30	94	65	94	90	90	28	40	19	5	12	32	26	23
Boothbay		330 00	165 00	165 00	2	22	96	72	96	96	40	52	28	-	-	31	14	25	2
Bowdoin		112 50	56 25	56 25	1	10	38	31	15	15	38	-	15	-	-	21	10	11	5
Bowdoinham		500 00	250 00	250 00	2	23	52	48	30	25	11	-	19	-	6	16	21	9	2
Bradford	No. 10	150 00	75 00	75 00	1	10	40	35	36	40	36	15	1	2	1	6	24	6	16
Brewer		931 00	681 00	250 00	3	35	52	31	21	20	11	20	15	-	-	44	29	20	4
Bridgton		1,288 00	1,038 00	250 00	3	36	55	47	-	32	13	9	33	25	-	28	19	17	3
Bristol		332 00	166 00	166 00	2	20	91	80	79	78	42	61	10	-	-	2	11	21	8

Brownville		155 00	77 50	77 50	1	10	66	49	41	51	44	26	16	19	–	7	9	7		
Brunswick		2,236 00	1,986 00	250 00	3	36	63	55	–	9	5	24	–	41	10	26	40	15	3	
Buckfield		320 00	169 00	151 00	1	10	117	102	33	61	38	43	30	20	–	8	–	–	7	
Bucksport	No. 1	727 25	477 25	250 00	3	39	38	31	–	20	8	5	5	26	8	34	26	11		
Burnham	No. 10	150 00	75 00	75 00	1	10	43	30	30	39	27	6	19	–	–	–	3	9	1	
Calais		1,250 00	1,000 00	250 00	3	36	75	65	–	–	–	–	–	57	8	66	46	25	2	
Camden	Megunticook	825 00	618 10	206 90	3	30	52	47	29	29	29	29	–	32	–	25	12	10	1	
	Rockport	250 00	206 90	43 10	3	32	92	55	60	54	54	26	14	30	6	30	17	14	3	
Cape Elizabeth		1,250 00	1,000 00	250 00	3	33	105	96	57	16	45	32	47	33	13	76	80	34		
Caribou	No. 2	1,000 00	750 00	250 00	3	36	90	45	75	50	60	25	15	16	20	30	31	10	20	
Castine		1,000 00	750 00	250 00	3	35	57	50	–	10	10	2	9	20	–	10	12			
Carmel	No. 3	100 00	50 00	50 00	1	10	17	13	17	17	17	7	11	–	–	3	3	2	2	
Casco	No. 6	100 00	67 50	32 50	1	10	34	29	29	31	26	24	7	4	–	–	9	6	1	
Charleston	No. 10 *et als*	404 50	241 00	163 50	2	20	87	73	70	51	80	20	15	8	–	25	60	15	20	
Cherryfield		962 75	712 75	250 00	3	35	109	88	77	61	62	8	40	10	4	34	44	–	6	
China	No 4	210 50	146 64	63 86	1	10	61	50	51	42	48	12	3	3	–	8	12	20	10	
	No. 14	603 75	417 61	186 14	2	21	55	45	38	30	28	12	10	5	–	30	23	19	18	
Columbia Falls		195 00	103 45	91 55	1	12	42	37	39	37	40	5	–	2	–	5	27	5	3	
Corinth	No. 13	75 00	37 50	37 50	1	10	23	20	13	18	11	10	4	–	–	14				
	No. 2	86 25	43 12	43 12	2	20	47	39	12	21	14	16	1	–	–	1	6	1	1	
Cornville		177 20	88 60	88 60	1	11	49	43	49	42	48	48	3	4	–	10	13	3	5	
Cumberland		980 00	730 00	250 00	3	33	70	47	24	31	26	15	13	15	–	24	30	9	4	
Deering		1,693 00	1,443 00	250 00	3	33	136	127	60	22	–	15	8	72	69	135	66	50		
Dennysville		517 50	272 40	245 10	3	32	93	86	39	37	19	17	15	4	1	6	10	2	1	
Dexter		1,050 00	800 00	250 00	3	30	68	61	–	31	28	18	–	22	9	35	38	20	10	
Dixfield	No. 1	232 50	134 75	97 75	1	10	47	42	21	37	13	12	2	4	–	–	11	9	8	
Dixmont	No. 4	60 00	31 40	28 60	1	10	14	12	5	12	7	6	3							
	No. 6 *et als*	150 00	84 13	65 87	1	10	42	38	34	42	35	12	8	–	–	–	13	1	6	
	No. 7	150 00	99 88	50 12	1	10	39	34	32	35	27	12	–	–	–	2	18	3	15	
	No. 2	113 30	61 65	51 65	1	10	29	25	25	28	28	5	7	–	–	10	4	8	2	
East Livermore		313 50	158 25	155 25	2	26	111	96	96	83	77	39	13	20	–	19	42	12		
East Machias		228 00	114 00	114 00	3	39	36	19	–	15	13	–	–	12	3	7	14	6	5	
Eastport		1,500 00	1,250 00	250 00	4	38	104	70	104	56	54	54	54	22	12	33	20	–	2	
Eden		432 50	216 25	216 25	3	26	77	65	65	65	60	60	50	–	–	–	12	20	8	
Edgecomb	No. 1	97 50	48 75	48 75	1	10	29	21	29	28	21	25	–	–	.	8	8	2		
Eliot		65 00	32 50	32 50	½	4	35	32	32	23	30	15	8	–	–	27	13	12		
Ellsworth		1,587 50	1,337 50	250 00	3	36	83	80	–	14	–	–	–	58	27	16	47	10	1	
Etna	No. 1	98 00	49 00	49 00	1	10	18	12	13	18	11	8	3	–	–	1	7	2	3	
	Nos. 2 and 6	100 00	61 37	38 63	1	10	38	32	32	38	22	8	8	–	–	5	11	5	6	

RETURNS FOR THE YEAR ENDING JUNE 1ST, 1887—Continued.

Towns.	Districts.	Whole amount expended	Amount provided by town or district.	Amount from State Treasury.	Number of terms.	Whole number of weeks.	Whole number of pupils registered.	Average attendance.	Number in Fourth Reader and above.	Number in Arithmetic.	Number in English Grammar.	Number in Geography.	Number in United States History.	Number in Ancient Languages.	Number in Modern Languages.	Number in Natural Sciences.	Number in Higher Mathematics.	Number in Book-Keeping.	Number who taught or intend teaching during the year.
Exeter	No. 3	$258 50	$130 50	$128 00	1	11	62	57	45	55	45	30	10	–	–	15	35	6	10
	No. 6.	247 00	126 00	121 00	2	20	27	23	26	26	14	12	4	–	–	1	7	5	4
Fairfield		750 00	500 00	250 00	4	35	72	63	67	21	30	12	18	25	8	52	27	15	3
Farmington	No. 4	417 90	249 15	168 75	2	18	36	18	5	6	6	5	7	20	3	32	27	18	10
Fayette		153 50	78 50	75 00	3	21½	63	54	56	62	40	27	10	–	–	1	9	–	4
Fort Fairfield		537 50	287 50	250 00	3	28	155	130	–	155	155	155	90	–	–	70	40	10	20
Foxcroft		500 00	250 00	250 00	2	23	52	50	50	21	24	4	7	27	–	31	25	9	11
Freeport		1,064 00	814 00	250 00	3	36	52	43	52	19	14	–	15	41	–	23	45	10	2
Frenchville		384 00	134 00	250 00	2	25	52	40	20	52	52	52	20	–	52	28	–	20	20
Gardiner		1,900 00	1,650 00	250 00	3	36	106	98	106	54	30	–	–	34	28	–	44	7	3
Georgetown		137 50	68 75	68 75	1	10	31	26	31	30	28	7	7	–	–	13	6	6	
Gorham		1,116 00	866 00	250 00	3	31	206	169	100	147	78	53	17	63	10	50	47	46	10
Gray		768 51	518 51	250 00	3	29	131	80	45	89	52	18	21	41	–	–	47	5	15
Greenfield		169 00	84 50	84 50	1	13	19	14	16	15	18	10	4	–	–	–	6	4	2
Greenville		270 00	135 00	135 00	2	18	35	26	36	30	26	20	10	3	–	12	10	8	1
Guilford		220 00	113 10	106 90	1	10	95	80	70	40	36	34	22	–	–	7	14	–	5
Hallowell		1,500 00	1,250 00	250 00	3	37	66	55	–	26	10	47	9	35	22	42	33	10	3
Hancock		155 00	79 75	75 25	1	10	55	46	55	51	43	23	9	–	–	7	6	6	9
Hartford		201 40	101 40	100 00	1	10	60	48	38	55	35	12	–	4	–	17	15	10	9
Holden		150 00	78 00	72 00	1	10	27	21	8	23	22	9	10	–	–	12	5	8	3
Houlton		906 50	656 50	250 00	4	40	58	52	40	12	5	–	10	25	10	53	58	20	12
Industry	No. 5	102 40	51 20	51 20	1	10	39	32	26	35	18	17	1	–	–	–	2	11	
Jackson	No. 4	107 50	59 75	47 75	1	10	40	28	32	30	32	16	–	–	–	14	6	4	1
Jonesport	No. 2	162 50	81 25	81 25	1	10	50	38	50	50	50	30	20	–	–	10	3	–	2
Kenduskeag		454 00	238 63	215 37	3	30	44	40	9	42	44	9	–	–	–	12	14	18	2

Kennebunk	No. 9	165 00	124 12	40 88	1	12	17	16	17	15	16	4	4	4	–	5	7	–	
	No. 5	800 00	590 88	209 12	3	37	30	25	30	30	30	19	–	18	4	9	24	5	1
Kittery		750 00	500 00	250 00	3	36	83	58	83	83	83	35	36	–	–	42	53	24	
Lamoine		208 00	104 00	104 00	1	12	32	29	32	28	29	16	9	5	2	17	7		
Lebanon	No. 9	125 00	66 50	58 50	1	10	32	26	28	28	20	18	–	–	–	2	10	–	2
	No 3	232 10	116 05	116 05	4	35	25	10	25	23	16	14	10	1	–	4	10	4	6
Leeds	No. 5	80 00	47 50	32 50	1	10	12	8	10	7	8	5	6	–	–	–	4		
	No. 7	75 00	49 17	25 83	1	10	26	24	21	22	13	6	11	–	–	–	3	1	
Levant		291 25	150 20	141 05	3	24	110	91	110	102	79	48	5	–	–	10	56	32	13
Lewiston		4,300 00	4,050 00	250 00	2	38	167	156	167	26	86	32	–	89	39	105	116	38	10
Limerick		509 08	268 04	241 04	3	28	42	35	42	22	34	9	16	20	6	31	14	10	4
Limestone		200 00	100 00	100 00	2	20	84	66	48	48	12	15	–	4	–	3	8	-	6
Lisbon		900 00	650 00	250 00	3	30	176	158	50	123	44	48	35	67	14	36	47	48	5
Livermore		298 00	153 63	144 37	2	20	35	25	33	23	25	–	11	–	–	12	26	8	3
Lubec		340 00	170 00	170 00	1	17	37	29	37	26	15	16	14	–	11	14	24	–	7
Machias		1,172 00	922 00	250 00	3	34	50	42	–	50	50	–	–	45	5	50	50	50	
Madison	No. 2.	270 00	135 00	135 00	2	18	96	83	96	84	84	60	24	–	–	18	12	10	6
Manchester		192 50	96 25	96 25	1	10	41	29	37	41	21	17	–	–	–	5	5	2	
Mercer	No. 2.	112 50	56 25	56 25	1	10	38	32	30	28	25	13	6	–	–	1	11	4	10
Milo		195 00	97 50	97 50	1	10	104	96	55	86	50	60	–	16	-	19	21	3	6
Minot and Poland	Union Dis	990 66	740 66	250 00	3	37	56	43	56	18	18	–	–	13	4	15	21	–	1
Monmouth		680 00	430 00	250 00	3	30	96	83	40	73	67	26	21	28	–	22	61	34	8
Monroe		400 00	211 00	189 00	4	36	110	61	100	110	92	40	8	–	–	–	40	10	6
Monson		500 00	250 00	250 00	3	30	98	77	32	69	73	45	13	8	6	23	24	19	6
Montville	No. 2.	100 00	50 00	50 00	1	10	28	25	20	18	11	10		–	–	–	7	2	2
	No. 4, 14, 15.	202 50	109 60	92 90	1	10	51	45	43	48	32	33	1	–	–	14	7	5	3
	No. 8.	101 50	61 50	40 00	1	10	40	32	35	38	32	14	–	–	–	–	15	6	12
Mt. Desert		294 00	147 00	147 00	3	24	76	66	76	75	67	52	3	–	–	43	26	12	6
Newburgh	No. 3	100 00	52 75	47 25	1	10	38	33	38	38	35	16	13	–	–	8	12	5	2
	No. 10.	91 25	55 75	35 50	1	10	23	18	23	22	18	7	10	–	–	4	10	3	3
Newcastle	No. 1	150 00	75 00	75 00	1	10	25	21	21	22	12	9	2	–	–	6	2	2	1
Newport		500 00	250 00	250 00	3	30	137	119	85	128	73	110	39	–	–	–	28	17	10
New Sharon		454 00	227 00	227 00	2	20	69	40	20	39	42	4	6	1	6	10	13	6	11
Newry	No. 3	75 00	37 50	37 50	1	10	11	9	7	11	6	6	–	–	–	3	3	–	2
New Vineyard		200 00	100 00	100 00	2	20	29	23	29	29	14	20	3	–	–	–	6	11	3
Norridgewock	No. 8.	238 87	119 43	119 44	1	13	41	36	23	41	19	12	4	6	–	10	19	11	5
North Berwick		957 62	707 62	250 00	4	42	61	52	35	26	26	–	16	26	4	33	30	–	4
Norway	No. 7	600 00	350 00	250 00	1	10	145	139	69	130	79	66	25	12	2	81	35	–	3
Oakland		1,002 26	752 26	250 00	3	36	57	43	57	23	22	–	20	28	3	32	25	–	1

Returns for the Year Ending June 1st, 1887—Concluded.

Towns.	Districts.	Whole amount expended.	Amount provided by town or district.	Amount from State Treasury.	Number of terms.	Whole number of weeks.	Whole number of pupils registered.	Average attendance	Number in Fourth Reader and above.	Number in Arithmetic.	Number in English Grammar.	Number in Geography.	Number in United States History.	Number in Ancient Languages.	Number in Modern Languages.	Number in Natural Sciences.	Number in Higher Mathematics.	Number in Book-Keeping	Number who taught or intend teaching during the year.
Old Orchard		$525 00	$275 00	$250 00	3	36	35	23	9	10	10	6	10	-	-	9	11	-	2
Oldtown		1,224 00	974 00	250 00	3	35	76	72	76	32	18	-	15	53	36	30	47	20	2
Orrington	Corner Dis.	137 50	68 75	68 75	1	10	22	20	22	17	22	-	6	-	-	15	14	4	4
Orono		1,350 00	1,100 00	250 00	3	35	194	177	71	115	116	-	54	84	27	17	37	52	
Palermo	No. 2	110 00	60 00	50 00	1	10	33	22	21	31	18	7	13	-	-	-	9	4	4
	No. 3	100 00	53 75	46 25	1	10	16	12	14	16	4	8							
	No. 6	106 00	53 00	53 00	1	10	21	18	16	17	9	5	-	-	-	-	6	2	2
Paris		200 00	100 00	100 00	1	10	72	68	48	62	48	14	68	11	-	-	21	-	1
Parsonsfield		803 50	553 50	250 00	2	25	55	44	31	32	40	-	-	18	-	37	36	14	33
Pembroke		819 20	569 20	250 00	4	30	87	77	47	78	78	60	29	-	5	35	11	16	
Peru	Nos. 1 and 5	167 50	83 75	83 75	2	20	42	39	29	35	12	20	5	-	-	10	2	2	
	No. 4	69 50	34 75	34 75	1	10	66	50	50	43	27	31	19	-	2	1	3	12	2
Pittston		524 00	274 00	250 00	3	38	94	88	55	86	67	33	25	-	-	13	18	13	
Poland		500 00	250 00	250 00	4	40	58	54	54	44	38	27	12	4	-	14	15	7	2
Portland		9,400 00	9,150 00	250 00	2	38	393	381	-	91	162	-	-	95	327	261	273	232	6
Princeton		439 68	219 84	219 84	3	32	31	22	-	15	5	8	5	4	3	13	6	11	2
Prospect		112 50	56 25	56 25	1	10	37	31	37	37	27	24	-	2	-	3	17	8	8
Raymond	No 2	111 00	61 00	50 00	1	8	30	27	30	30	25	8	6	-	-	10	4	7	1
	No. 4	100 00	54 50	45 50	1	8	21	20	21	14	20	3	13	7	-	-	11	-	2
Readfield		379 65	189 83	189 82	2	21	47	39	30	30	10	12	10	1	-	2	21	17	
Richmond		821 50	571 50	250 00	3	28	42	29	35	-	35	-	20	34	16	15	31	13	
Rockland		1,888 00	1,638 00	250 00	3	32	118	103	-	118	-	-	18	56	23	60	102	50	
Rome	No. 3	100 00	56 00	44 00	1	10	24	23	24	24	9	16	8	-	-	-	4	6	3
Saco		2,137 50	1,887 50	250 00	3	36	99	74	99	23	35	4	16	49	30	38	52	50	7
Searsmont		109 45	56 10	53 35	1	10	33	25	28	33	24	18	-	-	-	3	8	7	3

Searsport		500 00	250 00	250 00	2	18	69	50	69	51	36	-	21	7	-	25	45	12	
Sebec		284 22	142 11	142 11	2	25	66	54	66	48	23	25	18	-	-	4	-	9	5
Shapleigh		736 50	486 50	250 00	2	26	45	38	31	26	16	-	8	9	-	15	8	-	17
Skowhegan		1,570 00	1,320 00	250 00	3	36	98	73	47	30	15	-	-	39	-	71	56	28	17
Solon		412 25	212 25	200 00	3	28	140	125	133	133	73	38	8	-		-	19	4	3
South Berwick		267 50	133 75	133 75	2	20	54	52	-	33	30	-	26	23	1	27	25	10	
Springfield		696 00	446 00	250 00	2	22	95	90	80	66	72	25	12	-	-	28	50	24	32
South Thomaston	Grade Dis.	150 00	75 00	75 00	1	12½	32	30	32	29	26	10	-	7	-	10	20	25	4
Starks	No. 2	100 00	50 00	50 00	1	10	24	21	21	19	8	4	-	-	-	2	7	10	4
	No. 15	67 00	33 50	33 50	1	10	9	8	9	9	8	2	3	-	-		2	4	2
Stetson		125 00	62 50	62 50	1	10	34	25	32	32	24	15	10	-	-	-	5	-	5
Steuben	No. 1	150 00	75 00	75 00	1	10	43	37	40	39	25	29	9	12	17	26	32	28	7
Thomaston		1,172 00	922 00	250 00	3	34	70	64	70	23	23	23	40	47	30	47	58	19	1
Topsham		750 00	500 00	250 00	3	30	42	36	-	20	15	-	-	19	15	8	20	6	
Troy	No. 4	250 00	152 50	97 50	2	20	50	44	50	43	29	13	8	-	-	-	13	4	4
Turner		429 00	216 00	213 00	5	41	212	189	206	187	100	47	30	42	27	28	43	65	10
Union		115 00	57 50	57 50	1	10	46	36	46	38	44	-	5	-	-	-	24	8	15
Vinalhaven		747 00	497 00	250 00	3	29	99	91	76	60	99	30	30	-	-	25	29	30	1
Waldoboro'		615 00	365 00	250 00	5	45	64	57	64	47	28	8	5	11	-	24	20	10	7
Warren		485 00	242 50	242 50	3	30	50	37	40	20	22	28	17	9	6	11	27	14	1
Washburn		110 15	55 07	55 08	1	8	66	53	56	65	54	46	8	2	-	-	20	5	8
Waterville		2,162 50	1,912 50	250 00	4	40	110	82	-	40	26	24	17	47	37	55	60	12	2
Wayne		335 70	167 85	167 85	3	29	97	85	81	79	56	56	18	7	-	17	35	12	3
Wells		505 00	255 00	250 00	4	40	108	83	70	79	60	47	7	14	3	16	19	17	
Westbrook		1,525 00	1,275 00	250 00	3	36	92	79	70	60	60	40	43	6	-	55	24	15	1
Wilton	No. 9	504 25	254 25	250 00	2	24	35	18	7	14	15	-	-	10	1	13	21	1	10
Windham		753 00	503 00	250 00	3	36	163	90	149	148	125	89	22	2	-	14	19	15	6
Windsor	No. 1	60 00	30 00	30 00	1	10	19	17	16	17	12	15	-	-	-	-	2	-	1
Winn		300 00	150 00	150 00	2	20	30	24	3	22	20	11	7	-	-	5	7	11	4
Wiscasset	No. 1	763 00	513 00	250 00	3	32	55	41	44	32	30	20	5	27	9	29	14	6	
Woolwich	No. 7	150 00	75 00	75 00	1	10	37	34	14	29	12	13	2	8	1	11	5	2	
Yarmouth		1,350 00	1,100 00	250 00	3	36	80	67	-	25	25	25	15	27	9	50	34	12	
		117,858 93	89,356 74	28,502 19	383	4047	11,420	10,374	7330	7621	6234	3502	2245	2654	1449	4017	4564	2340	885

Experimental Lessons on Properties and Physiological Effects of Alcohol, by H. M. Estabrooke, State Normal School, Gorham, Maine.

EXPERIMENTAL LESSONS ON ALCOHOL.

The following lessons on Alcohol have been prepared at the suggestion of the State Superintendent of Schools. They are adapted to pupils ranging in age from twelve to fifteen years. They suppose the pupil to be already in possession of the simplest facts of Physiology, such as the structure and uses of the muscles; the blood, its composition and use; the structure and functions of the nerves, &c. They do not pretend to treat the subject exhaustively, but they probably give all that can be profitably taught in the average school.

METHOD.

1. So far as possible, present the subject objectively. Much of the information for the class must come from either the text-book or the teacher, but a considerable part of the work may be done experimentally. This method has two advantages; (1) it creates a livelier interest in the class; (2) it makes a more sharply defined impression on the mind of the pupil.

2. Make careful preparation for each lesson. Map out just the points you intend to present; and in teaching do not allow yourself to be drawn aside from these by irrelevant questions.

3. Teach by topics; fully finish one before beginning another.

4. Encourage the fullest and freest discussion of each subject which your time will allow. Require pupils to bring in questions of their own making, as review work. See that each question embodies some principle already taught.

5. Show the close connection between the vice of drinking and vice of other kinds; that a man whose body and mind are weakened by strong drink will more readily yield to temptation than one whose body and mind are in a healthy condition. After teaching the physiological effects of alcohol, teach its moral and social effects.

6. Make much use of the newspapers. Save every scrap bearing upon the subject; they will all come into use sooner or later. Keep a scrap box, and require the pupils to place in it such clippings as they find.

7. Finally, use much common sense. There is no study in our schools demanding a larger share.

The following illustrations will serve to show how an exercise on Alcohol may be conducted. The intelligent teacher will not follow them with "Chinese fidelity," but will take them simply as hints, and develope methods best suited to his or her own conditions and needs.

Suppose the subject of the lesson to be the effects of alcohol on the muscles. Two or three days before the lesson is given, lean meat, sufficient to afford a shred to each member of the class, is put to soak in alcohol. When the lesson is given, each pupil is first handed a shred of perfectly fresh muscle, and after observing its properties, the teacher obtains the following statements:

Fresh muscle is dark red.
It is soft.
It is flexible.
It is elastic.
It is tough.

The class next examines shreds of the alcoholic specimen, and finds that muscle soaked in alcohol changes its color.

It is quite hard.
It is less flexible.
It is inelastic.
It breaks easily when pulled.

The teacher leads the class to see that the only reason for this difference in the two specimens is that the second has been subjected to the action of alcohol.

The application of the lesson will be made by showing that somewhat similar changes occur in the muscles when alcohol is taken into the body. The teacher will call particular attention to the weakening of the muscular fibers. She will explain that alcohol does not, indeed, harden living muscle, but it causes a change called *fatty degeneration*, the gradual changing of the muscular fiber into fat, and thus causes it to be less elastic and weaker. She will also explain that the action of the alcohol in the experiment is much more marked than it is when taken into the body, but that the action in each case differs not so much in kind as in degree.

In order to systematize the work, a lesson of this kind may be divided into three parts.

(1) Observation of the tissue in its normal state;

(2) Observation and comparison of the tissue as affected by alcohol;

(3) The application of the lesson learned.

Again, suppose the lesson to be the effects of alcohol on the digestion. The materials needed will be the white of an egg, a little scale pepsin, some hydrochloric acid, a half pint of pure water and three or four test-tubes or slender, narrow bottles. The class examines a portion of the albumen (the white of the egg), and notes that albumen is

ropy,
transparent,
soluble.

The teacher draws from the class the statements that food in order to be readily digested must be easily soluble; that albumen forms a large part of both animal and vegetable food. A little alcohol is then added to some of the albumen, and the class notes that the albumen has become

hard,
opaque,
insoluble.

The class infers that it is now less digestible than it was at first. The application of the lesson is then made by discussing the use of wines at meals, the after dinner dram, etc.

But this lesson has taught only a part of the effects of alcohol on digestion. To two fluid ounces of water add a few drops of hydrochloric acid. Divide into two portions. The class observes that the liquid is now perfectly clear. To one portion add a little alcohol. The liquid still remains clear. To the other portion add a little scale pepsin previously dissolved in water. The solution remains quite clear. Next add two or three teaspoonfuls of warm alcohol. The class observes that the liquid has now grown turbid; that a little later white flakes make their appearance; that later still the flakes have all settled and the liquid is again clear. The class infers that the alcohol has caused the pepsin to settle—precipitated it, the chemist would say—and, knowing the office of pepsin in digestion, would infer that the digestive fluid had been deprived of its chief ingredient.

The application would be made by combining this lesson with the preceding one. The same alcohol, which changed the nature of the albumen in the food, has also spoiled the digestive fluid, thus doing a double injury.

As before stated, the lesson should be so systematically and thoroughly taught, that at its close each pupil should be able to put the gist of it on the blackboard. Some such form as the following will economize both time and blackboard space:

Alcohol is a liquid;
is colorless;
is transparent;
is lighter than water;
is inflammable;
has a strong odor, etc.

Fresh muscle is dark red;
is soft;
is flexible;
is elastic;
is tough, etc.

After soaking in alcohol
Muscle changes its color;
is quite hard;
is less flexible;
is inelastic, etc.

These blackboard statements should be copied by the pupil into a note book kept for that purpose, and reviewed again and again until they are firmly fastened upon the memory.

EXPERIMENTS.

I. Properties of Alcohol.

1. Examine for color, taste, smell, etc.

2. To a test-tube half full of water add a drop or two of ink. Next add carefully a half teaspoonful of alcohol, using a pipette if the teacher have one. Notice that the alcohol floats like oil on the darkened water. Alcohol is lighter than water.

3. *a*. Wrap one end of a thin wire or narrow strip of tin, such as is found at the tinman's, around a fragment of chalk crayon. With this wire as a handle, dip the crayon into alcohol, next touch with a lighted match, and lower the chalk into a wide-mouthed

bottle or tumbler, into which a few spoonfuls of limewater have previously been poured Notice that the alcohol burns briskly. Alcohol is very inflammable.

b. Remove the crayon, close the mouth of the bottle with the hand, and shake vigorously. Notice that the limewater becomes milky. The alcohol, in burning, has produced carbonic acid.

4. *a.* Fill a test-tube half full of water; then by means of the pipette,* fill the test-tube quite full of alcohol, taking care that the two liquids do not mix. Next close with the thumb and invert. Notice that the test-tube is no longer full; notice, also, that it has become quite warm. Alcohol unites with water so eagerly as to produce condensation and heat.

b. Fill the test-tube half full of alcohol, and over the mouth of the test-tube tie a piece of fresh bladder, or of dried bladder previously soaked in water. Invert, and mark, by a rubber band, a string, or by pasting on a bit of paper, how high the alcohol fills the tube. Next plunge the test-tube mouth downward into a tumbler of water. Notice that the alcohol rises in the tube. The affinity of alcohol for water caused the water to pass through the membrane into the test-tube.

NOTE.—The experiment just given is not always satisfactory. Too much time is needed to make it useful in many schools, and unless the alcohol is very strong, say ninety-five per cent, the experiment may not succeed at all. A new method which may produce better results is given below:

c. Fill the test-tube half full of alcohol, to which add a few drops of potassic dichromate in solution. Over the mouth of the test-tube tie a piece of bladder, and plunge the tube mouth downward into a tumbler of water acidulated with a dozen drops of sulphuric acid. Notice at the end of about a half hour that the liquid in the test-tube has turned green; notice, also, that the liquid in the tumbler remains clear. The attraction of the alcohol has caused the acidulated water to pass through the membrane into the tube and produce the green color.

NOTE.—It will usually be found best to warm both the alcohol and the acidulated water.

5. *a.* Place a little powdered spruce gum in one test-tube, some powdered resin in a second and a piece of gum camphor in a third.

*A common clay tobacco pipe makes a very good pipette. Fill the bowl with water and close with the thumb. No water will run from the stem so long as the thumb is pressed down firmly. By varying the pressure, the water may be made to fall in drops or in a stream as desired.

Next add water to each, and shake vigorously. Notice that neither gum, resin nor camphor will dissolve in water.

b. Repeat the experiment, using alcohol instead of water. Notice that all the substances have dissolved. Alcohol is much used in the manufacture of varnishes, tinctures, &c.

6. Add two or three spoonfuls of alcohol to a few drops of castor oil, sweet oil, oil of cloves, oil of lavender, &c.; shake briskly. Notice that in each case the oils are broken up into exceedingly fine particles, forming an emulsion. Alcohol enters largely into the manufacture of perfumes, medicines, &c.

7. Several weeks before the exercise, place a piece of fresh meat in dilute alcohol. Notice that no trace of decomposition appears. Alcohol is an excellent preservative of flesh.

II. Tests for Presence of Alcohol.

8. *a*. To a half test-tubeful of water acidulated with sulphuric acid add a few drops of potassic dichromate in solution. Next add a half teaspoonful of alcohol, and heat over a lamp. Notice that the liquid immediately becomes green. This green color is the test for the presence of alcohol.

b. Repeat the experiment, using instead of the alcohol an equal quantity of brandy.

c. Repeat the experiment, using whiskey.

d. Repeat the experiment, using gin.

e. Repeat the experiment, using cider, beer, &c. Conclusion from the above experiments?

III. Physiological Effects of Alcohol.

A. Effect on Albumen.

9. *a*. Fill a test-tube one-third full albumen (white of egg); add a little water, shake till the albumen is wholly dissolved, and boil over a lamp. Notice that the albumen is coagulated. Notice, too, that it is no longer soluble in water. Is it as digestible as it was at first?

b. To another portion of albumen add an equal amount of alcohol. Notice the albumen is again coagulated. The alcohol has coagulated the albumen by depriving it of a part of its water. See exp. 4, *a*, *b* and *d*. Compare with exp. 9, *a*.

c. Repeat the experiment, using in place of alcohol whiskey, brandy, gin, etc. Coagulation takes place in each case. How has alcohol affected the digestibility of the albumen?

d. Put a piece of boiled white of egg into alcohol; after several days examine, and notice that the egg is of leathery consistency.

10. Cut a piece of fresh lean meat into small pieces, and wash till quite free from blood. Crush thoroughly by rubbing in a bowl, and finally extract the juice by adding water and squeezing through a thin cloth. The expressed juice will consist mainly of albumen dissolved in water. Fill a test-tube half full of this liquid, and add as much alcohol. The albumen is at once coagulated.

11. Soak a handful of oatmeal or wheat flour in lukewarm water for a few hours. Strain through a cotton cloth, and let the liquid stand till all the starch has settled. To a portion of the clear liquid add half as much alcohol, and let it stand for ten or fifteen minutes in a warm place. At the end of that time notice that the liquid is filled with a cloudy precipitate. The alcohol has coagulated the vegetable albumen.

B. Effect on Pepsin.

12. *a.* Wash thoroughly a portion of the stomach of a pig, a calf or a sheep. Scrape the inner surface with a sharp knife, and soak both stomach and scrapings in separate dishes. The water with which they were covered will, in each case, dissolve out the gastric juice. That used to cover the stomach will usually be the best, as it will be the freest from blood. Strain, and to a portion of the liquid add half as much alcohol Notice that in a few minutes a cloudy white precipitate appears. This is the pepsin, which, being composed in part of albumen, has been precipitated by the alcohol.

As the stomach of an animal is not always obtainable, the experiment may be conducted as follows:

b. To a two ounce bottleful of water add a dozen drops of hydrochloric acid. This will represent the acid fluid of the stomach in which the pepsin is dissolved. Take two portions of this liquid; (1) to the one add a nearly equal quantity of alcohol. The liquid remains clear and transparent. (2) To the other add scale pepsin (Fairchild's is perhaps the best) as much as will lie on a "nickel." The liquid is still clear or but slightly turbid. Next add the same amount of alcohol as in (1), and allow the mixture to stand in a warm place for several hours. Notice that after a time white flakes

make their appearance, and finally that all the pepsin settles to the bottom of the test-tube.

NOTE.—This experiment should be performed three times in order to make it effective; the first time about ten hours before the exercise, the second about five hours later, and the third during the exercise. The three stages of precipitation can thus be compared.

If the pepsin be previously dissolved in water and allowed to stand till the liquid is clear, the experiment will sometimes be more satisfactory.

c. Fill one test-tube two-thirds full of water and another two-thirds full of equal parts of alcohol and water. To the first add a few scales of pepsin, and shake vigorously. The pepsin dissolves readily. To the other add pepsin and shake as before. The pepsin either does not dissolve at all or dissolves with great difficulty.

d. Mince very finely a little boiled lean meat or boiled white of egg, and divide into two portions. To one portion add a half dozen tablespoonfuls of artificial gastric juice prepared as in exp. 12, *b*, and to the other an equal amount of digestive fluid and a teaspoonful of alcohol. Place both portions where they will be kept at a temperature of about one hundred degrees for eight or ten hours, occasionally shaking each. Notice that the first part gradually softens and dissolves, while the second part either remains unchanged or grows harder.

C. Effect on Mucous Membrane.

13. Wet the mucous membrane of the mouth with a little alcohol. Notice that the membrane smarts, the saliva at first flows a little more freely, and, finally, that the saliva ceases to flow, and the membrane feels dry and puckery. The alcohol at first inflamed the membrane and caused an increased flow of saliva, then finally checked the flow of the saliva by depriving the membrane of a part of its water. Recall the fact that the continuation of the mucous membrane of the mouth lines the stomach, and infer the action of alcohol on the stomach and on the flow of gastric juice.

Alcohol is said to injure every membrane of the body.

D. Effect on Muscle.

14. *a.* Examine a fragment of perfectly fresh muscle cut lengthwise of the "grain". Notice that it is of a dark red color, is soft, flexible, somewhat elastic, and very tenacious.

b. Examine another fragment of muscle cut like the first, but which has been soaked in dilute alcohol three or four days. Notice

that the color has faded, that it has grown hard, is less flexible, is not elastic and is quite brittle. The alcohol has coagulated the albumen of the muscle, and thus produced the change in properties.

NOTE.—In living muscle alcohol produces no hardness, but causes a diseased condition called "fatty degeneration." All the other changes are substantially the same in living and dead muscle.

E. Effect on Blood.

15. *a.* Place a drop of blood on a piece of thin glass, and, while holding it over a mirror or a sheet of white paper, examine with a magnifying glass. Note the even distribution of the corpuscles, which will show as very small red points.

b. Now touch the drop of blood with a very little alcohol. The blood is at once coagulated. Recall the fact that one of the elements of blood is albumen, and explain the coagulation of blood by alcohol. Note that the alcohol dissolves the red coloring matter of the blood, making it of lighter hue.

c. Get a cupful of blood of the butcher and let it stand till the clot has fully formed. To a portion of the serum add alcohol and note the effect. Of what is the serum composed?

d. Place a drop of blood on a glass slide, and cover with a piece of very thin glass. Examine with the microscope, using the quarter-inch objective. Note carefully the shape of the blood corpuscles. Then place under the cover a very small drop of alcohol, and notice that the corpuscles at once shrink and become distorted.

e. Fill two test-tubes half full of perfectly clear limewater. To one add an equal amount of alcohol, and then place the two test-tubes side by side. After a quarter hour, examine and compare. Note that in the test-tube containing alcohol the lime has been precipitated. The blood contains lime in solution, and alcohol deposits it on the walls of the blood vessels, and so causes them to be stiff and brittle.

f. Examine bottles in which wine has been kept a long time. The sides of the bottle will be covered with an earthy crust called the "beeswing."

F. Effect on Nervous System.—On the Brain.

16. *a.* Examine the brain of a cat, a rat or a squirrel. Note that it is very soft and covered with a network of blood-vessels.

b. Examine a brain that has been soaked in alcohol a few days. Notice that it has grown hard and faded. Keep in mind the fact that albumen forms a large part of the brain, and explain. The membranous coverings of the brain have also grown hard. Alcohol hardens every membrane in the body.

On the Nerves.

17. *a.* Hang one arm over the back of a chair so that the pressure shall come upon the biceps muscle. Press firmly, and in a little while a sensation of numbness and tingling will be felt. The unwonted pressure has temporarily paralyzed the nerve.

b Etherize a frog by stuffing a wad of cotton soaked in ether into its mouth. With a keen knife lay bare one of the nerves of the hind leg, and irritate by rubbing with the knife. The leg is drawn up with a convulsive movement. Now cover the nerve with alcohol and again irritate. Note that the convulsive motion has either entirely ceased, or is very weak. The alcohol has paralyzed the nerve.

Kill the frog before the effect of the ether passes off.

c. Etherize a frog, and stretch the web of the hind foot over a hole in a thin board or on a strip of clean window glass. Examine with the microscope, using the inch or half inch objective. Notice the capillaries and the corpuscles of the blood as they work their way through. Touch the web with a drop of dilute alcohol. The capillaries enlarge, and the blood flows more slowly. Touch the web with strong alcohol. The motion of the blood ceases entirely. The alcohol has paralyzed the nerves of the capillaries.

d. Rub two spots on some part of the arm till they have a ruddy glow. Bathe one with alcohol, and notice which spot loses its color first. What has been the effect of alcohol on the capillaries of the arm?

NOTE.—Probably it will not be necessary to perform all the experiments given in the preceding list, even if the teacher have the facilities. In two or three cases where the microscope is called for, the experiment may be omitted and still leave a pretty full presentation of the subject.

LIST OF MATERIALS.

The following materials and apparatus will be needed in performing the experiments:

Alcohol (ninety-five per cent if possible), four ounces; whiskey, brandy, gin, wine, beer, cider, &c., two ounces each; one-half

dozen test-tubes; piece of thin wire eight inches long; two or three wide mouthed bottles or tumblers; bottle of limewater; piece of bladder; potassic dichromate in solution, two ounces; sulphuric acid, two ounces, in a bottle with glass or rubber stopper; spruce gum, resin and gum camphor, a very little; castor oil, sweet oil, oil of cloves, oil of lavender, one dozen drops, each; scale pepsin, one drachm; hydrochloric acid, one ounce; magnifying glass (two or three lenses); ether, one ounce; lamp; tobacco pipe.

TOPICAL OUTLINE TO ACCOMPANY EXPERIMENTS.

In the following Topical Outline references have been made to those text-books most widely used in Maine, which treat the subject of Stimulants and Narcotics. As some of the books have no index and in others the index is of little assistance, it is hoped that the references given will help the teacher to economize time in the preparation of the lesson.

The first number in the reference, unless preceded by the sign §, denotes the page, and those following, the section and sub-section. All references to Steele's Hygienic Physiology and to Hygiene for Young People are to pages, as in those works the sections are not numbered.

DEFINITIONS.

1. A Stimulant.

M. § 264; B. 177, (c) 2 & 3; Sm. 88, II., 1; P. P. 67, II., 1; C. § 307; Bl. § 138; G. 105.

2. A Narcotic.

M. § 264; Sm. 88, II., 1; P. P. 67, II., 9; H. Y. P. 11; Bl. § 138; G. 105-6; C. § 313.

3. Alcohol both a Stimulant and a Narcotic.

M. § 264, 269; B. 177 (c); S. 130, note; Sm. 88, II, 1; Bl. § 138; C. § 313.

ABBREVIATIONS.

M .....Mills's Physiology and Hygiene.
B .....Brands's Lessons on the Human Body.
S .....Steele's Hygienic Physiology.
H. Y. P ....Hygiene for Young People.
Sm .....Smith's The Human Body and its Health.
P. P .....Smith's Primer of Physiology.
Bl .....Blaisdell's Our Bodies.
H .....Hutchinson's Physiology and Hygiene.
C .....Cutter's Lessons in Hygiene, Physiology, Stimulants and Sedatives.
G .....Gustafson's Foundation of Death.

ALCOHOL.

I. How Obtained.

M. § 266; B. 174 (d); S. 128, note; H. Y. P. 15-28; Sm. 92, § 16, 17; Bl. § 58, 59.

II. Properties of Alcohol.

1. Examination.
2. Weight (Exp. 2).
3. Inflammability (Exp. 3, *a*, *b*).
4. Affinity for water (Exp. 4, *a*, *b*, *c*, *d*).
5. Solvent Power (Exp. 5, *a*, *b*).
6. Effect on Oils (Exp. 6).
7. Antiseptic Power (Exp. 7).

M. § 268; B, 176 (b), 185, note; S. 129, note; H. Y. P. 9, 12; Bl. § 58; H. 98, § 43.

III. Forms of Alcohol.

[Exp. 8, *a*, *b*, *c*, *d*, *e*.]

M. § 267; B. 176 (a); S. 129, note; H. Y. P. 28; Sm. 93, § 17; Bl. § 59; H. 98, § 42; P. P. 72, § 16.

IV. Effects of Alcohol.

1. On Albumen.

[Exp. 9, *a*, *b*, *c*, *d*, 10, 11.]

2. On Pepsin.

[Exp. 12, *a*, *b*, *c*, *d*.]

M. § 287, 288; B. 179 (b); S. 166; H. Y. P. 101-2; Sm. 117, § 4; Bl. § 80.

3. On Digestion.

M. § 287, 288; B. 179 (b), (c); S. 166; H. Y. P. 100-2; Sm. 116, V. 1-4; Bl. § 79, 80; H. 125, § 47 and note 10; C. § 327 (*f*) & (*g*).

4. On the Stomach.

[Exp. 13.]

M. § 287; B. 179 (a), (b), 2, (c); S. 166, 131, 197, note (e) & (j); H. Y. P, 100; Sm. 116, V. 1-3; P. P. 91, IV. 5-8; Bl. § 80; H. 125, § 47; C. § 327, (b), (f).

5. On the Muscles (Fatty Degeneration).

[Exp. 14.]

M. § 275; B. 182, § 4; S. 169, note, 131, note, 197, note (i); H. Y. P. 61-2; Sm. 74, § 3; 48, V. 1; P. P. 31, III. 1; H. 151, § 49; C. § 317, 324.

6. On the Blood.

[Exp. 15, *a*, *b*, *c*, *d*, *e*.]

B. 185, note; 183, (b), 2-4, (c), 1-3; 208, (d), 1-3; S. 133, note, 132, 197, note (d); P. P. 57, § 20; H. 151, § 49; C. § 327, (i); G. 83, 87, note.

7. On the Blood Vessels.

[Exp. 15, *f*, *g*.]

H. Y. P. 183; Sm. 74, § 4; P. P. 47, § 22, 23; C. § 317; G. 86.

8. On the Nervous System.

a. On the Brain and its Membranes.

[Exp. 16, *a*, *b*.]

M. § 277; B. 186 (a), 1-3; S. 195, 2d par.; Bl. § 139; H. 210, § 62; C. § 327 (o), § 286, § 306, *a*.

b. On the Nerves.

[Exp. 17, *a*, *b*, *c*, *d*.]

M. § 278, 279; B. 189 (a), 1, 2; 182, (c); S. 193, § 1-4 and note; H. Y. P. 182-7; Sm. 151, V. 1-6; P. P. 124, V. 1-5; Bl. § 139-41; H. 210, note 13; C. § 327 (k).

c. On the Mind.

M. § 274, 278; B. 187, (c) 1-6; 196, (a)-(d); S. 194, § 3; 196; H. Y. P 188; Sm. 151, V. 1-3; C. § 305; H. 211, § 63, 64 and notes 14 & 15.

d. On Muscular Movements.

M. § 278, (1), (2), (4); B. 189, (b), 1-3; S. 193, § 1, 2, 4; 197, note; Sm. 151, § 2; Bl. § 140; H. 210, note 13; C. § 320.

9. On the Liver.

M. § 284; B. 207, (b), 1-4; S. 167, 197, note (g); H. Y. P. 105; Sm. 118, § 6; Bl. § 81; H. 126, § 48; C. § 327, (h).

10. On the Kidneys.

M. § 290; S. 167, 197, note (h); H. Y. P. 106; Sm. 118, § 8; Bl. § 177; H. 127, § 49; C. § 327, (n).

11. On the Heart.

M. § 283; B. 181, (b) 1-4; S. 130, 197, note (c); H. Y. P. 138; Sm. 74, § 3; P. P. 46, § 21, 22; Bl. § 98; H. 150, § 46, 47; C. § 327, (j).

12. On the Lungs.

M. § 289; B. 207, (c), 1, 2; S. 133, 197, note (b); H. Y. P. 122; Bl. § 109 and note; C. § 327 (m).

13. On Bodily Heat.

M. § 270; B. 191 (b), (c); S. 168; H. Y. P. 154; Bl. § 110; H. 99, § 46-49.

PAPERS READ BEFORE

STATE PEDAGOGICAL SOCIETY,

ANNUAL MEETING OF 1887.

PRESIDENT'S ADDRESS.

MISSION OF THE TEACHER.

GEO. B. FILES.

As teachers, it is no unimportant part of our mission to discover, from a careful study of the tendencies of the times, what the highest welfare of the country demands. What the people really need and what public sentiment demands are not always identical. For example, national and social vices show that the more urgent needs are clearness of moral perception and deepening of conviction, but the public have been calling for intellectual acquirements, for methods of winning money and power.

Now our moral weakness, if not our culpable ignorance, is manifest in that we have yielded to the popular cry and have been cultivating the brain at the expense of the heart.

As educators, we ought to remember that this mode of procedure antagonizes true progress; for we fail to attain the highest intellectual results when the moral faculties lie dormant.

As a plant is feeble when deprived of the sunlight, so intellectual forces fall short of their grandest exhibition when deprived of the divine illumination of conscientious conduct.

As the highest happiness cannot be gained by making it an end, but is the result of devotion to others, so power finds its highest stimulus in upright principles.

I propose, in what I have to say, to briefly call attention to some of the more important subjects which must claim our thought and study, if, as teachers, we meet the requirements of our mission.

The first is *manual training*. Manual training has a threefold value, namely, industrial, intellectual and moral. The industrial value is apparent from the fact that technical training not only qualifies a person to get a living,—an indispensable condition of self-respect, honor and happiness, but also contributes to national supremacy

The industrial value to a nation of technical instruction is forcibly demonstrated by the history of Germany for the past ten years. Her marvelous strides in manufactures, by which she is outstripping France, are due to the number and excellence of her technical schools. Every branch relating to a livelihood is taught in these schools, of which there are two hundred and fifty in operation. From this it is evident that manual training has much to do with material prosperity.

Second, as to the intellectual value of manual training. It calls into exercise thought, judgment and reason. Physical labor stimulates mental activity, brings to intellectual exertion that resolution and zest which can scarcely be derived from any other source. Power thus developed is just as good as that obtained from the study of dialectics or differential calculus, and is equally valuable to carpenter and lawyer, and is, therefore, independent of the question of vocation.

The compulsory gymnastic training in our best colleges is a recognition of the important truth that the highest development of mind cannot be attained without a corresponding training of the body. On the contrary, such is the mysterious interdependence of mind and body, that muscles under the direction of an active brain will do more and better work.

Therefore the trained hand and eye are by no means the most important results which come from industrial education.

Thirdly, as to the moral value of manual training. It tends to give correct views of life and personal responsibility. It is a safeguard against a horde of enervating and demoralizing forces which are begotten of idleness. Facts bear out the assertion that high moral excellence is rarely, if ever, attained without manual exertion

during the educational period of life. Read biography and then tell me why a large majority of our great men are born and bred in the country. I venture the answer that it is found in the fact that the country boy is obliged to work. The industrial training of the farm more than compensates for the sometimes inferior educational advantages of the country school.

This morning I noticed a remark recently made by Mr. Blaine in Paris to a reporter. The remark was this:—"I think I never felt better in my life. I ascribe my vigorous health to two causes. I was born with a good body, and worked on a Pennsylvania farm in my younger days. Life on a farm in boyhood makes for vigor of days in manhood."

Hence, we see the necessity of having in our higher schools, especially in villages and cities, some industrial training, which shall, at least, be equivalent to that furnished on the farm.

The history of education in this country for the past two years makes clearly evident that there is a rapidly growing sentiment in favor of industrial training, and what has been so successfully accomplished in some of our larger cities, has effectually demolished many theories of the opposition.

It is our duty as teachers, to carefully study this question; for, otherwise, we shall not meet the requirements of our mission.

The discussion of manual and mental education shows a widespread impression that one must be purchased at the price of the other, that the trained hand and eye are not combined with the trained mind. Now, an unprejudiced examination of this subject will reveal the fact that not only is there no necessary antagonism between physical and mental training but rather a reciprocal stimulus. While it may be interesting to understand the relative value of each department of that training which makes a perfect man, yet it is far more important to have the knowledge and skill to direct the various kinds of activity and discipline, so as to secure not only the trained hand and eye, but also the trained mind and heart.

If what has been said be true, it follows that the harmonious development of all the faculties and powers cannot be reasonably looked for without manual training. What has been done by the Superintendent of Public Instruction in Philadelphia, James McAlister, has deepened the conviction that the educational system of the near future must train the body as well as the mind and heart.

Right here I wish to mention two important results which will attend the introduction of manual training into our schools—first, the number of pupils will be increased and many will remain in school for a longer time, because the demand for what is called a "practical education" will be satisfied. The second result will be the elevation of manual labor. In spite of all the fine things which have been said by orator, essayist and poet, about the dignity and nobility of labor, there still rests upon it a stigma. This finds expression in social distinctions, the prolific source of much evil.

Therefore we can easily account for the prevalence of the mischievous notion that ideal happiness consists in getting beyond the necessity of labor; when, in fact, the keenest and purest enjoyment in life flows from activity.

Now, if in our public schools manual skill and intellectual achievements can be associated, then in active life it will be no easy task to divorce them. Then, in the good time coming, on the farm, in the shop, in the manufactory, as well as on the bench, in the editorial chair, in the pulpit, we shall find intelligence and scholarship.

EVILS.

In view of the evils of the country, what is the mission of the teacher? Our method of dealing with the evils of the day is unphilosophical and irrational. We are attempting to effect by legislative enactments alone that which cannot be accomplished without Christian education. We are stupidly floundering among results, instead of wisely dealing with causes. We are cutting shoots from a vigorous upas tree, while its roots remain in the fertile soil. Legislators are hopelessly puzzled with problems which the teachers of this country ought to assist in solving. For example, in New York alone are 70,000 destitute children. In our numerous other cities, they aggregate hundreds of thousands. The children of to-day are to be the men and women of to-morrow. In these great moral sewers are thousands, who, festering in filth and brutalized by passion and villainous example, will in the near future be blear-eyed drunkards, safe-cracking burglars, and bomb-throwing anarchists; who will be black-masked highwaymen, ballot-box stuffers, and hard knuckled roughs; who will crowd our almshouses, penitentiaries, and prisons with physical and moral wrecks; who will swarm about grog-shops, brothels, and gambling-hells.

What is to be done for this abandoned street population which is increasing at such an alarming rate? Chas. C. Pinckney said, "Millions for defence, but not one cent for tribute." Our policy in this country is millions for taking care of criminals, but not one cent for educating destitute children, out of whom criminals are made. Is this common sense? Is it economy, to say nothing of humanity? As teachers we have no business to say that this is a problem for statesmen and philanthropists, and composedly wash our hands of all responsibility.

In this question are involved not only the perpetuity of this great nation, but also the cause of representative governments and the dearest interests of humanity. This momentous question calls for the combined patriotism, knowledge and wisdom of all good men, and especially the united and vigorous action of teachers. What is the remedy for ballot-box stuffing and false election returns? Not sheriffs, constables and state militia; but moral education. Let the teachers brand it upon the consciences of the school boys that fraud brings only temporary advantage, which must sooner or later terminate in bitter and inconsolable failure.

What is the most effectual means of staying the drink traffic with its voluminous and dark history of crime and suffering? Not organizations, license and prohibitory legislation alone, although they have done much; but universal temperance instruction. Teach the boy so he will have an intelligent horror of the wine cup. Thus shall we solve this long-standing question and, at the same time, eradicate countless miseries which blast this broad land.

Who is to check and counteract the insane theories of anarchist and communist? The teacher with sound theories of politics and government. In many of our common schools, especially in cities, are pupils representing different nationalities. To Americanize this heterogeneous mass and thus produce intelligent, thoughtful, loyal, and upright citizens is a task of no ordinary magnitude and one the burden of which must rest on the teacher.

How are we to reconcile the clashing interests of labor and capital? What is to end this unreasonable and selfish strife? Not secret organizations, strikes, and boycotts; but sound education which dignifies labor and stigmatizes that heartless greed which gloats over the fruits of half-requited toil.

What is to cool this burning fever to be rich, which is the prolific source of trickery, forgery, oppression, neglect, and a thousand other nameless wrongs which embroil society and ignite combustible

passion? Let the Christian teacher anchor deep in the souls of his pupils the indelible conviction that man's life consisteth not in the abundance of the things which he possesseth; that true success is not founded on bank stocks and mortgages; that anything short of mental and moral worth is a fatal delusion. The pupil should be made to believe in every fiber of his being that character is the one priceless gem, which it is supreme madness to barter for any and all other values.

Now, the solution of these great moral problems, political corruption, intemperance, communism, labor and capital, theft, and dishonesty—to which reference has been made—as well as many others of kindred nature, which fill good men with apprehension: I repeat, the solution of all these is involved in the solution of the educational problem. If such vast and far-reaching consequences hinge on right education, such education should be the paramount business of the present time, and if responsibility rests on one man more than another, that man is the teacher.

So we are brought to the conclusion that it is the peculiar prerogative as well as the exalted mission of the school master to take the initiative in educational matters.

If we are loyal to our mission, it must be under the inspiration of the profound conviction that education must not only be universal, but also such as to develop character. If boys and girls leave school with high ideals, with an unshaken belief that it is far nobler to live uprightly than to fare sumptuously, the national and social questions which have so long baffled our wisdom will not much longer be left to stagger us, and the gathering clouds of ignorance, greed and passion which threaten the perpetuity of this great republic will gradually, but surely, be dispelled by the ever increasing brightness of virtuous education.

CONDITIONS NECESSARY TO MEET THE REQUIREMENTS OF OUR MISSION.

1. The teacher should study the history of pedagogy, for it contains solutions for difficulties and courage for struggles. A revelation of the grand work already accomplished can but inspire one with energy, devotion and faith.

2. The teacher should have broad scholarship—a knowledge not only of subjects to be taught, but also kindred subjects. He should have such an acquaintance with standard authors and such a taste for pure literature as will qualify him to direct his pupils in the choice of books.

Just here a word about books and what we, as teachers, should do. This country, as we all are painfully aware, is flooded with sensational literature which is adapted with Satanic ingenuity to produce the worst effects on mind and heart. It throws about life a glamour of unreality. It gives an unhealthful stimulus to the imagination, creates distaste for exertion and an abhorrence of stern facts and duties. It blunts the moral perceptions, befogs the reason, inflames the baser passions, and poisons the springs from which issue tender charities and sympathies. In short, no evil is more hydra-headed. It is more wrecking than Scylla, more voracious than Charybdis.

The most effectual way to fight this evil is found in the cultivation of a taste for good books. The teacher should suggest to the pupil what to read and how to read. He should bring about an intimate relation between the school and public library by assigning topics for investigation and subjects for compositions and essays which require the consultation of books.

3. The teacher should have such a knowledge of human nature and such skill as will enable him to adapt his methods to different stages of growth, to the natural demands of observation, memory, imagination, and reason. The training should be so comprehensive as to develop the whole man—his physical, intellectual, æsthetic, social, and religious nature.

4. The teacher should have a definite purpose. I once heard of a man who made a bob-sled without rule or judgment. This has reminded me of much of our teaching. I seriously doubt if muscular activity alone can culminate even in a bob-sled, and so place little confidence in undirected effort. A ship, a house, an engine, is the product of a plan. Can we reasonably expect that intellectual power and moral excellence, the grandest culmination of human thought and volition, can result from anything short of a plan wrought out with the utmost skill and painstaking?

5. Another condition of success is ability on the part of the teacher to awaken such an interest and inspire such a love of study as will insure spontaneous activity. If the pupil does only what he is compelled to do and cannot be brought to experience the exhilaration and enthusiasm resulting from voluntary exertion, you will look in vain for anything remarkable in scholarship. The teacher should aid the pupil to apprehend the objects of study and thus beget in him an intense longing which cannot be satisfied with anything short of a life of self-education.

6. The teacher must have a young heart, that he may appreciate the pupil's difficulties, motives, desires, feelings and ambitions. He must have the broadest sympathy and most forbearing love. Some one says, "All this sounds very fine, but it is hard to meet the conditions. With bad ventilation, physical exhaustion, jaded nerves, home anxieties, with dullness, carelessness, inattention and mischievousness, it is impossible for a human being to be uniformly patient, kind and gentle." So it is, unless one keeps in mind the transcendent interests involved, unless the tremendous truth is burned into the soul that a priceless destiny may be wrecked by ignorance, thoughtlessness and ill-temper, unless one is ever drinking from that perennial fountain of divine wisdom and goodness, unless he comprehends the relation of the material and the spiritual.

In Grecian story the giant Antæus, wrestling with Hercules, doubled his strength every time he touched the ground. So do we increase our moral power when we come in contact with Jesus Christ, the Great Teacher.

Difficulties numerous and great never dishearten the man of sublime faith and heroic mold. Such is the true teacher, whose faith springs from truth, and whose heroism is derived from a clear conception of the needs and tendencies of the times.

Superintendent Richard Edwards said:—"There never was a heroic exercise undertaken that did not involve antagonisms as great. The soldier who is discouraged because the enemy is numerous may as well lay down his arms; and the teacher whose efforts are enfeebled by the thought of obstacles in his way may as well drop to the idea that he has no reward but his salary. The truth is that, in all these conflicts, the teacher's faith must sustain him; herein is for him the source of his strength."

What has been said emphasizes the fact that our work should not cease with physical and mental training; but should, by all means, embrace moral instruction. Education, as commonly used, does not necessarily imply a right heart. Rev. Emery Haynes said last September in Tremont Temple, "The best educated man I knew spoke six languages and was a liar in all six."

Talmage once said, "Educate only a man's head and you make him an infidel, educate only a man's heart and you make him a fanatic, educate them both together and you have the noblest work of God."

It may be a grand thing to make a good reader, or mathematician, or scientist, or linguist; it may be a grander thing to graduate a boy with such an amount of knowledge and intellectual discipline as will insure success in business or a learned profession; but it is the grandest of all to send him forth with such a deathless love for truth and virtue as will make his life resplendent with noble deeds.

Superintendent E. E. White of Cincinnati said:—"The highest efficiency of the public school is tested by its results in moral character; and hence the central aim of the public school is effective moral training."

Every observing teacher knows that, in many cases, the church and home cannot be relied on for moral instruction, and, therefore, such instruction should have a place in school.

Our New England fathers recognized the fact that education and religion should go hand in hand. We may know more about base ball, yacht racing, and applied science; we may look wise as we discourse on protoplasm, law, force and matter; yet it is very doubtful if we can boast of superior wisdom in character-building.

SELF-RELIANCE.

We must appreciate the value of self-reliance. There has been a vast deal of discussion on the comparative disciplinary value of the classics, modern language, science and mathematics. I am satisfied that the secret of mental development does not so much exist in the superiority of one subject to another, as in the method of teaching and study. Greek and Latin, properly studied, wonderfully enlarge and stimulate the mind, and, at the same time, afford the keenest intellectual enjoyment; but, as frequently taught, they fall short of the best results and too often produce only weariness and disgust. The great bane of the teaching of the present day is excessive simplification and doing too much for the pupil. Hence he is a stranger to the delightful experience of an intellectual victory. His triumphs are associated with athletic sports and muscular feats in the gymnasium; not with the nobler achievements of mind. He seems never to have dreamed that the mental gymnastics of a hard and determined struggle are a source of enjoyment, or that there is any fascination in a hard linguistic or mathematical tournament.

If one wants muscular strength, let him build stone walls or wield a blacksmith's sledge. If he wants mental power, let him write out in choice language a difficult page of Greek or Latin, or study out a

theorem of geometry, or the reaction of a chemical experiment. Now, what is the result, as seen in society, of easy-going methods which do not demand the most strenuous effort on the part of the pupil? By mitigating hard tasks we are raising a pack of noodles who fumble but do not skilfully manipulate the conditions of success. We have a large class of kid-gloved, milk-and-water fellows who are lazily looking after a soft job and thus bringing reproach on the public school. This reminds one of the comment of a Pennsylvania paper on an advertisement for "a boy to do heavy work." The comment was this: "Boys who would be caught by an advertisement like that are very scarce in this section."

The following, which I cut from a Boston paper, suggests an opening for these delicate hands and weak heads of modern education and it is possible that Yankee ingenuity can devise a similarly exhilarating occupation for another batch. "Two young men in Philadelphia earn a living by operating as window gazers. By standing and gazing into shop windows they attract a crowd, which operates as an advertisement, and they are regularly employed for this purpose." It is to be hoped that our modern methods could fit a boy for a position like that, yet it may be doubted whether we train the attention sufficiently to meet the requirements.

However, I think that, as teachers, we are not quite ready to expose ourselves to the charge of selfishness by assuming all the responsibility for the existence of these soft-handed and high-collared dudes; but will leave a generous share to the mistaken indulgence and lax discipline of parents.

Now, what is the remedy so far as the school-room is concerned? Whatever the subject taught, make the largest demands for self-reliant effort. If such demands are wisely and kindly made, the pupil will respond, and increased interest and pleasure will ensure harder and more persistent endeavor. Remember that scholarship is measured not by subjects in the curriculum nor by years in the school-room, but by individual research and independent thought.

Writers, as well as teachers, are guilty of making things too easy. By yielding to the popular demand to bring everything within the comprehension of children, they make a serious mistake. They thus remove one of the most powerful stimuli to thought.

Sir Walter Scott said: "Indeed I rather suspect that children derive impulses of a powerful kind from reading things which they do not comprehend and, therefore, that to write down to children's

understanding is a mistake. Set them on the scent and let them puzzle it out."

This more than suggests to the teacher an important rule. Make it a point to simplify as little as possible.

SELF-FORGETFULNESS.

As teachers we are not true to our exalted mission, if we fail to do our utmost to impress upon our pupils the truth that the noblest, grandest, and best in life is secured in giving, not by receiving; by serving, not by being served. The possession on the part of the teacher of a genuine interest in the welfare of the pupil is indispensable in teaching the lesson of benevolence; for such interest, of necessity, finds expression in the countenance and in numerous acts of helpfulness and words of encouragement and sympathy. Virtue in action makes the deepest impression and is, therefore, most lasting. Inevitable will be the failure of a teacher whose character does not measure up to the precepts he attempts to inculcate. Rules not illustrated by acts are obliterated like foot-prints in the sand by the incoming tide. Therefore the teacher must be prepared to prove by living as well as by history that the prominent trait of the grandest heroes, God's noblemen, is unselfishness. Socrates, not for his genius and military fame is the brightest name in Grecian history. We honor him for his devotion to the welfare of Athenian youth. His conspicuous adherence to truth and virtue was an unseen yet mighty moral force which every generous soul leaves as a priceless legacy to mankind.

While selfishness may stimulate industrial and intellectual activity and, therefore, be to a large extent a promoter of civilization, still, in many of its manifestations, it is destructive and even repulsive. It finds expression not only in the hardened visage of the miser, in the pitiless grip of the rumseller, in the merciless lash of the slave-driver, and the hideous hoot of the anarchist, but also unkind words in the home, jealousies in the church, and enmities in society spring from the same prolific root. The atmosphere of the school-room should be pervaded by the ennobling and soul-inspiring thought that the pupil, by gaining wealth of mind and heart, is making himself debtor to others who do not possess his invaluable riches. Truly great men are generous. Benevolence embodied in asylums, in hospitals, in homes for poor and friendless, in missions, in education, is the just pride of this great nation.

Again, it is an important part of our mission to watch over the interests of the common school.

Last Thursday evening at Boston Highlands, Rev. F. T. McCarthy delivered a lecture in which he advocated the maintenance of sectarian schools and claimed that the state has no right to become an educator. Speaking of the public school system he said: "They will talk about this being an American and national institution. It is a national fraud." Further on he said: "It must cease to exist, and the day will come when it will cease to exist. There are some eight millions of Catholics in the United States now. They protest against this institution."

Here we have an authoritative statement of the attitude of the Catholics to the public schools. Those who claim that there is no "public school question," and that those who are calling attention to this question are alarmists have here food for contemplation and an opportunity to discover, that we have on our hands an issue of quite respectable dimensions. The encroachments of the Roman Catholic church upon our school system should awaken the unanimous and decided protestation of all true patriots, especially of teachers. From New York city treasury $800,000 are drawn annually for the special purposes of that church. When efforts are made, as at Lowell and Malden, to use public property to support parochial schools, there is general cause of alarm.

Parochial schools supported by public funds are a thrust at the free institutions of America. Therefore, all teachers with loyalty to their mission should, by writing, discussion, and resolve, so persistently endeavor to enlighten public opinion as to the priceless value of the common school, that no religious sect or organization can find it possible to secure public money to support peculiar institutions or propagate religious beliefs. It is an outrageous and unbearable violation of the genius of American society and tends to the subversion of popular government. It is our duty to guard at every point our schools and defend them against the Roman hierarchy or other sectarian organization which is in great danger of being used by scheming demagogues as a cat's-paw to gain partisan or selfish ends.

George F. Hoar, in an article in the Boston Journal of October 27, said: "We should strain all our resources to the utmost that the education to be got in our common schools should be better than any other, and keep them open to all the children of the State and

free from partisan and sectarian control. Those who are side by side in the school-house will not long keep far asunder in the town house. The mighty life of the nation of whose bone and sinew and blood and nerves the State is but a part, will have its constant and irresistible influence. There need be little fear that as the memories and fashions which are peculiar to each recede, common institutions, common memories, and interests, and hopes will blend these races together, if not in the old Massachusetts, yet in a State better than the old."

COMPULSORY EDUCATION.

If Christian education, as we must all admit, is essential to our existence as a nation, to say nothing of our grandest possibilities, it necessarily follows that such education should, by all means, be compulsory. Luther's irresistible argument was this: "It is my opinion that the authorities are bound to force their subjects to send their children to school. If they can oblige able-bodied subjects to carry the lance and the arquebuse, to mount ramparts, and to do complete military service, for a much better reason may they, and ought they, to force their subjects to send their children to school, for here it is the question of a much more terrible war with the devil."

Illiteracy is on the increase in this country. In 1880 two million voters—one fifth of the whole—could not write. Of the school population, there are seven million who do not know the English alphabet.

What does this suggest as to the wisdom of compulsory education? What does it suggest as to federal aid?

The dangers which threaten us as a nation are apparent to every thoughtful citizen who is at all conversant with the social and political condition of our large cities, like New York, Chicago, and San Francisco. Not chimerical, but real are the dangers.

What is the sovereign remedy? Christian education. How can it be brought about? Apply the surplus revenues of this great nation which are accumulating at an unprecedented rate to educational purposes. I believe God has given us wealth for this end and we imperil our dearest interests if we prove recreant to the trust.

This is the sure way of dispelling the dangers which impend over us. Our foes are within, not without. They are educational and moral degeneracy, not foreign might.

Let one of the aims of our mission be to hasten the day when shall be placed within the reach of every boy and girl in our broad domain such training as will make intelligent, patriotic and virtuous citizens.

THE IMPORTANCE OF THE TEACHER'S MISSION.

The importance of the teacher's mission is measured by the interests involved.

The interests involved are transcendent. In a political campaign may be involved a railroad scheme. On the reception of a book may depend a literary reputation; on the eloquence of a plea, the life of a human being; on suspicion or faith, poverty or opulence; but on a teacher's behavior, on the smile of encouragement or the frown of censure, may tremble the mighty interests of human character, interests not circumscribed by things seen and temporal, but which expand infinitely beyond the reach of thought to things unseen and eternal.

We ought to teach that the highest value is character, not money, not place, not power.

We should hold up to admiration principle which cannot be contaminated by flattery or servility. It was writ of Coriolanus, "He would not flatter Neptune for his trident or Jove for his power to thunder." We need this adherence to the right, the crucial test of character.

All persons, regardless of their occupation, are impressing themselves upon others and either consciously or unconsciously helping to make them what they are; but the results of this personal contact are seen in a more marked degree in the school-room than elsewhere except in the family; first, because the young are susceptible to impressions, and, second, because of the length of time the pupil is under the influence of the teacher.

NOBILITY OF THE TEACHER'S MISSION.

Having called attention to the importance of the teacher's mission, let us now glance at its nobility. This nobility is not measured by public estimate.

It is obvious that the public estimation of any profession or calling suffers because of incompetents. Teaching more than any other profession has been thus affected, because, for mercenary reasons, many have made it a stepping-stone to other professions popularly

considered more honorable. Still no one can present a sound reason why a teacher who has devoted his best thought and energy to his calling should not be esteemed highly for his works' sake. What is the work of the teacher?

James Russell Lowell has said:—"Let it be our hope to make a gentleman of every youth under our charge,—not a conventional gentleman, but a man of culture, a man of intellectual resource, a man of public spirit, a man of refinement, with that good taste which is the conscience of the mind, and that conscience which is the good taste of the soul." Who has a nobler mission? At the risk of being classed among those disagreeable persons who are always whining because they are not appreciated, I wish to protest against the inconsistency and unfairness which, on account of poor teaching, stigmatizes the pedagogical profession. Why should teaching be brought into disrepute because of incompetents, any more than the medical fraternity because of quacks, or the legal profession because of pettifoggers, or the author because of the scribbler, or the divinely commissioned herald of the gospel because of the hireling, or the business man because of the petty schemer.

This discrimination against the teacher is deplorable, not simply because it gives him an uncomfortable consciousness of being the victim of injustice, but especially because it detracts from his influence and hence his efficiency. Pupils inevitably imbibe from the atmosphere of the home circle and from community opinions in regard to the teacher, and in the same degree in which opinions are unfavorable, in just that degree are his burdens augmented and his power lessened.

Again, the public estimate of the teacher has sometimes been revealed by the conduct of school authorities. Self-respect has been crushed out and teachers have been made to feel that they are objects of charity instead of honorable servants, rendering a service by no means measured by their meager salaries. However, this treatment may not prove an unmixed evil. It may open the eyes of teachers themselves to the true dignity of their profession, and lead to a determined and united effort for emancipation.

We must always keep distinctly before our minds that our work is to make men and women in the truest and broadest sense.

The story is told that Daniel Webster and several other statesmen were assembled on one occasion and it came to pass that each presented the peculiar advantages of his own State. One claimed for

his State agricultural supremacy; another, commercial importance; a third, educational advantages. And so it went on until, at last, when it came Mr. Webster's turn to speak, it seemed that all the grounds on which a claim for distinction could be based had been surveyed; but the distinguished statesman from the Granite State was equal to the occasion and in substance said:—"When I pass along the streets of a city and see a large watch hung out, it means watches are made here; or a boat, it means boats are made here. So the Creator hung out in Franconia Notch, the Old Man of the Mountain, thus saying to the world, 'Men are made in New Hampshire.'"

So men and women are the product of every true school. Who can present grander results of thought and energy than the teacher worthy of the name?

He is the greatest man who best serves the interests af mankind. Such was the late Dr. Mark Hopkins of Williams College. At the time of his death there were seventeen hundred and twenty-six living alumni. All these except thirty-one had been taught by him. Five hundred and thirty-four of those who had died had also been under his instruction. So that twenty-two hundred and twenty-nine in all were taught by him. But the work of this great teacher cannot be represented by figures. More potent than class-room instruction was his devoted life. Because of breadth, depth and intensity of feeling, he had a wonderful power of impressing himself upon his pupils.

President Garfield said of him: "I would rather sit on one end of a log with Mark Hopkins on the other than to have the tuition of the greatest university in the land."

In spite of the befogging pretensions of wealth and the assumptions of social life, in the light of his personality, the embodiment of truth and virtue, the student caught a glimpse of real values and felt the power of lofty aims. Who can calculate the reach of that enduring and ever progressive force which has found expression in so many unselfish lives? In what position can one do more for humanity? In the midst of the allurements and fascinations of the age, his students felt that character was the grandest culmination of human endeavor and the sublime result of strict adherence to principle. Others may receive a larger meed of praise from the unappreciative throng, but none deserve greater honor.

We honor the sculptor who gives thought to marble. Shall we not honor the teacher who gives the imprint of nobility to the soul? We eulogize the orator who, for the time, by his mysterious magnetism and impassioned speech sways his audience. Does not as much credit belong to the teacher, patient and faithful, who, in an unostentatious way, day after day, month after month, by kindness and sympathy lifts his pupils to a higher plain of thought and feeling?

We honor the statesman who, in spite of the money of the lobbyist and the glitter of popularity, is loyal to conscience. May we not give equal honor to the teacher who, long ago in the little red schoolhouse, implanted that love of purity which made him incorruptible? We honor the great soldier who marshals his troops to defend the liberties of his country. Why should not we pay greater honor to the teacher who marshals moral forces to defend the soul with all its infinite possibilities against the dominion of evil?

We honor the inventive genius who mitigates the physical burdens of life. Shall we not honor the teacher who enables one to escape the more grievous burden of ignorance and sin? In short, the more we contemplate the teacher's work, the more its nobility grows on us. The conception of its exalted character is attended with, at least, one beneficent result. It lifts us above many annoyances and vexations and gives that courage, serenity and evenness of temper essential to the highest success.

In conclusion, I wish to refer, in a word, to the *durability* of the teacher's work.

The work of the teacher, as well as of every other person who influences mind and heart, is characterized by durability. The wealth of the millionaire may be squandered by the thriftless heir, the canvas of the painter may fade, the statue of the sculptor may crumble, the stately cathedral may become a shapeless ruin, yea, the very heavens may be rolled together as a scroll, but the work of the teacher is not obliterated by time or change.

The look, the word of the teacher is making an impression which cannot be effaced by the mutations of centuries or the cycles of eternity.

The influence of Thomas Arnold of Rugby fame, whose pure and noble spirit molded the character of so many, still lives and will be a power, ever living, ever progressive, ever cumulative. What is

true in point of permanency and enlargement of influence of a strong man like Arnold is equally true of the humblest teacher who is loyal to his high calling.

If durability is a measure of value, then the teacher's work is as measureless as eternity.

SOME CONSIDERATIONS ON THE STUDY OF LANGUAGE.

PROF H. L. CHAPMAN.

In a previous paper on this subject, which I had the honor to read before this society, attention was called to the fact that the absolute and perfect mastery of the resources of our language is a distant and constantly receding goal; that it is accordingly wise, in the various stages of instruction and acquisition to set up partial and temporary standards. To do so is likely to give effectiveness to the efforts of teacher and pupil, by placing before them a definite and attainable end in place of one that is vague and vanishing. We are so constituted that, in order to work joyfully and effectively, we need to see clearly what we are aiming at, and to feel the possibility of reaching it, and to be able to perceive our approaches to it. It is well, therefore, in the endless line of effort that stretches before us in the study of language, to establish certain posts which may serve as intermediate goals, and to divide the course into corresponding definite stages.

Four such stages of study and instruction were suggested, and they were named, the *glossarial*, the *grammatical*, the *rhetorical*, and the *philological*.

The *glossarial* and *grammatical* stages were treated at length in my former paper, and consequently only a brief reference will be given to them at this time. In the glossarial stage it should be the aim of the teacher to put the child in possession of words and their meanings, and to teach him to use them correctly and appreciatively. The main business here is to furnish him with a vocabulary, and a vocabulary consisting of words the meaning of which he thoroughly understands. It is necessary, at the very outset, to give him the means of expressing his own thoughts, and of comprehending what is said to him by others. His teacher fulfills for him the office of a *glossary*, by making clear to him the meaning of terms which he must employ in his intercourse with others, and in the further prose-

cution of his studies. Special care should be taken that the child's vocabulary keep pace with his increasing knowledge of things and his increasing capacity to think, and that it does not outrun this knowledge and capacity. From the beginning he should be taught, not so much by direct precept at first as by careful oversight and guidance in the use of them, that words are precious when they stand for things, and for ideas, and that when they do not stand for things and ideas they are valueless and mischievous.

At the end of this first stage of instruction in language the intelligent child may be expected to be in possession of a vocabulary commensurate with his knowledge and with his present power of thinking; it may be expected that he will know what the word which he uses means; that he will know the correct forms and pronunciation of the words he uses, and the common grammatical concords, without, however, having his mind confused by a grammatical nomenclature and terminology; it may be expected that he will be able to tell what he knows and what he thinks, with reasonable clearness and simplicity, either orally or in writing. In short, to the extent of his mental power and of his knowledge he will have a competent use of language both for receiving and for communicating ideas.

Throughout the *glossarial* stage the child is to look upon language as the instrument employed for conveying and communicating ideas; an instrument that is to be carefully used, with precision and correctness or it will fail of its purpose. But to make this instrument itself the subject of systematic investigation and study requires a power of abstraction, a subtlety and maturity of thought, and a freedom and familiarity in the uses of language which the child cannot as yet command.

In the second stage, however, the *grammatical*, the pupil's attention is to be directed to the laws and usages of language itself, and we dissociate the teaching of grammar from the teaching of things. It is, as Bain says, "one of the advantages of a grammatical course, to make the distinction between these things apparent, and to give an occasion for imparting language lessons pure and simple."

The sentence, which the child has already learned to use, must be analyzed into its elements, and their mutual relations must be traced. The various forms of sentences, alone and in combination, must be subjected to this process. The logical relations of the several members of the sentence, and the logical relations of con-

nected and consecutive sentences, will thus be learned, as well as the characters and functions of the several parts of speech. After these exercises in analysis, and, indeed, in connection with them, the pupil should be required to go through a persistent drill in grammatical parsing, and should be employed in frequent but simple exercises in composition.

At the end of the *grammatical* stage the intelligent pupil may be expected not only to use such a vocabulary as he has with a vivid and accurate apprehension of the meanings of his words, but also to understand the names, characteristics, and functions of the several parts of speech; how the various parts of the sentence are related to each other; how they are combined into complex sentences; and how these sentences are marshalled in connected discourse. He will be able, also, to apply this knowledge correctly in writing such composition as falls within the range of his powers and acquisitions.

Now why is not this sufficient? For many purposes it is sufficient. For the purposes of intercourse and of ordinary business this degree of mastery over the resources of the language will answer the needs of daily life. This is, accordingly, one of the intermediate goals to which reference has been made as serving the interests of common convenience, and pointing out an end that may be aimed at and reached. But the constant recurrence of grave problems in social, political and moral science, the proper settlement of which demands profound and persuasive discussion, and the exactions of literature with its far-reaching and beneficent influence,—these things make it clear that language has other and higher uses than to serve as the medium of social and business intercourse in the ordinary affairs of life.

The next stage, accordingly, in the study of language is the *rhetorical*. In this stage language is studied with reference to its capabilities for expressing appropriately and effectively for the purpose in hand. We are to assume that previous training has cultivated the habit of using words intelligently as the exact signs of things; that it has also imparted the power of applying, with some degree of freedom and skill, the ordinary laws of grammar to the stucture of sentences, and of connected discourse. This measure of knowledge in the use of language is the necessary starting point for the study of rhetorical usage. Without, for a moment, abandoning the fundamental principle that a sentence must be the plain and perspicuous expression of a clearly conceived thought, the learner's

attention must now be directed to a new and more artistic standard of sentence structure;—Such a standard, for instance, as Sir Arthur Helps sets up when he says: "A sentence should be powerful in its substantives, choice and discreet in its adjectives, nicely correct in its verbs; not a word that could be added, nor one which the most fastidious would venture to suppress; in order, lucid; in sequence, logical; in method perspicuous." This is a high standard, but the man who wrote it is himself a living proof that the standard can be reached. Of course where so much nicety is demanded in fashioning the constituent elements of discourse, an equally high standard must be maintained in respect to the lucid order, the logical sequence, and the perspicuous method of the discourse as a whole.

Without disparaging grammatical correctness, therefore, as an end in itself, there is abundant inducement to go a step further, and to seek to add to grammatical correctness, rhetorical charm and power. It may be said, however, with regard to the sphere of rhetorical training, that there seems to be a region of artistic achievement in the use of language, that is beyond the reach of formal instruction. It is so with every art. There are pianists who seem to be born with that peculiarly delicate touch which is the despair of those who seek to acquire it. There are artists who exhibit a sensitive appreciation of color, and an almost magical power in using it, which they seem never to have learned, and which cannot be taught. In like manner there appears to be such a thing as an innate rhetorical sense. It reveals itself in the deft selection of words, and in the felicitous combination of them; in the picturesque grouping and delicate balancing of phrases; in the pervading tone and stimulating freshness of composition. These things cannot be grasped and bound by the heavy links of formal precept. They elude the hand that tries to capture them, but they abide, in a kind of native freedom, in the works of the ever-living masters of speech, and it is well for us to put ourselves as often as possible under their influence, and to be wrought upon by their magic. That is a kind of unconscious training which is adapted to develop within us whatever there is that is responsive to their power. "A clear head," says Herbert Spencer, "a quick imagination, and a sensitive ear, will go far towards making all rhetorical precepts needless. He who daily hears and reads well-framed sentences, will naturally more or less tend to use similar ones. And where there exists any mental idiosyncrasy—where there is a deficient verbal memory, or an inadequate sense of logical depen-

dence, or but little perception of order, or a lack of constructive ingenuity; no amount of instruction will remedy the defect."

But even within the admitted range of rhetorical training one or two things deserve to be specially emphasized. At the very outset of this stage in the study of language the elementary principles of formal logic may, with great advantage to the pupil, be taught. These elementary principles of logic deal with the form, the import and the relations of propositions, and with the inferences that may legitimately be drawn from propositions standing alone or in combination. It may be a question with some if this study does not belong to the grammatical rather than the rhetorical stage; but it is to be observed that the facts of logic, so far as they are concerned with language, have reference to the *meaning* and *force* of propositions rather than to their grammatical form and correctness. The proposition is estimated and weighed in view of its content rather than its structure. It belongs to the art that puts things aptly, and combines them justly and effectively, rather than to the art that is content with stating things correctly.

It is to be regretted that logic is regarded with disfavor by some, perhaps by many, on account of the unfortunate misconceptions that exist about it. To these people it conveys the idea of "something subtle, metaphysical, difficult, sophistical, and the like; something useless or worse than useless; something quite as difficult as profitable—difficult, at least, to students of an early age and uncultivated understandings."

But even if the difficulty of it be not insisted on, it seems to these objectors to be barren of good, a mere "striving about words to no profit." These misconceptions are venerable and stubborn. They have come down to us as the natural result of the *abuse* of logic as it was employed in the petty scholastic controversies of the middle ages. But the best things may be abused. As a matter of fact logic, at least in its elementary principles and applications, is not difficult to one who has mastered the laws of grammar. Neither is it unpractical unless it is unpractical to teach the import of propositions, the rules of inference, and the methods of correct reasoning. It is of no slight value to a student entering upon the rhetorical study of language to understand the various changes through which propositions may pass by conversion, opposition and permutation, with the corresponding changes of meaning. It is of interest and of importance for him to know why it is legitimate to transpose the

proposition "some teachers are ladies" into the proposition "some ladies are teachers," and why it is not legitimate to transpose the proposition "all teachers are conscientious persons," into the proposition "all conscientious persons are teachers." It is worth something to him to know that the denial of a general proposition does not necessitate the denial of the particular, while the falsity of the particular proposition *does* involve the falsity of the general. It may be of very practical advantage to him in estimating the value of an argument, or in conducting a train of reasoning, to know upon what conditions two propositions may be combined to warrant the inference of a third. There is a fact that may seem to oppose the idea that logic is of value in the study of language. It is the fact that unmeaning symbols, such as A, B, C, X, Y, Q, &c., may be employed as well as words to represent and elucidate the processes of logic. It is true that the abstract principles and processes of logic may be so represented, but the application and embodiment of logical principles, with which the pupil will be chiefly concerned, is in living discourse, and this is the material and the product of rhetorical art. It would be as pertinent to forbid the figure painter to spend any time upon the study of the skeleton, because he paints living figures, and not skeletons.

I have dwelt at some length upon this topic because Logic is not usually regarded as constituting any part of the rhetorical study of language. Among the *recognized* branches of rhetorical training I would lay chief stress upon the principles of Order and Arrangement, and upon Figures of Speech, partly because these things are capable of being taught, and exemplified, and practiced, and partly because I consider them of very great value in all rhetorical discipline. Take for example the principle of order in the structure of a sentence, and consider how much the clearness, the force and the elegance of the sentence depend upon it, and how capable it is of being made a matter of instruction. Let me borrow an example to illustrate this point.

I find this sentence: "He determined on selling all his estates, and, as soon as this was done to quit the country, believing that his honor demanded this sacrifice, and in the hope of satisfying his creditors."

This order of phrases is felt to be awkward and confused; the qualifying adjuncts are widely separated from the words they are

meant to qualify; and the sentence seems to be limp and formless. Let us try a re-arrangement:

"In the hope of satisfying his creditors he determined on selling all his estates, and as soon as this was done, to quit the country, believing that his honor demanded this sacrifice."

In some respects this arrangement is an improvement upon the first, and yet it is not satisfactory, because the two qualifying adjuncts which are closely connected in the logical sequence of thought, namely the adjuncts "In the hope of satisfying his creditors," and "believing that his honor demanded this sacrifice," are separated by the whole of the remaining part of the sentence. Let us bring them together, and try one more arrangement; with a slight change in construction:

"Believing that his honor demanded this sacrifice, and hoping thereby to satisfy his creditors, he determined to sell all his estates and to quit the country."

This is seen to be a great improvement upon the other two arrangements, and it illustrates a great principle of order with which the pupils may be familiarized by numerous examples, the principle namely that qualifying words should always be kept as close as possible to the words meant to be qualified. Now order, which is so important and pervasive an element in rhetorical art, can be taught, as an apt choice of words and some other constituents of good style cannot be taught. You can submit to the judgment of the pupils various schemes of possible arrangement, and can make them see and feel the superiority of some to others. The principle includes such varieties as periodic and loose structure of sentences which is entirely a matter of order, antithesis and climax. And then it may be extended, by the same method of change and comparison, from the single sentence to the group of sentences which compose a paragraph. Finally the principle of order reaches the climax of its dignity and importance in the suitable arrangement of the discourse as a whole. Rhetorical art attains no higher point of excellence than in the orderly and logical arrangement of the parts of a discourse, so as to secure unity and culminating force. Says Pres. John Quincy Adams: "You shall find hundreds of persons able to produce a crowd of good ideas upon any subject, for one that can marshal them to the best advantage. Disposition is to the orator what tactics or the discipline of armies is to the military art. And as the balance of victory has almost always been turned by the superiority of

tactics and of discipline, so the great effects of eloquence are always produced by the excellency of disposition."

We know, indeed, that in all other departments of human activity the organizing power is of the very highest value, and more than anything else contributes to final and complete success. Composition, therefore, which is the expression in language of thought that in other forms of activity and enterprise finds expression in different ways, must depend for its perfection upon the same organizing power. It is not, perhaps, too much to say, that in mental operations and activities the law of order corresponds to the law of correlation or conservation of force in the physical world.

In music, for example, order appears as time and harmony. The due ordering of sounds, that is, with reference both to their melodious succession and to their harmonious combination, is what *makes* music; without this principle of order it would be nothing but noise.

In painting order appears as perspective, and *chiaro-oscuro*, the disposition of light and shade. Without the orderly disposition of objects in accordance with these laws, painting could scarcely rise above the level of the flat, uncouth figures upon a tea-chest, or a Japanese fan.

In poetry order appears as rhythm and rhyme. In the absence of both these manifestations of orderly arrangement it ceases to be poetry. It may still exhibit some other qualities of poetical expression, but it is not poetry.

In science order appears as classification, the highest manifestation of scientific method and attainment; without which there may be a confused mass of facts, but no scientific knowledge, no science.

In business order is evident as organization and method. It is the very life and soul of great business enterprises, without which it is impossible to conduct them with success.

And so in composition this principle or order appears as arrangement, by means of which the highest effects of rhetorical art are produced, and which well repays the most scrupulous study and care.

There are various degrees of complexity in the order characteristic of the different arts and sciences, and one's intellectual power, or the mastery he has attained over any particular art or branch of knowledge may be estimated by his ability to discern and appreciate the most complex system of order.

In music, for example, the compositions of the great masters exhibit a system of order so intricate and complex in respect both to time and to harmony that only accomplished musicians can appreciate and enjoy it, while everybody enjoys the musical order which expresses itself in a simple melody. Classical music is not popular, but it gives intense delight to those who are capable of comprehending its involved order. So in composition every one can perceive and enjoy the progress of thought in a simple poem or a brief speech; but it requires considerable intellectual power to comprehend and appreciate the more profound and complex order of Hamlet or Bishop Butler's Analogy. Clearly, then, it is the organizing power in every sphere of life over which intellect holds dominion. that makes men *masters* in their respective pursuits.

Of course it is more difficult to teach arrangement as it is exemplified in the complete discourse than it is to teach it in the elements of discourse, like the sentence or the paragraph. But it can be done by the study and analysis of poems, speeches, sermons, essays, &c., and by the preparation of original plans.

Concerning figures of speech I will take time only to say that they constitute the substance of our speech, imparting to it at the same time a force, and a vividness, and a beauty, which we often fail to appreciate. They can be made a fruitful subject of instruction because they can be discriminated, analyzed, compared, and translated into literal speech. By such means the pupil can be taught to perceive on the one hand the defects and misuse of figures, and on the other, their aptness, their force, and their superiority to bare and literal statement.

In conclusion, let me say, although it is perhaps unnecessary, that while the great source of material for rhetorical study should be the mass of good literature that is always at command, that material should be so used in the presence of pupils as to magnify and not belittle its worth. It would be unkind, as well as unwise, to diminish a pupil's respect for a noble poem or its author, only for the sake of pointing a rhetorical precept, or illustrating a rhetorical fault.

SCIENTIFIC TEMPERANCE TEACHING.

C. F. WARNER.

There are few subjects, at the present time, of more interest and importance to the teachers of the public schools than the subject of temperance instruction. This is not on account of any change of feeling on the part of the teachers concerning the great question of temperance, for the evils of drinking and other abuses of the appetites have been so long recognized, that no teacher can fail to know what his duty is and he need not hesitate to perform it. Public opinion, at least in some sections of our country, is already intelligent upon the subject, favors temperance and total abstinence, abhors drunkenness and all excesses, and frowns upon moderate indulgences. But, notwithstanding this general sentiment, the law-makers of several States, including our own, have deemed it wise to make the duty of giving temperance instruction a legal obligation upon teachers; and the clause of the statute expressing this requirement, is specific in statement and plain in meaning. "No certificate shall be granted to any person to teach in the public schools of this State after the fourth day of July, eighteen hundred and eighty-five, who has not passed a satisfactory examination in physiology and hygiene, with special reference to the effects of alchoholic drinks, stimulants and narcotics upon the human system."

Thus, while some instruction upon this subject might be expected from the general moral tone of the teacher's work, following the spirit of the early fathers, who planted side by side, the schoolhouse and the church, and did not neglect to require the teacher to give instruction in the blessings of virtue and the folly and wickedness of all social evils, this law calls for a particular kind of temperance instruction and makes the obligation upon all school authorities definite and forcible.

It is my purpose, at this time, to suggest to teachers an easy way to meet this new demand upon them. I shall, therefore, confine myself to the physiological and hygienic side of the temperance question; but I do not forget that there are other considerations of a moral, social, historical or economic nature equally valuable to our lessons and equally available to the teacher. I would urge them in the strongest terms if such were the object of the present paper. But

this is quite another question. I shall only be expected to suggest a practical method of teaching such facts and conclusions pertaining to the subject, as may be taught by simple experiments with a reasonable degree of convenience and with sufficient accuracy, considering the circumstances of the ordinary public school. This being the evident purpose of the so-called "scientific temperance teaching," it is perhaps unfortunate that the word *scientific* has been used in this connection, for such instruction, in its full sense, is appropriate only to the medical school or college. We are naturally restricted in the public schools to the fundamental and incomplete. The experiments to which I shall invite your attention are, therefore, elementary and unsystematic and devoid of anything that might interest the physician or the scientific student of the question of stimulants and narcotics. They are intended only for teachers who must content themselves with the simple truth and a simple way of teaching it.

From the several substances which may be referred to in the section of the laws quoted, I shall select alcohol as being the chief constituent of the liquors, a narcotic as well as a stimulant and the most convenient to handle in experiments; and what may be shown of alcohol will be found true, not only of the drinks containing it, but also, in a more or less modified degree, of other stimulants and narcotics.

It would seem a most natural order to begin our lessons by teaching what alcohol is—its most evident properties and its common and proper uses. We will, therefore, examine a specimen of pure alcohol.

Exp. 1. Pour some water into a bottle until it is about half full, add a layer of oil and then pour in upon the oil any convenient amount of alcohol.

It will be observed that alcohol is a colorless, thin, mobile liquid, having a strong but somewhat agreeable odor, and lighter than water or oil.

Exp. 2. Place a little in the hand upon the finger tips and bring a current of air upon it. It will soon evaporate, producing a sensation of cold.

For this reason it is often used to allay or prevent the unnatural heat of inflammation.

Exp. 3. Touch a burning match to a little alcohol held in a spoon or a piece of broken crockery. It takes fire and burns with a nearly

colorless, lambent flame. On account of this property we have the hot and smokeless flame of the spirit lamp. This quality alone may excite the suspicion that alcohol must be quite unlike any liquids we naturally take in or with our food, and wholly unfit to mix with what we drink.

I will not abuse your patience by asking you to follow me through many such simple experiments, the object of which is merely to show the nature and uses of alcohol. But there are several others that ought to be given our pupils. By means of a freezing mixture of ice and salt, we may compare the effect of cold upon water and upon alcohol. As is well known, the water will be frozen while the alcohol will remain liquid; in fact it has never been known to freeze, even at the extremely low temperature of 169° below zero Fahrenheit, though it then becomes thick and oily in appearance. This quality, which makes possible the spirit-thermometer and the spirit-level, is of great value.

With a little spruce gum or resin and a tin dipper you may easily show another useful property of alcohol—its solvent power. Thus it may be shown how shellac and camphor are dissolved, how the tincture of iodine is made, how the oil of bay and the oil of bergamot are used by the perfumer, and, with olive oil or sperm oil, how the minute globules are held in suspension, undissolved, forming an emulsion. In this way, alcohol supplies a need which is not met even by Nature's great solvent, water, nor fully by any other of the many special solvents, aiding the painter in the preparation of his varnishes and polishes, and the apothecary in making many useful mixtures.

Another quality of alcohol of untold value to the student of Natural History is its peculiar antiseptic property. You may have witnessed the interest which a child will take in bottling up a small reptile in dilute alcohol. He will observe from week to week, how perfect is the preservation of substance, form and color. Upon a knowledge of this property may be based a few inquiries pertaining more directly to our theme. Alcohol preserves flesh from decomposition. Shall we take it into our bodies and prevent the natural decomposition of our food? Shall we allow its presence in the tissues, where it may interfere with the destruction and removal of those elements which have served the purposes of the living body, but for which the system has no further use? Under such considerations, the ruddy countenance and apparent brawn of the drinker do not

indicate health and strength, but rather a system bloated and stuffed with waste matter. Such conclusions, inferred from the antiseptic quality of alcohol seen in the preserved reptile, may be made more definite and forcible, for they are important and are sustained by the best medical authorities.

But there is one more important use of alchohol which I would not forget to teach. If we heat a little alcohol with sulphuric acid in a test tube we shall obtain the vapor of ether, detected by its odor. Alcohol is the basis of the various ethers and the only substance from which these useful compounds are ever obtained. Besides this it is the starting-point for the formation of a large number of other substances. Organic chemistry would not have become the important science it is, if alcohol had never been known, while medicine, surgery and pharmacy would seem to be hopelessly crippled if the chemist's use of alcohol should suddenly become one of the lost arts. Such is a brief view of the characteristic properties and appropriate uses of alcohol, important, it seems to me, in order to show as much of its real nature as we can, and to make it clear that we, as teachers, wish to interfere only with its use in beverages.

We are now ready to discover and explain that peculiar quality which makes it the great destroyer of life. I refer to its attraction for water.

Exp. Fill a long, slender test-tube or a small bottle about half full of water, and then turn in alcohol until it is completely filled; carefully press the thumb down upon the top of the test-tube to prevent spilling, and quickly invert it. Return the tube to its upright position and note the level of the liquid.

When the tube is inverted the thumb is forcibly drawn towards it, and though none of the liquid has been spilled, the tube is found to be not quite full. The alcohol being lighter than the water, rose, when the tube was inverted, and the two liquids united with such attractive force as to produce a slight condensation of volume. This may also be shown by mixing a pint of alcohol with a pint of water in a bottle accurately measured for a quart and marked with a file. The two pints, one of each liquid, will not come up to the quart mark. And this is not a slight and unimportant change, as might appear at first sight, for if so much water be confined closely in an iron cylinder, the weight of many hundred pounds could not produce that amount of compression. Moreover the temperature has been raised to that of warm water, as may by seen by placing the hand

in the mixture or by the use of the thermometer; so great has been the internal disturbance of the substances caused by bringing them in contact.

Now you are ready to ask what must be the action of alcohol upon substances containing water in their composition. The albumen of the egg is a convenient substance to experiment with in answer to this question, for the white of an egg contains a large proportion of water,—85 per cent by weight, which gives it its fluid nature.

Exp. Divide the white of an egg into two parts; shake up one part in alcohol and the other in sulphuric acid.

In both cases the albumen is coagulated. That this change results from the removal of water by the alcohol is made plain by the similar action of sulphuric acid, for a readiness to absorb water is a well known characteristic of the acid.

But it may be asked what harm in removing a little water from a substance? The effect upon the egg is valuable only so far as it shows the effect of alcohol upon albuminous substances, and we should not fail to avail ourselves of its full value. As an article of food the egg may not be injured by alcohol, more than it is by cooking, but it is very evidently and very materially changed by either treatment. Even as a food it is made less digestible, being rendered partially or wholly insoluble, whether by heat or by alcohol, and in either case the possibilities of life in the egg have been destroyed. And, as our concern is not so much for the egg as for the human system, it must be understood here that the nerves, the muscles and sinews of our bodies are very largely composed of water, and if the water be removed by alcohol, it may result in as important a change as that shown in the case of the egg.

In order to show how great a change may be effected simply by the removal of water, it may be well to notice the result with substances not directly connected with our subject.

Exp. Compare some crystals of copper sulphate with the substance obtained by removing the water from them through the action of heat. The beautiful blue crystals have been changed to a dull, light-brown powder. This may be done by wasting the crystals over coals, on a piece of broken crockery or earthen ware; or, if one has the convenience, by the method given in almost any chemistry.

Exp. Make a thick syrup of sugar, and, when cold, pour into it strong sulphuric acid, stirring the mixture. A rapid and manifest decomposition of the sugar soon takes place. Charcoal is the pro-

duct and it is made simply by removing water from the sugar by the action of the acid.

These two experiments furnish a parallel to the two ways in which the albumen of the egg is coagulated by being deprived of its water, in the one case by heat, in the other, by the action of a decomposing agent, alcohol or acid.

The effect of alcohol upon the muscles, nerves and blood of the body is similar to all the preceding cases—a decomposition of the tissues, more or less rapid and destructive, according to the amount of alcohol received into them. The solid parts of the body contain more than one-half their weight of water, while the liquid and soft parts have a much larger proportion. To remove such an important constitutent by the introduction of a substance foreign to the food is certainly a dangerous experiment. It must result in a shrinkage of the tissues and in an increased demand for water to make up for what has been unnaturally removed. Hence the thirst of the toper which he too often fails to satisfy by the proper fluid—the water which his system craves. The so-called appetite for strong drink, which sometimes becomes so terrible, may here find an explanation. The water removed from the system by long use of alcohol cannot be easily put back, but the craving for it is painful when the nerves recover from the narcotic effect of the last drink and will not be quieted till another drink is taken. But the relief is transient and the drinker's condition is continually growing worse Each drink simply quiets the pain and makes more water needed. Real recovery is only possible, if ever, after long weeks of suffering, to give the system time to get back what it has lost. It might, therefore, be safely inferred, were it not capable of experimental proof, that alcohol, on account of its affinity for water, must have a destructive and poisonous effect upon the human system. Strong alcohol, injected into the veins, has been known to produce almost sudden death, by coagulating the albumen of the blood.

Exp. Draw two drops of blood from the finger tips upon a glass plate, add alcohol to one and examine both with a microscope.

The blood is immediately clotted by the alcohol and the corpuscles are withered and destroyed. This effect upon the blood results from the coagulation of the albumen and the removal of the coloring matter from the corpuscles, in consequence of which they become shriveled and hardened. This must seriously impede their action as carriers of oxygen. For the coloring matter of the blood, in part

at least, is the medium for those essential activities of the blood resulting from receiving oxygen in the lungs and exchanging it for carbon dioxide in the capillaries. Thus the blood, whose function it is to aid in the building of the tissues and the oxidation and removal of useless matter, loses partly or wholly its power to effect these important changes. It follows that the heat of the body is diminished and the system clogged with waste matter.

Exp. Pour alcohol upon a piece of fresh raw beef. Let it stand several minutes and then examine the meat, pulling it apart, and at the same time comparing it with a piece of the beef not treated with the alcohol. The meat is changed in color, having the appearance of over-cooked beef. The blood is destroyed and the albumen of the flesh hardened.

Exp. Press some of the beef with water in a mortar, and pour the colored liquid into a bottle; add alcohol, and shake.

The color is at once destroyed and a brownish precipitate of the coagulated blood is formed.

Exp. Etherize a frog and dissect sufficiently to lay bare some of the nerves. Excite these by means of a battery or by irritating with a knife blade. Apply alcohol to the nerve and again touch it with the battery wires or knife.

Before the alcohol is applied, the nerve is easily excited, causing the muscles to contract, but after the application of the alcohol the electric current or any irritation produces little or no effect. The nerve is paralyzed. Alcohol is a narcotic. This results from the attraction of alcohol for water, and the nerve is really destroyed, though perhaps not permanently in the living body. It suggests the effect of alcoholic drinks upon the nerves and brain of any one who indulges in them. It is from this partial paralysis of the nerves that the quickened circulation arises. Soon after the introduction of the alcohol into the system the nerves become less sensitive, and partially lose their control over the blood-vessels, allowing them to become distended. The heart beats faster because the blood finds freer passage through the widened channels. As more alcohol is taken the nerves feel the effect. Pain and feeling depart, muscular action is difficult or impossible, the mental faculties are clouded, paralysis and even death may ensue. It is because of the narcotic effect of alcohol that the stomach does not reject large and dangerous doses of liquor. Inflammation of a most alarming character has been

produced without pain. Thus the drinker is often deprived of the warning which nature ordinarily gives of injury to the system.

Exp. Place a few drops of alcohol upon the tongue and membranes of the mouth and observe the effects.

There is felt a decided burning taste which immediately excites the salivary glands, resulting in an increased flow of the saliva. Since the mucous membrane is continuous throughout the digestive system, and the other glands whose function it is to furnish fluids to act upon the food are very easily called into activity by any exciting cause, it may be inferred that the presence of alcohol in the stomach and other digestive organs produces results similar to those in the mouth.

Exp. Procure from the butcher the fourth stomach of a calf, or better, a pig's stomach; cut it into fine pieces and soak it in a pint of glycerine for a day or two. A solution of pepsin will result, which may be made clear by straining. Mix a portion of the solution with alcohol. Soak a little finely minced raw beef in each of these mixtures for ten or twenty hours, keeping the temperature nearly uniform and lukewarm.

The addition of the alcohol to the clear solution of the pepsin soon causes it to become turbid, and in a short time an evident precipitate is formed. This precipitate is pepsin, removed from the natural state of solution.

The meat left in the clear pepsin solution has become soft and, as it were, partially digested, while that put into the alcohol mixture was made hard and lumpy and digested only a very little, if at all. Thus it appears that alcoholic drinks taken into the stomach must impair digestion by coagulating the albumen of the food, *i. e.*, changing it from the soluble to the partially insoluble form; and by precipitating the pepsin of the gastric juice from its natural state of solution. As the result of incomplete digestion the blood fails to get some of the nutritious materials it should have.

But one of the most important points yet remains to be enforced. There are many poisons that, while they are dangerous if placed in the blood, may be taken into the blood with perfect or comparative safety. The poison of the rattlesnake's bite is a well known example. It is deadly in the veins but it may be sucked from the wound and, if swallowed, is digested and does no harm. This is not the case with alcohol. It is absorbed with remarkable ease by the membranes of the digestive organs and thus finds its way unchanged

into the circulation. The best authorities agree that there is some destruction of alcohol in the body, and yet it is beyond question that a considerable portion may flow freely through the membranes, mingle with the blood, and be carried throughout the system. In this way alcohol may act directly upon the brain, the nerves, and the various tissues of the body.

This, of course, cannot be experimentally shown in the school-room, but recourse may be had to the testimony of surgeons, which should always be referred to for its strong confirmation of our inferences. A fluid has been taken from the brain of a drunkard, which not only emitted the odor of spirits but burned with the characteristic blue flame of alcohol.

Let it, therefore, be impressed upon our pupils that alcohol is in no sense a food. It could not have been intended by Him who ordered all things for our good to furnish refreshment and strength for our bodies, as proper food-materials do, for it does not exist in fruits nor does it connect itself, in any permanent way, with the preparation of food. It is altogether artificial in its nature and is made by the decomposition of grape sugar.

Exp. Sweeten a little water with molasses or grape sugar, add a portion of a yeast cake and set the mixture away in a bottle, allowing it to remain several hours in a warm place. Fermentation soon begins; a chemical change takes place in the sugar by which it splits up into two new substances, the gas carbon dioxide, and alcohol, both of which are poisons. The gas may be recognized by conducting it, through a tube, into lime water, which it renders milky. It is the same as the poisonous breath from the lungs, as may be shown by the test. It will, therefore, not be difficult to understand that a poison may be made from so innocent a substance as sweetened water by the mysterious chemical change. The alcohol may be recognized by the odor of the fermented mixture, or, if desired, separated by distillation. This is essentially what takes place when sweet cider is changed to sour, or the juice of the grape, currant, cherry and other fruits, to wine; for the sweetening principle of nearly all such fruits is grape sugar. They all contain the essentials for this kind of decay.

We must say, therefore, to our pupils that all liquors, brewed and distilled, in addition to other poisons, contain the poisonous alcohol, and that this will act destructively upon the human system, to a degree in proportion to the amount and strength of the alcohol received into it.

It may be well also to teach the meaning of the word *intoxicate*. We get the word from the poison (*toxikon*) into which the arrows of the Greeks were dipped. Accordingly when we say "That man is intoxicated" we should mean in fact and word "That man is poisoned."

Other food-substances besides eggs and beef may be experimented with; there is a preparation of pepsin sold by druggists which may be used instead of the solution in glycerine; the use of a microscope is not necessary to an understanding of the effect of alcohol upon the blood, while a mug or a tin dipper, an iron spoon or a piece of a broken saucer may be used in place of the beaker, the test-tube or evaporating dish, which are not always easily obtained. In this as in other teaching something must be left to the ingenuity and skill of the teacher. But it may be fairly claimed for these experiments, I think that no special apparatus is necessary, no substances are required that cannot be easily obtained. No knowledge of chemistry, its processes and manipulations, is essential, either to the teacher or the pupil. It seems to me, that these suggestions, subject to such slight modifications as circumstances may require, may be carried out in any school, if there be the purpose to do so. With all the imperfections and limitations naturally placed upon experimental temperance teaching, the end in view is worthy of every effort that we can make to carry out the spirit and the letter of the law.

TEMPERANCE INSTRUCTION IN THE PUBLIC SCHOOLS.

DR. CHARLES E. CRANDALL.

Mr. President, allow me to say as a basis to start from, that I am earnestly in favor of advancing the great enterprise, the magnificent law, the purpose of which is to impart temperance instruction to children while they are in the public schools. I believe that this latest enterprise in the interest of temperance, morals, Christianity, and life is one of the noblest efforts that ever graced the human race. I believe, moreover, that the demands for implanting in the minds of the young a few essential facts regarding the effects of alcohol and intemperance, have at last come to be constant and imperative.

In the first place, the public sentiment of the State is emphatically in favor of universal temperance. It is the wish of every parent, and the united demand of all classes, that children shall grow up

converts to the sublime doctrine of temperance. In keeping with such wish of the people, all of the old laws of the State have been recast, and all of the new laws have been so framed as to conform to the vast scheme of prohibition and universal temperance. In furtherance of this obvious public demand, the Legislature passed special laws making it obligatory upon every teacher to impart temperance instruction to every child. In view of these facts it becomes evident that the majority of citizens, the welfare of all classes, the laws of the State, and the great doctrine to which the commonwealth is pledged, imperatively demand temperance instruction.

In the second place, the temptations to which children are subjected by alcohol and intemperance render it necessary to protect and restrain them by every good form of instruction, conviction, and warning. Only those who think and investigate ever realize what an immense number of children swarm into ruin and crime, owing to the influence of the temptations of intemperance. A few years ago it came to the knowledge of the Law and Order League in Chicago that nearly twelve thousand children were being arrested annually in that city, and the majority of them for drunkenness. Last winter the appalling fact came to light in the city of Washington that nearly five thousand children were being arrested yearly, and the most of them for juvenile crimes due directly or indirectly to intemperance. The records of state prisons and other penal and reformatory institutions show that nearly thirty per cent of the criminals are under twenty-five years age, and that most of them reach their degradation by way of intemperance.

In the third place, there is the appalling fact that the millions who are now intemperate men and women were only a few years ago beloved and uncorrupted children. They were young children in the public schools, innocent, full of promise and of splendid possibilities, and could they have been saved to themselves and to the State in their original goodness, they would have grown to be useful and honorable citizens. Alas! they got into the way of temptation, and ignorant of the danger before them, rushed onward into the maelstrom of vice, intemperance, and crime. These facts could be multiplied, going to show that the legions of intemperance are recruited from the ranks of the young, and that the stream of juvenile depravity is deep and broad and mighty.

And, fourthly, the demand for temperance instruction is imperative, because childhood and youth is the receptive age when truth

and good principles can be best acquired, and when they do the most good. It is the time above all others for receiving impressions, for acquiring knowledge, and for forming those habits and characteristics which shape human life. All of the philosophers down through all the ages, have urged the doctrine that life is a unit, and that the ideas and habits and convictions formed in childhood largely shape life's middle and decline. Solomon laid immortal emphasis on the importance of training the child in the way it should go. Juvenal went so far as to claim that a person's character is practically formed by the time he is seven years of age. Bacon asked for the training of the child, and the State might have the man. And Pope declared

> "'Tis education forms the common mind;
> Just as the twig is bent the tree's inclined."

These are a few of the imperative demands why temperance instruction should be given in the public schools, and why the stream of intemperance should be checked at the fountain head. Confessing thus to the imperative demand for temperance instruction in the public schools, the question arises, what are the essential and practical facts to be imparted? In reply I would say, in the first place, give to every child as far as possible a practical knowledge of anatomy and physiology. Teach them the location and uses of the great vital organs, and the importance of their being maintained in a healthy state for a lifetime. Then give them an idea of the nervous system, and impress upon them the fact that it presides over every organ, every motion and sensation, and every faculty that makes up the marvelous unit called mind. It is not necessary for children to be taught the infinite minutiæ of the entire system, but rather those gross practical facts and principles which are easily grasped and long remembered. Indeed, it was not the intention of the law that every child be made a complete anatomist, but that the majority should know where, for instance, the heart is located, what its functions are, and that its every motion is essential to health and life.

Having thus established a good general idea of the system, I would say that the time has come for impressing the fact that alcohol is a poison of the most insidious, aggressive, and progressive type. This fact I would have imbedded, branded, aye, burned into the intellect of every child in the Republic.

It is time to imbed the fact that no article or agent known to man is such a poison to every organ, to good health, to life, and to char-

acter, as is this infernal liquid poison. These truths can be supported by the proof afforded by the best chemists, the best physiologists, the best physicians known to the scientific world. They can also be substantiated by the hundreds of instances occurring everywhere, going to show how alcoholic poison ruins and tears down the splendid fabric of body and life. Everywhere, all over the continent are wrecks of manhood, showing to what an awful degree alcoholic liquors tend to produce diseases of the heart, lungs, stomach, liver, and kidneys, and in time to derange them beyond every possibility of redemption. Moreover, and worse still, every hospital and asylum all over the world has furnished overwhelming proof that alcoholic poisons are the most common and powerful of all the causes underlying acute mania, delirium tremens, insanity, melancholia, epilepsy, paralysis, and other dreadful forms of nervous diseases. Children need to know these facts, not alone as a means of self protection, but because society depends for its future existence upon the good health and life of all its citizens.

Next in order I would have children taught that whatever disorganizes the organs and impairs the brain, demoralizes also that jewel of existence named character. By force of some ever acting and inevitable law, the use of alcohol leads to degradation. It excites and arouses the lowest instincts and passions; it blunts all the finer sensibilities of the soul; and it so deadens the moral faculties that after a little its victim does deeds and commits crimes which merit the condemnation of all good men and women. As we have already seen, it degrades children at a frightful rate, so that, ere we realize that they have left the innocence of childhood, they are hardened criminals and have passed under the punishment of the law. Eight-tenths of all the criminals have been first demoralized by alcohol and then goaded on to crime, and saddest of all is the fact that sixty per cent of such vast numbers of criminals are under twenty-five years of age. Hence the necessity for building around every child's character Holland dykes, as it were, against the constant lashings and invasions of this monstrous sea of degrading poison.

Thus I would have every child taught the practical anatomy and physiology of his system, and then alcohol is a poison; that it tends to destroy the organs of the body; that it ruins the nervous system; that it causes disease; that it degrades character; and that it leads to crime. The child that leaves the public schools with these facts deeply imbedded in his mind has learned his grandest lesson, and

one that will do him more good for a lifetime than geography, arithmetic, or grammar. These are the truths to be imparted, the convictions to be formed, strengthened, and reinforced, until they are as immovable as the granite hills of our own beloved State.

It has been conceded that no other person in the State is able to exert such a powerful influence over the young as can their teachers. It is for them to wield the gigantic powers of education, the gigantic powers of Christianity, and the gigantic powers of personal influence, and with these imbibed truths and principles of everlasting worth. It is for the teacher to warn children against the most deadly foe to their life and character, and to attune mental culture to the sublime law of temperance. And so I appeal to each and all of you, in the name of humanity and God, to give these priceless lessons to all children in the highest, widest, and fullest degree. For my own part, every drop of blood within me burns in sympathy for innocent and helpless children, and if there is anything beneath all the shining stars that will tend to save them from an infinite danger, I say let them have it.

OUR GRAMMAR SCHOOL ARITHMETIC.

C. A. BYRAM.

I almost feel like asking the pardon of these teachers for presenting as I do, to-day, this oldtime question—one that has received the attention and limit of discussion so many times in like assemblies. And not only has it been thoroughly discussed, but certainly there is no subject, taught in the lower grades, which has received so generous share of space as has this same branch—Arithmetic.

Some who read them and can be induced to give their opinions upon them, say that it is but a periodic warfare against the methods employed. If they see that the best results are not always obtained in any branch, they are not slow to perceive it and lay the lack at the teacher's door, forgetting that in some instances, many, I might say, the pupil is somewhat incompetent to grapple with the subjects, however plainly they may be presented. "Writers," they say, "have become chronic in this regard, attacking with their criticisms first this branch and then that." It happens to be arithmetic just now. Some even go so far as to say, "that the relics of the middle ages should be exhumed and these used as the bases of all calculation." Indeed, I was told only this month, "that no effective work could

ever be done in this branch, until principles of reckoning had been diluted to the rule of three again."

Others attack the methods employed honestly because their children, who, they think, on the whole, are as smart as any in their class, have not been promoted. To this class I am always ready to listen with attentive ear, but have not been persuaded, as yet, that the methods now employed can be exchanged for the better. But, as I said before, I am inclined to believe this last class honest and to have a perfect right to ascertain the cause of their child's non-promotion. For in our grammar schools last year, over one hundred failed to pass the required test, and of this number, fully one-half failed in Arithmetic only. Not doubting so far as I am concerned but that their non-promotion will, in the end, be beneficial to them, yet it is extremely hard to persuade their parents that we are working for the best as regards their children's welfare. I am aware that this is a large number to fail of promotion, but the two-thirds rank required, together with the fact of proficiency in other studies not helping them, somewhat explains this.

In defense of this somewhat rigid marking, I would say that only about 65 per cent of the pupils who graduate from this grade pursue their studies further, and I think this is above the ratio of scholars who enter the higher grades in our State; hence it behoves us teachers to fit a large percentage of our pupils for immediate business in life. Practical, business-like examples, then, should be the kind given for the consideration of pupils in any grade. To be sure, it is not practical for them to waste nerve and brain energy upon mathematical enigmas: it is waste, and the two have no medium of exchange.

There is no doubt, however, but that the power of using any of the fundamental branches intellectually is of greater good than any acquaintance with them from a merely practical standpoint; yet so far should we be from under-valuing the latter that we must regard it as the immediate object of their being taught at all in school. Assuming then, and I think that more will disagree with me in the assumption, that practical good is the object to be aimed at, it is our duty to study with care those methods best producing these results.

In the first place we must remember that pupils coming from the intermediate grades take a great step in being led directly into fractions, under the supervision of teachers with whom they are unacquainted, and whose methods seem to them so new. It should be the duty of the teacher at this stage to take up the subject in its

simplest form, for if pupils become confused at this point, there is no telling to what limit it may be carried.

The only written work they should be required to do for some time, should be simply a review of intermediate work, the remainder of the time being spent in oral work on the subjects they have already entered upon. The true conceptions of fractions can best be imparted by means of objects capable of being easily divided into any number of parts in the presence of the pupils, and not only divided but put together again, to be compared with the various parts and combinations of the various parts. In this way the pupils will soon become acquainted with the true import of the terms numerator and denominator.

Care should be taken during addition and subtraction of fractions to have nothing to do with compound fractions in either of these, as they should be let well alone until the pupil has a good understanding of multiplication, when they may be taken up with profit. It is a mistake for teachers to suppose they are able to impress a clear distinction of these four principles in a short time. Indeed, after a whole year's drill, the time allotted to their study in our school, it is surprising to see how little they know about them towards the end of their course.

I have taken up and treated to some extent common fractions first, since they are usually taken up in this connection in the grammar grades, but I believe a change could be made here, which would help bridge over the chasm of intermediate and grammar grades to quite an extent, and that change would be to take up decimals first. I say decimals, never telling our pupils we were dealing with fractions in any way. It has been my experience that I have been obliged to drill my pupils, at the beginning of each school year in the fourth class, for nearly a month on intermediate class work, and how could we give them this drill and at the same time be at work on advance topics, better than by putting them directly into decimals? The only change with which they would have to become acquainted would be the decimal point and its peculiarities. It is certain that not so thorough drill could be given at this stage as later in the course, but certainly steps could be taken in this direction with two-fold advantages, leaving them to become acquainted further on with the similarity of decimal and common fractions, and of the reduction of the one to the other.

We are told by such a practical instructor as Gen. Walker, and by the way, his scheme has been accepted by the Boston School Board, that compound interest, equation of payments, compound proportion and compound partnership as well as stocks, should not be included in the regular school work in the grammar grades. He goes on to enumerate other subjects, but they need not be taken up in this connection, as we graduate the pupil after giving him a few lessons in cube root without taking up any of the applications. With the above scheme I heartily concur, except compound partnership, interest and proportion. To be sure, no truly practical examples can be given in compound proportion alone, but I can see no practical good of taking up ratio if the equality of ratios is not taught. Scholars will be obliged to learn the technical terms whether they deal with one or more ratios. Why may they not then take up a few simple questions in compound proportion? I see no reason The same reasoning holds true also in partnership, for many times I doubt not that they will be required to apportion gains and losses when the conditions of the question will not admit of its being worked as simple partnership.

I do not, however, agree with what the gentleman suggests in regard to the time to be given this branch. He thinks that on an average three and one-half hours per week are enough. I may be wrong in this idea, but this much I am certain, that I need not occupy your time with remarking in general upon the importance of arithmetic as a study in the schools, a study whose results are of universal application in common life, and the pursuit of which furnishes, in a greater degree than any other one study, an easy and sure means for the discipline of the mind. Its various stages, too, are fitted for every variety of age, and all degrees of mental powers. Arithmetic, therefore, I claim, holds and should hold a prominent place among the studies of the common school. Perhaps it is not too much to say, that on an average one-fourth of the time spent in study in our common schools is occupied with this branch, and besides this liberal share of time uniformly allotted to it in the regular arrangements of the school, this study is a kind of reservoir into which are thrown the fragments of time not taken up with other studies.

But I have not yet explained why so many fail to pass the required tests for promotion. This can be easily assured as regards the fourth or lowest class, since many pupils on account of age or some other reason find their way into this grade, before they have a thorough

knowledge of the four fundamental principles, enumeration, of finding the L. C. M. and H. C. D.—especially these last two: they appear to have no other conception of their good, save as an ingenious way of writing down a number of figures. When permitted to go on further, however, and are not promoted, we must look elsewhere for the defect. First, it may be that too hard problems are given. Too often it happens that a problem is placed on the board, fairly stated, involving no hard principles, in fact, the method of working it may be clearly understood, but yet the working of it may make use of hard fractions, which will greatly hinder the pupil from obtaining the required result. Great care should be taken in this regard, and make use of those problems only, whose results can be obtained without long fractional appendages. And, as I have hinted before, the greatest caution must be exercised in graduating the applied questions and problems in respect to their difficulty, for, though a child may quickly apprehend a principle, he naturally proceeds slowly and hesitatingly in its application.

Again, applied exercises should be introduced under each rule, requiring the pupil only to find the manner in which the rule is applied, afterwards they should be presented miscellaneously so as to embody various principles, giving him no clue whatever to the rule of operation in each case beyond what he derives from his own interpretation of the rule itself The teacher should always bear in mind that each problem is not so much a single exercise as a kind of exercise, and to this end it will often be to the greatest advantage, when a pupil has solved it as a single exercise, to put it before him in other forms of language, the object being to induce him to recognize readily his principles under all the possible forms in which they can be presented.

Again, should the problem admit of more than one solution, the teacher should, as a general rule, in the first instance, leave the pupil to choose one for himself, but when one has been found, he should be encouraged in another. In this way his results will cost him more time, but its propriety will be evident to him who looks upon the obtaining of the mere numerical results as only a means to a far higher moment; viz., the cultivation of the pupil's power of mind. In other words, he should be master of the rule, and not the rule his master. He should be master, not by dint of memory of what the rule expresses, but master of its ideas, and of its grounds. He should be able to look over and through the rule, and not be a slave

to it. In this way he will be able frequently to substitute a shorter process than the one prescribed, he will invent a new rule, or, best of all, he will work so understandingly that, seeing the end before him, and knowing his means, he will work towards his end without being conscious of the guidance of any rule at all, any more than a practical workman in the arts thinks of a rule while he turns from his hand, one after another, the beautiful specimens of his craft.

Care should be taken also in regard to the selection of problems employed. In no way can the mind of the child be occupied so judiciously as upon the ordinary, practical, business-like examples, in all cases making use of the ordinary business language so common in every-day life. A writer has well said in this connection, "it is not the working with a few numbers well in the millions that give the practice, but rather a long list of small numbers." And perhaps in no stage of the work can practical mental examples be employed to greater advantage than now. How often in the experience of every live, progressive teacher has an hour been well spent in mental arithmetic, and in explaining a list of apparently hard examples, which have accumulated during a few preceding days! I wish to place particular emphasis upon these last two devices, viz., mental arithmetic and explanations, because in slighting either of these, it seems to me, we leave out of consideration two of the most important schemes certainly of giving our pupils the greatest return for their time and energy expended. These will also increase the power to seize at a glance some approximate answer, when numbers are wrought together as the terms of numerical calculation, a power which every pupil should have. I do not mean that such a power ought to be expected of numbers that are vastly large, nor on the other hand do I intend to restrict the numbers to the limits of the multiplication table. I refer to numbers large enough to embrace a majority of the cases that occur in actual business. The pupil should have the power of grasping such numbers so understandingly that he can immediately find an approximate answer, in the case of any ordinary operation upon them.

I feel sure that you will agree with me, that if the pupil has not, to some considerable degree, this ability, however much he has ciphered, his real power in the numbers must be pretty small. Yet there is perhaps no point in which an entire want of power is shown so frequently by students in arithmetic as in this. The pupil seems to have no ability to exercise a censorship over his own method

and the general correctness of his work, by glancing his eye over the numbers, but having wrought, as he thinks, in obedience to his task-master, the rule, and failing to meet the requisitions of the book in his answer, he brings to his teachers, in all innocence, as absurd a thing as can well be written in figures.

In conclusion let me say, that I do not wish to advance the idea that we are to give small pupils examples that would be good discipline for more mature scholars; for if we are to study logic, pray let us call it logic and not attempt to pass it under the pseudonym of arithmetic; nor on the other hand that we should give examples that furnish scarcely no discipline at all, but rather select those problems which will require some thought, giving them plenty of time to do their work, and such assistance as is really needed, and then let us stand, believing we have done our duty as teachers, and if our scholars fail to obtain the required standing, I for one believe we do them no injustice if we require them to do their work over again.

PROFESSIONAL READING.

W. J. CORTHELL.

What is it?

All reading is of the literature of power, or of the literature of knowledge. The former appeals to man universal. It finds a response in the emotions of each human being who is developed enough to read it. It touches the springs of action in every human soul and so gives *power*. It never grows old, never dies, because humanity does not grow old or die. It embraces the works of all the masters in all ages and nations.

The literature of knowledge aims to give power ultimately, by giving skill directly to those engaged in some special work in life. It does not appeal to universal man, does not touch the springs of activity. It gives not power directly, but knowledge. It excludes all real literature and includes only technical writings. It treats of the ends, materials, instruments and agencies for the special work which it concerns. Professional reading for the teacher then concerns the ends to be attained by teaching; the materials with which the teacher deals; the instruments to be used; and the agencies employed. It must treat of the physical, intellectual and moral nature of man; their condition in childhood, and the means of advancing them towards ideal perfection; of the various subjects

studied as instruments for securing such advancement; of the teacher himself (the agent); the characteristics in him which make success.

Professional reading for the teacher must include then, first, physiology, both human and comparative, that he may know the body; second, psychology, that he may know the intellect, the sensibilities and the will—this complex human nature being the *material* out of which the teacher must build. No professional reading is of much value unless it secures, or can justly assume, a comprehensive knowledge of body and mind.

It must also include the history of education, that the teacher may know what has been done, what principles have been elaborated, what proposed panaceas for all ills of ignorance have been proved to be empty puff-balls, long since dispersed by the pure air of experimental wisdom.

Professional reading must include the subjects to be taught. These are the instruments of his work. No teacher can succeed who fails to read what has been written by masters, in the craft, about these subjects. But this is not enough. He must read the subjects themselves in text-books of great variety in form and mode of presentation. Only thus can he impart sweet, living truths, as from a full flowing fountain.

Results—I. Negative:

Professional reading cannot fully supply the want of careful professional and scholastic training and experience.

1. First because a large proportion of young teachers have not the needful preparation to enter successfully on a course of professional reading.

2. Because reading will lack that attrition of criticism, that balancing of opinion, that careful weighing of thought, so needful in giving judgment and determining what is really true, or what only seems true because it coincides with one's own opinions.

3. Reading cannot give that skill, gained in its full power only by experience, in determining how much general laws of mind are modified by the circumstances of each pupil, and so wisely adapting conduct to environment.

II. *Positive.*

1. Professional reading can save the teacher from many mistakes, costly to the pupil, in the development of false or vicious habits, wasteful opportunities weakened intellectual powers, or infinitely

more costly moral ruin, more costly to the teacher in the reflection that by his mistakes he has hurt a life for whom Christ died.

2. It helps materially to lift the work of the teacher out of the drudgery of the commonplace, and put it into the realm of the creative, therefore the godlike, the glorious.

What shall constitute the course? Books giving details of methods are of very little value, unless the teacher has such knowledge of mind and body as to understand the principles of teaching, universal in their application and changeless as the nature of mind. The study of any methods without such preliminary knowledge leads to servile imitation, often grotesque in its absurdity. The apparent difficulty lies in the fact that many young teachers, not having had the advantages of thorough high school or professional training, are not prepared to read the works which must lie at the very foundation of a really useful course of professional reading.

This leads to the consideration of the question "What shall this society do?

This suggestion is made. That this society add to the committee on instruction a large committee of young, energetic members, as a committee on professional reading, that such committee endeavor to find in each large town, and in each group of small towns, some one who will voluntarily enter the work of forming reading circles, conducting the correspondence with the central committee of the society, thus securing an active worker in each locality in the State, and realizing the reading of professional works, where now such reading is not the habit of the teachers.

It is suggested that some plan of this kind would be a source of strength to this society and of infinite advantage to teachers and schools.

Were it the province of this paper to suggest books, the writer would have no hesitation in naming as the best book extant for one actually a beginner in the study of psychology, Dr. Champlin's Intellectual Philosophy. Next, Dr. White's Pedagogy, Fitch's Lectures, Payne's Compayre's History of Pedagogy. For good books in methods, the name is legion.

WHAT AND HOW MUCH SCIENCE TEACHING IN COMMON SCHOOLS.

PROF. F. L. HARVEY, State College.

Members of the State Pedagogical Society, Ladies and Gentlemen:

The subject chosen by your Committee, and upon which they have requested me to present a paper, is one of great interest.

Will the Natural Sciences interest and instruct the young and give the proper discipline to the dominant faculties of the mind in childhood? If they are adapted, what sciences should be taught? How should the matter be presented? What time should be given to the subject? At what age should science study begin? The above are important questions which to-day engage the earnest attention of our best educators of the young. I am, therefore, not surprised that the question of science teaching in public schools is assigned for discussion here to-day. But a few decades ago it was discussed with great gravity as to whether the Natural Sciences should be admitted into the curricula of our colleges and universities. To study about material things was considered groveling and debasing in its tendencies, resulting in ungodliness and atheism. Science students were regarded as of a lower order of mankind, and lest they and their study contaminate, were relegated to different buildings. The advocates of science persistently urged their claims, and forced a recognition by the people. It was found by experience that the study of God's laws and works did not result in the total depravity expected, and that students of science had neither horns nor the cloven foot. The sciences gradually gained favor. Besides being eminently practical, it was found that God reveals himself in his works as well as in his word. Being the author of both, one must harmonize with the other, and the study of God in his twofold manifestations must result in a closer view of his true nature. Science, therefore, leads to *monotheism* and must join strength with revelation in exalting the one true God. Slowly and steadily have the sciences gained a foothold in our colleges and universities, both *secular* and *theological*, until there is scarcely a purely classical institution in the country and but few courses of study offered composed of wholly subjective sciences.

At the present time we have more or less discussion about the introduction of the sciences in common schools. For the colleges the matter is practically settled. For the common schools the questions stated above from a want of experience are debatable.

The sciences already introduced into the common schools more or less as optional, supplementary or required studies, may be regarded as an experiment.

There must be some good reason why the sciences have and still claim the attention of educators. They must supply some want in disciplining the unfolding faculties of the human mind. They could not have forced their way so prominently into the curricula of our colleges against reason, and in opposition to the tenacious views of the old school men, that the only road to a disciplined mind was through abstract mathematics, ancient languages and metaphysics.

Pres. Elliott, in speaking of the future policy of Harvard College said substantially, "that the tendency of the age is so decidedly toward the sciences pertaining to practical life, that unless the strictly classical institutions revise their curricula to meet the modern demand, institutions founded upon the modern want will leave them with empty walls." The *ologies* are now so numerous no one can cover them all in the few years allotted to the college course. Men must select those most to their tastes and liking and which best subserve the ends of their chosen profession in life.

It can no longer be urged that the Oxford courses *only* represent the amount of culture entitled to the A. B. degree.

The object and end of education should be discipline. All other considerations are subordinate to it. The faculties should be harmoniously trained and their actions co-ordinated so as to produce a well balanced mind. Any branch of knowledge that calls into action systematically all the powers of the mind will subserve the ends of discipline.

It is not so much *what* we study as *how* that gives the proper discipline, providing the subject matter of the study appeals harmoniously to the faculties of the mind.

Men may acquire trained faculties and intellectual acumen in many ways entitling them to the appellation of scholar. It matters not in the training of the arm, whether lead or iron dumb bells are used, providing the end sought is reached, the healthy stimulus of the muscles that results in symmetry and strength. It matters not the form of the mental food: the more simple the better, if it sup-

plies the nourishment necessary for a healthy development of the mind. Trivial things which occupy the mind may even subserve the purposes of solid discipline. The simple foolish stories of Mother Goose, which are told children and interest them, leave no ideas worth remembering, yet through them activity of the mind is produced which disciplines and elevates to a higher plane.

If the ends of discipline can be reached and at the same time branches studied, the facts of which have a practical bearing upon the intended vocation, all must admit that it would be the best. This seems possible and therefore, if the vocation selected be one based upon the objective sciences, the child should early begin the study of them. Such subjective studies should be added as have a practical bearing, and be pursued in reference to their application. It would never become necessary in our estimation to pursue collegiate branches for discipline alone. We have no war to wage with classical courses of study. They have their place like sciences in the broad field of the attainable. We would not underrate their disciplinary value. We do not believe in exclusive training in the classics as a basis for a scientific career. The sciences should be *first* and the classics *secondary* though to a certain extent necessary. The classics are the essential to those whose life work pertains to literature and metaphysics. Though the Latin is less used than formerly as the language of science, yet it and Greek will always have a practical bearing upon nomenclature of science. It is only when called upon to believe that the classics are the only means of a disciplined mind that issue is taken.

There is great tendency to go to extremes and become blind in our wild enthusiasm over the practical until we lose sight of the importance of classical and subjective studies as a means of harmonious development of the human powers. Our nature is double. There is the objective and the subjective side of it. Both need to be well trained to produce the harmonious mind. The great fault of the old school discipline was, that the subjective faculties were stimulated to observe minute shades of thought and grasp intricate relations about subjective things, while the senses which have as their subject matter the external world were but little trained. The sciences if taught at all were taught *subjectively* not *objectively*. They trained the memory, the imagination and abstract reasoning, but not the senses of sight, hearing, touch, taste and smell, the avenues through which our knowledge of the external world is gained.

The tendency now is to the other extreme, *sense training* to the neglect of discipline of the *subjective faculties.* The desired ultimatum is the harmonious training of both. It seems from a study of the human mind as it manifests itself in others and by self contemplation, that the subjective and objective powers have different faculties of observation, requiring independent and special training. Sense training will not cultivate the power of imagination and subjective acuteness. We really believe that sense training alone, exclusive dealing with the rigid facts of the external world, will dwarf the powers of poetic imagination, subjective discrimination and abstract reasoning. The cultivation of the subjective alone makes one live above the earth in books and abstract thought. The problems of practical life are approached from a subjective instead of an objective standpoint. The man cultivated only in his subjective faculties theorizes but does not investigate, and when he enters practical life has to train his senses by bitter experience in contact with the external world. He has to unlearn his exact mathematical reasoning and learn circumstantial reasoning.

It is difficult for one trained in subjective observation alone to acquire the habit of objective observation, after he is mature. The training of the subjective and objective faculties should go hand in hand. The natural sciences when carried to their ultimate bring into harmonious action all the powers of the mind and in themselves could subserve all the ends of discipline necessary to the highest scientific career. The other studies found in the scientific curricula are there because of their universal application, or practical bearing, not as necessary disciplinary studies. This one-sided development of the nature to a special calling may not be the most desirable, or the *ideal education*, but seems forced upon men by our modern civilization, which is *possible only by division of labor.*

With these general considerations let us pass to notice the nature of the sciences. In the universe of knowledge there are two great worlds. The world without and the world within. The material and the immaterial. The world of matter and the world of mind. The world of matter includes the objects of the mineral, vegetable and animal kingdoms. We become acquainted with them through the senses. The world of mind embraces those considerations that grow out of the manifestations of the spirit and appeal to consciousness.

Corresponding with these two great worlds of knowledge, the sciences are divided into the subjective or metaphysical and objective or natural.

The former deal with thoughts, states of consciousness and their relations, the latter with things that appeal to the eyes, ears and the senses of touch, taste and smell. If you examine the curricula of our colleges you will find the classical courses made up wholly or largely of subjective sciences and the scientific courses largely of objective sciences. Metaphysicians tell us that if the mind existed in a body incapable of receiving impressions from without, it never would think and ever remain unconscious of its own existence. We come into the world with minds as blank as a sheet of paper. The brain has no ideas nor consciousness until stimulated from without through the senses. *Logically the external world stands first as a means of education.* The senses are the windows of the mansion in which dwells the inner man. They are heavily curtained at first and scarcely a ray of light finds its way into the dark recesses of the home of the soul. Through the stimulus of the objects of nature upon the senses, the curtains gradually roll up and gleams of ever increasing brightness stream in, awakening the sleeping mind to activity, and the work begins of arranging and beautifying the many compartments of the soul. These curtains work with an endless chain and the better our senses are trained, the closer students we become of nature, the higher up will the curtains to the windows of the soul be rolled and the clearer, deeper and purer will become the light and the capabilities of the mind and spirit. Great importance attaches to the cultivation of the senses. All the higher acts of the mind rest upon accurate perception as a foundation. Accurate percepts are essential to just conclusions and true judgment. The higher acts of the mind may be performed ever so logically, yet the value of the conclusions rests upon the validity of the premises, and the premises upon accurate subjective or objective observation. Early life should, therefore, be largely given over to sense training and the acquiring of the habit of accurate observation and the storing of many clear and accurate percepts.

The subject matter of the natural sciences appeals to the senses, the dominant faculties in childhood. The natural sciences are therefore eminently adapted as a means of disciplining the youthful mind. There is a natural unfolding of the faculties of the mind. They are not all developed at once. Mature life is reached before the human

mind is capable of its most perfect action. Metaphysicians tell us that the order of unfolding of the faculties of the mind from childhood to maturity, is the same as the succession of steps in a complete intellection of the mature mind from observation to generalization. The observing faculties are therefore the dominant faculties of childhood, and our attention as educators should be given to the proper training of them. The teaching of science in its broadest sense, appeals to the higher acts of the mind and should be left for maturer years, and pursued where it properly belongs, in the technical schools, colleges and universities. Science in public schools should have as its essential object *sense training*. The subject should, therefore, be presented so it will appeal strongly to the senses. The objects themselves should be presented to the senses. The child should be brought face to face with nature and his senses trained by using them. To pursue the sciences from text-books alone is to make them dry, meaningless, uninteresting *subjective studies*, and of no value as a discipline of the senses. The facts of science, which appeal to the memory and the higher acts of the mind, are of minor importance in childhood to the necessity of training the senses to make exact and close observations, establishing the scientific habit and laying the foundation of an original investigating mind. *If the habit of using the senses is established, the facts will take care of themselves.* To study from the text-books alone or even to listen to unillustrated lectures by the teacher does not train the senses, merely fills the head with the thoughts of other men and leaves no power of verifying the facts or discovering new. The teacher should, therefore, be a student of nature, be possessed of the scientific habit—have a love for his work and produce in his pupil, so far as possible, the same condition of mind. The question probably arises in the mind, how a teacher without the trained senses and the scientific habit can manage. Such never ought to undertake science work, unless they become with their pupils students of nature and with them train the senses. The ultimate success in science study depends largely upon the habits formed when the pupil first begins. As in all other branches of learning we need the best teachers for beginners. This is to me one of the gravest difficulties, for those who have spent the time and effort to train themselves for a high order of work command higher salaries than are given in the public schools.

All the natural sciences appeal to the senses and if properly presented would furnish the required discipline. Every teacher likes to labor in his own harness. He would, therefore, do the best work and reach the highest results through the sciences he knows and loves the best. The disciplinary effects of all the sciences being the same, the results of training could be reached through a single branch. We would, therefore, advocate thorough training in one science rather than surface work in many. Laying aside the training or fitness of the teacher, qualifying him to present one science rather than another, there are in the nature of the sciences themselves peculiarities which adapt some more than others for general study in our common schools.

The so-called physical sciences, chemistry, physics and mineralogy, require extensive apparatus and cabinets for illustrating the work. This apparatus has to be manufactured and costs money. Minerals are generally found locally in deposits and have to be purchased for use in many localities. The principles of chemistry and physics are quite abstract and difficult to understand. Much good work may be done in these sciences to train the senses at little expense by an ingenious teacher. The biological sciences, zoology and botany, require no purchased apparatus, nor extensive cabinets for illustration. The plants and animals, plentiful and universally distributed on every hand, are the apparatus, and can be had for the taking. So plentiful are they that each student can have as many specimens as are needed for personal study. Children like flowers and animal life much better than the inanimate minerals and rocks. The principles of the biological sciences are more easily understood. Between the two biological sciences there would not be much choice, though some children have an antipathy to animals and especially to dissections, that cannot be overcome, while the love for plant forms is almost universal. The study of special zoology in the form of human anatomy, physiology and hygiene without manikins, models, charts, and dissections of lower forms of life does not discipline the senses or form habits of observation to any extent, though the facts taught are of great value. The subject can with appliances be presented so as to subserve the ends of discipline.

Sense training may begin in the cradle and the scientific habit be formed before the child is old enough to enter the public schools. All children are not so fortunate as to have parents who see the importance of sense training, or if they do see it, have the time,

patience or knowledge necessary to give the guidance. From our earliest existence it is nature's method to appeal to the senses through natural objects. The child by contact with the external world picks up a great deal of knowledge of the things about him before he comes under the guidance of the common school teacher, but he has done it without method. Frequently he is no better off and often worse off after he enters the schools. The true teacher perceives nature's methods of appealing to the faculties of the mind, and makes them more efficient by proper direction. The Kindergarten schools for children, though perhaps too machine-like in methods, are doing a good work in sense training. The sciences as usually taught in our public schools are deferred until the senior year, but experience proves that lessons of Natural History can be introduced from the *first* with good results. They detract nothing from the other routine work and serve to make the children alive and quick in their perceptions.

The study of the sciences should be pursued until the teacher feels that the habit of using the senses to unravel the mysteries of the external world has been established, and some degree of accuracy in making observations acquired. This will depend upon the teacher and the pupil. No principles can be laid down. Naturalists, like poets, are born, not made. Some children are born with the scientific habit and need no guide to sense training. Most children are susceptible of more or less sense training by proper instruction and discipline, and most need careful guidance. The methods often adopted in our public schools, of teaching sciences from text-books without illustrations, hinders the subsequent acquirement of a proper use of the senses. The study of science for a time from text-books by memory and the imagination makes it hard to change the subjective to the objective habit, and is apt to create a disgust and force the student, when he enters college, to other courses of study.

College students so taught in our public schools cling to the lazy subjective method of study. It is hard to break it up. They acquire with much greater difficulty than *novices* the habit of using the senses and the hands in the study of nature. It would be much better that the sciences remain unconsidered in our public schools if so presented that they tend to stupify, instead of stimulate, the senses. It would be a desirable ultimatum and a source of gratification to the teachers of higher science in our colleges and universities, if students could come to them from the common school for the study of science in its

higher aspects, as it appeals to and so fully and systematically unfolds the higher powers of the mind, with the senses somewhat trained and the scientific habit formed. With this substantial training, at least, a year's time of the college course in science would be saved, and the standard of science study in our colleges correspondingly raised. Let us hope for a partial realization of this desirable end, and in conclusion, let me say that it will give me more pleasure than any words can express, to aid the teachers of the public schools of Maine in their science work, by answering questions or by the examination of specimens.

EDUCATIONAL SCIENCE IN TEACHING MUSIC.

By Prof. H. E. Holt, Boston.

IS A PRACTICAL KNOWLEDGE OF EDUCATIONAL SCIENCE ESSENTIAL IN TEACHING MUSIC IN SCHOOLS?

If we ask the professional teacher and expert in educational matters whether or not a knowledge of educational principles and their application is essential in teaching arithmetic, reading, writing, and other branches taught in schools, he will tell us that no one is qualified to do the best work in teaching these branches who does not understand the principles of educational science, and their general application to the subjects taught. We have progressed far enough in the study of educational principles and their application in teaching, to believe that there is but one true educational method of teaching *any* subject, and that this true educational method is *applied educational science*. While every teacher should have his own manner, ways, and means of teaching any subject, he is a good or poor teacher to just the extent that his manner, ways, and means are made to conform to the natural laws which underlie the growth and development of the mind. The person who knows nothing of these mental laws and their application in teaching a subject, cannot be considered in any sense a teacher of that subject, however learned he may be in it. Little children in our primary schools can be taught tones and semitones, major and minor thirds, perfect and augmented fourths, perfect and diminished fifths, etc., as *mental objects*, just as readily as they can be taught simple numbers and their combinations. But no person, however proficient he may be as a *musician*, can obtain these results without a knowledge of edu-

cational science and its practical application in teaching music. Great improvements have been made in teaching all languages in all countries by a closer application of educational principles.

Music is a "universal language." No other language is so generally recognized and taught in all countries. Such is the simplicity of the elements upon which the language of music is based, that educational principles can be more easily and successfully applied in teaching it than in teaching any other language. Notwithstanding this fact, there is no other language in the teaching of which true educational principles are so utterly ignored and disregarded. When we give more attention to the study of educational science and its application in teaching music, many of the foolish ways and means (sometimes called methods) now in use will disappear, and music will be well taught more universally than any other subject, because the elements are more simple and educational principles can be more easily and successfully applied. The *science* of music is a most profound mathematical science. The notation of music as it is usually taught is a mathematical puzzle; when we take up the study of the value of notes and their corresponding rests from the standpoint of their fractional names, the study becomes a mathematical puzzle, and if we succeed in working out the puzzle we are still no nearer a knowledge of the real concepts represented than when we commenced, but *fortunately* neither the mathematical science underlying the arrangement of the pitch of sounds, nor the fractional names of the notes and their corresponding rests used in representing the pitch and duration of sounds, are at all necessary in order to sing intelligently by note. There is no true elementary teaching which does not hold the mind in constant contact with the real objects of thought until they are known. Constant presentations and repetitions must be made until an impression of the fact is clearly established in the mind. The real objects of thought in music are not signs. The names of the signs or characters used in representing the pitch and duration of musical sounds are of no more practical value in reading music or singing intelligently by note than the names of the Chinese alphabet. The names of these characters are only useful as they are convenient in talking about the subject, and they should be learned incidentally in this way.

The amount of time wasted in teaching music, and devoted to the teaching of mathematics and drawing by the average music teacher in schools, is appalling. All the time spent in working out the

mathematical transposition of the scale, and combining notes and rests of different values into measures, is just so much time spent in working out mathematical puzzles which have nothing whatever to do with the teaching of music and which are of no value in learning to sing intelligently by note. All of the time devoted to drawing the staff, clef, notes, rests, and all characters used in representing music, is just so much time devoted to practice in drawing, pure and simple, and not to the teaching of music. This kind of training may be well enough if proof reading and written examinations upon the notation are the objects in view. There should be no written examinations in questions and answers to ascertain what children know about music. A written examination in singing is an absurdity. All such examinations are tests upon the written signs only, and are no indication that the pupil has any knowledge of the invisible concepts represented. And yet these written examinations in music are more frequently given than any others. In teaching this subject in schools the mathematical science of music and the study of signs used in representing music should give place to Art. Children should be taught the art of singing intelligently by note. We might as well say that a child should not see and enjoy the variety in color and fragrance of beautiful flowers until they can understand the mystery which causes this variety in color and fragrance, as to say that children shall not hear and make with their own voices and enjoy the succession and combination, of sounds, of which the most elevating and inspiring music is composed, until they can understand the mathematical science which underlies the arrangement of these sounds and their combinations, and the names of the signs used in their representation. The application of educational science in teaching music is to us as educators the great and important question of the hour. The same underlying principle should be applied in all departments of musical instruction. Upon the proper understanding of this question depends not only the employment of different devices used as notations, and the confusion which must inevitably follow their use, but the success or failure of music in our schools. We have no hesitation in saying that a knowledge of educational science in its practical application in teaching music in schools is not only indispensable to good work, but that all failures in teaching this subject can be traced directly to a want of this knowledge and its application. Teachers are successful in teaching this subject just in proportion as they understand the natural laws

which underlie the growth and development of the mind, and are skillful in presenting the subject in accordance with these mental laws. From this we shall see that music is not the first and most important thing to study as a preparation for teaching this subject, we must first study the mind and the laws which govern its growth, we must then learn to make the presentation of music to the mind in such a way as to awaken mental activity and secure growth and development through this activity, and in this way give the mind command of its musical powers. No matter how good a musician a person may be, no matter how well he may be able to sing, no matter how well he may be able to play upon musical instruments,—a person may have all of these accomplishments and still be utterly unfitted to teach this subject in schools, or any where else for that matter. No person is qualified to teach in the best manner who cannot make a clear analysis of the mental processes involved. No person can be successful in teaching children to think in music, who has not made the mind and the laws of its growth a careful study.

The time has come when, if the musicians of this country are to exert an influence upon the teaching of music in the public schools, they must study this subject very carefully from the standpoint of the professional educator and teacher of other branches, rather than simply from the standpoint of the professional musician. If we are to regard all persons as eminently qualified to take charge of the instruction in music in the public schools when they can pass successfully the examination required by the M. T. N. A. in this department of musical instruction, the time will soon come when the certificates of qualification from that Association will not be worth the paper upon which they are written. I am aware that this statement will be regarded by some as rank treason, but I believe it will prove true, nevertheless. The most favorable indication of a genuine reform in the teaching of music in public schools, at present, is the intelligent criticisms made by educators and the teaching profession generally upon the methods employed by the professional music teachers in their work. Our methods of teaching music must conform to and embody the principles of educational science as applied in teaching all other subjects. In no other way can the teaching of music in schools be placed upon an educational basis and be generally and successfully taught by the regular teachers in the same manner as other branches. The teaching of music by the regular teachers in schools is just as practicable and can be made

just as successful as the teaching of any other subject. In the first place, very little is yet known of the ability of the mass of children to learn music. While children will vary in this as in all other natural endowments, I believe there is no one faculty or gift which has been so generally and lavishingly bestowed upon the human race as that of music or tone perception. But what has been done in the past to develop this natural gift which contributes so much to the elevation and happiness of mankind? When we look at all of the inventions in the way of notations and the mechanical devices invented and intended to make the study of music easy and bring it within the reach of the masses of the people, we find that all of these inventions and devices are only means for making it easy to acquire a knowledge of the signs of musical ideas, not music itself. This is study and effort in the wrong direction, it is dealing with the mathematical science and visible signs and not with the invisible things. But when we take for our guide the principles of psychology and apply the infallible laws of educational science, and confine our operations to the real things to be taught in music, the whole subject assumes an entirely different aspect and we go from the study of the science and signs of music to the study of the mind and the laws which govern its growth, and observe these laws in our teaching. All other studies have for a foundation this basis in principle, and music must be no exception to the general law. This must be the standpoint from which to study this subject if we would be successful in teaching it. The general truism in teaching all subjects, "The thing before the sign of the thing and one thing at a time," has been repeated times enough in connection with the teaching of music; but has a practical application of this general truism and fundamental principle been made in teaching music? Have we gone down to the bottom rock foundation and ascertained what the real things in music are? If we have not, then there has been no intelligent beginning made. "All mental action comes at first to the brain through the senses." The senses of hearing and physical touch are the only senses through which to reach the brain with the real concepts in music. The sense of hearing is our only avenue to the brain in teaching the pitch of sounds. In teaching rhythm we can add to the sense of hearing the sense of physical touch. The real things or objects of thought in teaching music must therefore be things not visible to the eye. Before any intelligent beginning can be made in the application of educational science in training the mind to think

in music, we must decide what constitutes the real units or objects of thought to be presented to the mind. Music is composed of two separate and distinct subjects each of which must have a unit or object of thought upon which the study of the subject can be based. When we consider the teaching of music from this educational standpoint and these fundamental truths are comprehended and understood, as they are in teaching other subjects, there can be no question regarding the proper basis from which to work. With the question settled of what constitutes the whole thing in Tune and Time through which to study these subjects, we have a common ground upon which all can stand and from which this whole problem can be very easily solved. Fortunately for the cause of music these questions are not mere matters of opinion to be decided by this or that person's whim or previous habits of thinking in music, they are facts that can be demonstrated beyond the shadow of a doubt. They are truths which have a foundation as firmly established as the eternal hills, and all intelligent musicians and teachers will accept them.

The major scale is the series of sounds upon which the whole superstructure of music is constructed. It contains everything there is in music, and furnishes the true basis from which to work. It is the key through the use of which the great and intricate problem of intervals can be very easily solved. This series of sounds must therefore be regarded as the unit or object of thought to be presented to the mind in studying the pitch of sounds. This fact established, and we have an infallible law in educational science for our guide. This law requires that an object of thought shall be first presented to the mind as a whole thing, after which we are to analyze and study its parts. In no other study will the application of this law unfold the intricacies of the whole subject, and open up the way to a more beautiful and systematic development of the mind regarding the subject. The results following a skillful application of this law in training the mind in musical sounds are truly wonderful, but they are very easily accounted for when the simplicity of the mental processes is understood. These are the processes in sense perception training, pure and simple, doing away with a study of the complicated signs entirely. Viewed from this educational standpoint all the inherent effects of music itself are brought to our aid in teaching the subject. The impression made upon the mind by the characteristic quality of each sound in its relation to the unit or whole thing is the all important factor in training the mind to think

intelligently in music. This applies as forcibly in the study of time as in the study of tune We must make no mistake regarding what constitutes the real units or objects of thought to be presented to the mind in studying the two subjects (Tune and Time) upon which the whole superstructure of music is based. An error here at the very foundation of our work in training the mind in music, and our whole building will topple and fall. But with a solid foundation resting upon the whole things in these two subjects upon which to rear our superstructure of mind training in musical thought, we have a building that can never be shaken, because it is founded upon the unchanging laws of nature which underlie mental development. The development of tone perception in music from the standpoint of educational science is an unexplored field, in which the virgin soil is as deep and fertile as the capacity of the human mind; it will yield a most bountiful harvest in musical development when properly cultivated. But no novice in nature's laws can till this field: he must know what, when, and how to plant and cultivate. Nature will be as true to herself and adhere as persistently to her own laws in mental growth and development as in vegetable growth and development like will produce like. The farmer who would sow a field with tares and expect to reap an abundant harvest of beautiful golden wheat would be called a very foolish farmer. The teacher who sows the positive pitch seeds of flats, sharps, and naturals mixed up with whole, half, quarter, eighth and sixteenth notes, and all of their corresponding rests, and expects to reap an abundant harvest, in a knowledge of the beautiful combinations of sounds, and a vigorous growth in musical intelligence generally, is no less foolish, and is doomed to disappointment. In the vegetable kingdom the mistakes of the ignorant farmer can be corrected by his own experiments and observation; for him Nature is very indulgent, she remains in the same receptive condition. It is not so with the virgin soil of sense perception in the field of our operations in mental growth and development. If the soil of sense perception remains uncultivated, its fertility "runs out." If the first year of school life is wasted, the most favorable time for securing a luxuriant growth of the musical nature is lost. The great value of the analytic principle in teaching is nowhere shown to greater advantage than in teaching the two subjects of tune and time in music. The laws of association and the relationship of the different parts of the unit or whole to the whole thing can be illustrated and used to greater advantage in the

study of the pitch of sounds than in almost any other subject. The importance of this mental training in music through this process in early childhood cannot be overestimated. The value of proper instruction in the public schools as a foundation for all subsequent training in all departments of musical education can hardly be appreciated. But to be of any practical value this instruction must be of the right sort. The child must be put in the same relation to the subject of music as to all other studies. The major scale as a whole is the only thing to be taught by imitation. Rote singing as a means of mental training in music from the educational standpoint is an absurdity. It is a positive hindrance to thorough work and should only be used as a means of recreation with very small children. The idea that a teacher must sing or play in order to assist the pupils in working out their problems in music must be abandoned before we shall secure any appreciable intelligence in music in our public school work. The use of musical instruments as a means of instruction must also be abandoned. To take any other position would be simply a confession of weakness as a teacher. The teacher's office is to awaken mental activity, stimulate thought and develop musical power through the pupil's own efforts. If we would have tuneful singers we must first establish clearly in the mind, in their proper relation to each other, the succession of sounds known as the major scale, upon which all music is constructed. This can never be done by imitating an imperfect instrument. It must be accomplished by a careful systematic training of the mind through practice in thinking and producing these sounds. Rote singing will never accomplish this. A musician in the common acceptance of the term is not necessary for this work. The most favorable time for this important work is the first year of school life. There is a way of approaching the study of these sounds which will secure tuneful singing. When these facts are fully appreciated, there will be a change in the manner of teaching music in schools and we shall begin at the foundation instead of at the top to build.

Our prejudices are often the greatest barriers to our progress. There are people who are very ready to give an adverse opinion upon any proposition that does not come within the scope of their personal comprehension of the subject. They do not see the principle involved, consequently it must be "all nonsense." This has been very forcibly illustrated by the manner in which some have received the idea of teaching time, or I should say of indicating to

the mind the strength and duration of sounds in music by means of a time language. It is safe in all matters of education involving psychological principles in teaching, to reserve our opinions until we have thoroughly investigated the subject. I cannot better illustrate the views taken of this subject by persons trained in different ways than by repeating a conversation I had with a gentleman upon this subject within the last few days. This gentleman is one of the most prominent educators in the West, a man who recognizes educational principles very quickly. After visiting the lowest primary grades and witnessing the proficiency of the children five years of age in singing any interval in any key, he said, "I see your principle there Mr. Holt, I see your unit and the relation of its parts. I see how by the characteristic quality of each part in relation to the whole you work out the entire problem of intervals in music. That is all very plain to me, but I do not see the same thing in your time language. I admit that it ought to be possible to apply the same principle and make the study of time as simple as you have made the study of tune. If you say the language accomplishes this I am ready to accept it, because I know you are governed by educational principles in your work, but I do not yet see the application of the principle." I assured him that it was there and that I could enable him to see it clearly in fifteen minutes. He said, "I am ready, go ahead," and our conversation ran as follows:

In the first place we must go back to the very beginning and find our unit or object of thought to present to the mind. "Very true, what is it?" As in the study of tune, it is an invisible thing. It is a group of pulsations or accents that vary in strength or intensity. This difference in strength is the important factor. Now there are just two senses through which we can reach the brain with this idea. They are the senses of hearing and physical touch. I then gave him a clear idea of two, three and four part measures by giving him the right number of pinches in groups, each pinch corresponding in strength to the strength of tone or accent which goes with each part of the measure. I then gave him an illustration of the same thing through the sense of hearing. He said, "All right, it is clear so far." Now we will take the group of four accents or a four part measure. We have a name for each one of those accents. Tä is the name of the principle or primary accent and Tō is the name of the medium strong or secondary accent and Tā and Tē are the names of the

weak accents. "That is all very beautiful and very systematic so far, but where is the application of the principle?" But wait a moment, do not be in too much of a hurry as we are just getting ready. Now you place the tip of your tongue against the roof of your mouth just back of your teeth. When you give the syllable Tä which is the name of your strong accent press the tongue firmly and give the name with an explosion of the breath; do not use the voice but aspirate the syllable, then when you name the first weak accent Tā just touch the tip of your tongue to the roof of the mouth very lightly and the others in like manner. Do you see that I have transferred the effect of those pinches or physical touch or pressure, to the tip of the tongue and that the two senses of touch and hearing are *combined* and *concentrated* in the *giving* of the language? That you have only to sing the sounds of an exercise in strength as indicated by the language, and you are singing in time? Do you see that Tä, Tā, Tē, for instance names the strength of the three accents in a three part measure and that if this idea is clearly established in the mind that 3-2, 3-4 or 3-8 time are all *one* thing and that the fractional naming of these different kinds of notes has nothing whatever to do with the naming of the concepts which they represent. Do you see that the old way of learning the fractional names of these notes and attempting to measure their values by set motions of the hand called "beating time" is bringing in an immense amount of rubbish which stands between the mind and the real objects of thought and must therefore be a hindrance to the pupil's progress? "That is enough Mr. Holt, it is all clear to me now and I see that it is wonderful in its simplicity." All true educators will see the principle involved as this gentleman saw it when it is explained to them. How long will it take the *musicians* to recognize these fundamental truths?

THE EDUCATIONAL ADVANTAGES OF THE STUDY OF LATIN.

W. R. WHITTLE.

That many of our educators approve of dropping the ancient languages from the schools of popular education, that the leading college of the country has made it possible to drop either Latin or Greek from the necessary requirements for admission, are facts which cannot be disregarded. But are not we who labor in the schools of secondary education liable to be unduly influenced by the seemingly popular opinion and with little or no thought allow Latin to be dropped from the regular courses of study in our high schools?

In my short experience in high school work I have had, to my mind, no more important question to settle, in regard to the courses of study, than the one question, "What place ought to be given to Latin?" Shall it be a required study and how much time ought to be devoted to it? I refer of course to the student who does not have in view a college course, and perhaps, no more extended course than that offered by the high school. No question has so often been asked me, in my school work, as—"Is it best that my boy or girl shall take up the study of Latin?"

It is the purpose of this paper to present, in a very brief way, some of the reasons why I believe Latin has and *rightly* has an important place in our high school curriculum.

In the first place I believe the object of education is found by studying the derivation and etymological meaning of the word itself,—the *educo* of the immature mind. I believe that in teaching the languages as well as the sciences, *mental growth* or discipline should be the goal towards which we should direct our efforts. This by no means implies that the best methods of teaching are not to be desired, on the contrary, it necessitates the use of the best methods.

I am aware that some of our leading educators say, aim at the *acquiring*, the *possession* and the discipline will take care of itself—that is, have a useful end in view, as for instance, the acquiring of a modern language, French, and trust the discipline to take care of itself. I take the ground that *mental growth* or *discipline* is the useful end, and the question will naturally follow, "What studies will best lead to this end?"

The uneducated parent says give us something *more practical* as, for instance, more arithmetic, while the leaders of the new departure say—since Latin is no longer a *spoken* language, and the knowledge of it is not necessary to become acquainted with the *literature* of the times, the real object of the study of language is no longer apparent in the case of Latin, therefore, the dead language should be displaced by the modern. I would not detract, if I could, from the value of, at least, one of the modern languages in the schools of popular education, neither do I wish to underrate the idea of *utility*, rather would I say, *other things being equal*, let the student pursue the study of that language which he will the most use.

One of the objects of the study of any language is undoubtedly *linguistic culture* and it seems to me that Latin, owing to its peculiar forms, strange constructions and arrangements, differing so widely from the English, which we have come to use almost automatically, gives the student more linguistic discipline than does the study of any modern language. Another object of the study of Latin is its *historical* value; it will lead to a better knowledge of the literature and history of one of the most important people in the world's history. It is claimed by some that it would be far better to put a more extended course in English in the place of Latin.

That too little attention is given to our own English language and its literature is undoubtedly true and it would seem to me, that if Latin must be displaced more English rather than more French or German should take its place. But I think it is true that some knowledge of Latin is necessary to the successful and thorough study of our own language and its literature. The student who attempts to make a special study of English with no knowledge of Latin will realize sooner or later that he has made a mistake.

While pursuing the study of Latin under a competent teacher the student is not only acquiring a knowledge of Latin, he is also cultivating his English. One of the most helpful exercises towards the correct use of English is the rendering of Latin into good idiomatic English, though it might be here said that too often is it the case, that through the carelessness or incompetency of the teacher the student falls into habits which diminish rather than increase the power which he ought to possess over his own language, but this is the fault of the teacher, not of the study itself.

It is claimed that the study of English or of any modern language will furnish as much linguistic discipline as will the study of Latin

or at least as much as the student will profit by, that it should not be studied for its *historical* value, and that as a *means* to a better understanding of English, the value to the ordinary student is too slight to warrant the waste of so much time. Then I would say Latin should be studied because of its value as a means to great *mental discipline.*

In making this claim I do not forget that some able educators, who have had long experience as teachers, say that this is a forced argument for a fast declining cause, that as a means to this end it is no better than a modern language. But my limited means of observation has lead me to the belief that the study of Latin does possess in a marked degree means to greater mental growth than do the modern languages.

The popular cry is, that Latin is not practical, that the youth should study something that will be of some benefit to him in after years, something that he can use in every day life. It seems to me that they who make this cry forget that, that study which causes the most thought, that which best develops and draws out the reasoning faculties of the mind, that that study, which best fits the youth for citizenship, for noble men and women, that that study, which best fits the youth to go out into the world and successfully compete with his fellow men, is the *most practical.*

I would not maintain that the object of the school should be to make business men and women, but I do believe that as one object it ought to supplement natural ability and thus lay a foundation on which a successful business life may be built.

We live in an age of competition, in an age of electricity; everything goes with a snap. The young man who enters upon a professional life must be equipped with accurate judgment, his mental powers must be ready to act quickly and accurately, he must be able to make comparisons and draw correct, and at the same time rapid conclusions, or he will be obliged to step down and out, thus making way for some one who is capable of fulfilling the demands of the times. Not only is this true of the professional man but most assuredly is it true of the business man.

We often hear it said that the boy from the grammar school is better fitted for business than the one from the high school. I do not believe it is true, neither do I believe that a college education unfits men for a business life. If it does then there must be some-

thing wrong somewhere. Mental training must count for something even in business life.

Now, then, what I would claim is that Latin is one of the studies, and one of the best for preparing the youth for life work. Some one has well said that, "A student can do nothing in Latin with his mind sprawling." It requires that concentration of thought which must lead to mental growth. Whether the task is to translate Latin into English or English into Latin, it calls into activity more than one of the mental faculties. It not only cultivates the linguistic powers but it broadens and deepens the mind in many other ways. The student not only derives much benefit from the individual preparation of the lesson either by direct study of the lesson, or by preparation for sight reading, but the teacher has in his power the opportunity of training the student both logically and rhetorically, of directing him into ways that will strengthen the memory and lead to quick and correct modes of thought, of developing his judgment and the power of drawing accurate comparisons and logical conclusions. It may be said that this is the field of the more advanced school, the college, yet I think it belongs to the secondary school as well, though, of course, in a less degree and ought to serve to direct the teacher in his methods of instruction.

My observation also leads me to the belief that it is possible to get more "solid work" from a class in Latin than in French. I would not maintain, that simply because a study is hard is a reason why it is beneficial and should be pursued, but it is *solid*, *hard* work that helps to make the *solid*, *strong* man.

The fact that a certain business man studied Latin for four years or even longer, and the fact that he can or can not now read easy Latin matters little. If, while he was studying it, he did honest, faithful work and was directed in his study by a competent and faithful teacher, the mental training thus acquired is worth just as much to him.

In conclusion then I would claim that Latin has a place in our secondary schools as an *instrument* rather than as an *accomplishment*, that as such it has no equal among modern languages and but few if any superiors even among the sciences.

PLACE AND WORK OF THE SEMINARY IN OUR SYSTEM OF EDUCATION.

J. H. PARSONS.

The word seminary as here used is so well understood that it needs no definition. Instinctively as one hears the word there comes before his mental vision an institution of learning where young people of both sexes are gathered for intellectal culture. It will be the aim of this paper, first, to show that the place occupied by the seminary is essentially different from that of other schools, and that its work is second in importance to that of no school of whatever grade, and second, to call attention to that wherein the seminary at present fails of having attained the full measure of success that is hers, and modestly to suggest how the desired end may be approximated.

The place of the seminary differs from that of the high school, since the latter is necessarily local in its character, and completes the education of the youth who have been led up to this point through successive grades. It differs from that of the college since it is of a lower grade and deals with younger students. It differs from all other schools in the fact that it takes its students into a more intimate relationship and exerts a greater influence upon their after lives.

The students of the high school come from the immediate vicinity of the school-house and are under the direct supervision of parents or guardians. The students of the seminary are gathered from the farm and the village, from the hillside and the valley. Removed, in a measure, from the influence of home and its surroundings, his school must not only furnish him with instructors and teachers, it must also be his friend and advisor. Holding as it does this intimate relation with its students the seminary is directly responsible for the physical and moral as well as the intellectual well being of its students.

Time was when physical development was regarded as the chief end of education; and, as a natural consequence the attention of educators was almost wholly turned in that direction. But this state of things is changed, and all recognize the fact that a well developed mind is a more valuable possession than a muscular body. Indeed the danger, at present, is not that too much, but that too little attention shall be given to physical culture. It is not necessary to

develop an Ajax or an Achilles, but it is essential that the student possess a vigorous and healthy body, for without this, the highest intellectual development is impossible.

Few of the schools are doing enough in this direction. In view of the fact that the tendency has been toward weakness rather than strength, has not the time come when systematic work should be undertaken in this department of education? I am aware that in certain institutions much attention is given to physical culture, that to such an extent has this been true, that it has served as the subject of many a well-worn joke, especially relished by those who have no sympathy with college sports. But there is here no plea for base ball, foot ball or rowing. They need none. The problem that confronts educators to-day is not how best to train and equip nine or eleven men, but rather how the students as a whole shall have the benefit of proper physical exercise. Many students need no encouragement in this direction, but it is those who, as Dr. Peabody has remarked, take their exercise by proxy that need to be stimulated to individual exertion.

The seminary, as well as the college, should have its gymnasium, where systematic exercise should be required of all students throughout that season of the year when out-of-door exercise is impracticable. As early in the season as possible, it is best that out-of-door exercise be practiced, and some means of recreation needs to be devised that shall meet the wants of those who take no interest in ordinary sports, and particularly for the young women. It is not often that a young man is injured by close application, but for a young lady seriously to impair her health is not uncommon. I would encourage such students to leave, for a portion of each day, the narrow limits of their rooms, and enjoy the pure air of the outside world, by introducing into our courses of study more of those branches that bring the student into direct contact with nature. I would have more botany, taught less from books in recitation rooms, and more in open field from flower and plant and shrub; more of geology learned from direct contact with mother earth. I would awaken an interest in entomology and ornithology, and encourage walks into field and forest for original investigation. I would have the student become familiar with the wonderful operations of nature by which we are constantly surrounded, and in so doing acquire a vigorous body and a clear head. I am aware that all these changes cannot be effected at once, but it is high time that we were aroused

to the physical needs of students. And any improvement in this direction is sure to bring about better results in the class room. It is impossible to separate the intellectual and moral education of the student, for by daily contact with his fellows, by the management of each teacher in the recitation-room, by the very atmosphere that pervades the place, his ideas of justice and of right are being shaped. It is then of the utmost importance that the influences of the seminary be in the right direction. Within the last decade great improvement has been made in class-room instruction, but perfection has by no means yet been attained. Institutions of learning are few where the student is given a Latin grammar and expected to commit it to memory or where he is allowed to declaim his geometry, but the idea is still too prevalent that education consists in learning a given number of facts.

While the seminary occupies a distinct place in our school system, the character of the work it does will depend almost wholly upon its teachers. To a greater degree is this true of the seminary than of any other class of schools, since nowhere else does the teacher exert so potent and far-reaching an influence upon the student. In the eyes of the boy from the farm the teacher is a great man. His opinions are accepted as necessarily correct. His advice is followed in regard to the choice of studies. His ideas are respected and copied. And it will be found, that as the teachers are, so to a great extent will those be who go forth from the school. Are the teachers men and women of broad and liberal views? so are the graduates. Are they narrow and conservative? the graduates are the same. If this be true, it behooves the school to be such as it desires those to become, who go from its halls and are to represent it in the years to come. The utmost care should then be exercised in the selection of teachers, and very different qualities are required of the teacher of the seminary than are necessary in other schools. One who would be called a successful teacher in a high school might here prove a failure. Not only must the teacher have a good intellect, he must also have a sympathetic nature. Heart culture as well as brain development is imperatively demanded. The tendency at present to employ specialists, must not be carried to excess. If a teacher of mathematics be desired it is not enough to know that he took first rank in that department for that may be the only qualification that he possesses for the position. Nor must a teacher of French be sought chiefly because his accent is faultless. It is by no means

certain that he will prove the best teacher of a study who has found least difficulties therein. The average student is not so brilliant that he does not at times find hard places, perplexing questions and he needs sympathy and direction from one who has himself been perplexed. And there is always to be considered the fact, that while teaching is going on in algebra or rhetoric or Latin, the student is learning from his instructor lessons of far greater importance.

In view of this fact the most essential qualification for the teacher of the seminary is character. No brilliancy of intellect, no accuracy of scholarship can atone for the absence of purity. And to him alone who holds correct views in regard to life, should be committed the important duty of shaping the lives of others.

Not only must the morals of the teacher be above reproach, it is also essential that he be a man of broad and liberal culture. The highest and best work of the teacher is to inspire, to arouse in the mind of the student a desire for knowledge, to imbue his soul with a purpose to be a greater and a better man. He is best fitted to awaken in others a thirst for knowledge who has himself drunk long draughts at her fount.

The teacher of the seminary must not grow old. Though gray locks adorn his brow, his heart may still be young. There are those that seem born old, while others are ever young and fresh as a flower in springtime. As added years steal over him he must never allow himself to forget that he was once a boy. He must keep his heart young by an active sympathy with the young life about him. The teacher must fail to gain the best results who does not hold a large place in the heart of the student. Young people as well as they who are older can not easily be driven, but they are ever willing to be led. This fact should be constantly borne in mind by those who have the direction of our institutions of learning.

I have no confidence in a system of school government that presupposes all students to be children and treats them as such; that thinks the first thing necessary in founding an institution of learning is to manufacture a page of rules and prohibitions. Treat a boy as if he were a rogue and the chances are that he will become one. Hedge him about with restrictions and he will seek to evade them as naturally as the condemned man would turn from his dank prison cell to the pure air of the outside world. The time has come when the idea that students in a seminary are different from other people and must be governed by a set of rules prepared to fit their peculiar condition should be consigned to oblivion.

Let the student feel that he is trusted and it will do much toward making him worthy of confidence. Treat him as a man and impress upon him the fact that he is an essential part of the school; that its reputation depends upon his character and scholarship; that good manners, sound morals and accurate scholarship, not the keeping of a set of rules, are the ends sought, and manly qualities will be developed as naturally as flowers unfold in the sunlight. He will love the school and work to bring others to enjoy its advantages.

Do you say that this method sounds well in theory but will not work in practice? I answer that it is being successfully tried in some of the foremost institutions in New England, and the result has been, and is to develop those qualities that constitute successful manhood. Since the future of the youth entrusted to its keeping is so largely dependent upon the seminary, there is need of the utmost care, that its influence be such, that coming within its circle, the boy, rough, awkward, uncouth it may be, shall be developed into a man; not with a mind crammed with the product of other men's thought, but a man who has ideas of his own, a man that thinks, and who, when the time comes, is not afraid to express his opinions.

Having no proper conception of the value of a course of study the young man is naturally desirous of becoming settled in life and the shortest course is often the most attractive. If he can supplement a common school education with six months at a business college or two years at a normal school, he has an idea that he will be liberally educated, thoroughly equipped for the work of life. It is the duty of the seminary to correct these views, to exemplify the advantages of an extended course of study, to encourage the student to go further in the pursuit of knowledge; to enter broader fields than any to which she can invite him.

The idea above others that needs to be urged upon the student is the value of a course of study, not for the money to be gained therefrom, nor for the fame and position it may bring, but rather as a means of growth; for what it aids the man to become, for all the possibilities of development and of usefulness that it enables him to realize. The teacher may well take as his motto the words of Holmes:

"Build thee more stately mansions, O my soul,
As the swift seasons roll;
Leave thy low-vaulted past;
Let each new temple nobler than the last,
Shut thee from heaven with a dome more vast,
Till thou at length art free;
Leaving thine out-grown shell by life's unresting sea."

CIVICS.

(ABSTRACT) L. G. JORDAN.

The greatest national progress and the most permanent national character have always been produced by some direct education in the line of citizenship. Three of the best illustrations of the civic virtues which history affords us are found in the Hebrew, the Roman, and the American patriot of the Revolutionary period. These were not incidental products, but natural results of persistent training in the things that pertain to citizenship.

The civic forms and practices adopted by the New England colonies were largely derived from their Teuton ancesters The folkmote became the primordial cell of every Anglo-Saxon body politic. All thoughtful political writers have held it to be one of the best schools for forming the faculties of men.

But these conditions are now in a great degree changed. The town meeting has lost much of its primitive vigor and its educational effects. The introduction of caucus methods and the delegation of authority to a few have taken all real participation in public affairs out of the hands of the majority of the people.

Again the remarkable influx of foreign population, much of which is either ignorant of the very elements of citizenship or wholly un-American in its habits and sympathies, has so diluted the civic virtues of our fathers that little of the ancient flavor remains.

Moral considerations and the public safety alike demand that some organized effort be made to improve these conditions. The press, the pulpit, social and civil organizations must do more in this direction. The schools also must do more. No other institution among us can furnish that systematic instruction in the necessary subjects, or that training and drill which is an important element in the final result.

Without attempting to present a definite plan for the study of civics in the higher institutions, I wish to offer a few suggestions as to what may be done in most schools without interfering with our already crowded courses.

1. The obligations of citizenship should be impressed upon the minds of all pupils. This should be done as much as possible by the ordinary discipline of the school. Obedience to rightful authority, respect for law, and a certain responsibility in regard to its

enforcement, a suitable regard for the rights of others, and a recognition of the need of performing certain duties, or giving up certain privileges for the common good, should be emphasized as directly bearing upon good citizenship. The management of the school will also give opportunities to bring forward the need and benefits of government in general, and in the particular place where the school is situated; the cost and value of our civil institutions; and our responsibility in view of these advantages. Some public event, as the execution of the anarchists at Chicago, the resignation of the President of France, or the death of our own Governor, will furnish opportunities for impressive lessons on these subjects.

2. The pupil ought to get a thorough knowledge of the different forms of government and the practical workings of each in its various departments. The general forms of government and their divisions may be taught in connection with geography. Personations of governments or representations of historical or imaginary scenes connected with them, are interesting and profitable exercises. In connection with history, the pupil's own town should be thoroughly studied, and a practical knowledge of its government obtained. The holding of a town-meeting, or organizing a city government are valuable school exercises. The county, State, and national governments may be represented and studied in the same way in their proper connections.

3. Some knowledge of economics should be given in all schools. Banking, taxation, money, &c., should be studied in connection with arithmetic. The postal and military systems and other kindred subjects should receive due attention. Memorial Day, Washington's birthday and other anniversaries should be made the occasion of valuable lessons on some of these topics. In all these directions the instructions should be practical and objective as far as possible. Trials by jury, organization of city governments, holding town meetings and sessions of Legislature, State and national, are of great practical value and may often take the place of declamations and other general exercises.

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